FORM S-1 · REGISTRATION STATEMENT

Cloudflare Inc

IPO priced 2019-09-13 · $15.00 a share · NET



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As filed with the Securities and Exchange Commission on August 15, 2019.

REGISTRATION NO. 333-

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

Cloudflare, Inc.

(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

Delaware	7372	27-0805829
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

Cloudflare, Inc.

101 TOWNSEND STREET

SAN FRANCISCO, CA 94107

(888) 993-5273

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

MATTHEW PRINCE

CHIEF EXECUTIVE OFFICER

Cloudflare, Inc.

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Approximate date of commencement of proposed sale to the public: As soon as practicable after this registration statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box. ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether 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 Registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☐

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price[(1)(2)]	Amount of Registration Fee

Class A common stock, par value $0.001 per share	$100,000,000	$12,120.00

(1) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(o) of the Securities Act of 1933, as amended.

(2) Includes the aggregate offering price of additional shares that the underwriters have the option to purchase.

Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until Registrant will file a further amendment which specifically states that this registration statement will thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement will become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion. Dated August 15, 2019 Shares **Cloudflare, Inc.**

Class A Common Stock This is an initial public offering of shares of Class A common stock of Cloudflare, Inc.

Prior to this offering, there has been no public market for our Class A common stock. It is currently estimated that the initial public offering price per share will be between $ and $. We have applied to list the Class A common stock on the New York Stock Exchange under the symbol “NET.”

We have two classes of authorized common stock, Class A common stock and Class B common stock. The rights of the holders of Class A common stock and Class B common stock are substantially identical, except with respect to voting and conversion. Each share of Class A common stock is entitled to one vote per share. Following the completion of this offering, each share of Class B common stock will be entitled to 10 votes per share and will be convertible at any time into one share of Class A common stock. Following this offering, outstanding shares of Class B common stock will represent approximately % of the voting power of our outstanding capital stock.

We are an “emerging growth company” as that term is used in the Jumpstart Our Business Startups Act of 2012 and, as such, may elect to comply with certain reduced public company reporting requirements in future reports after the completion of this offering.

See “Risk Factors” beginning on page 16 to read about factors you should consider before buying shares of our Class A common stock.

Neither the Securities and Exchange Commission nor any other regulatory body has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

	Per share	Total
Initial public offering price		$$
Underwriting discount[(1)]		$$
Proceeds, before expenses, to Cloudflare		$$

(1) See the section titled “Underwriting” for a description of the compensation payable to the underwriters.

To the extent that the underwriters sell more than shares of Class A common stock, the underwriters have the option to purchase up to an additional shares from Cloudflare, Inc. at the initial public offering price less the underwriting discount.

The underwriters expect to deliver the shares against payment in New York, New York, on or about , 2019.

		J.P. MORGAN
Goldman Sachs & Co. LLC	**Morgan Stanley**	

Jefferies	**Wells Fargo Securities**	**RBC Capital Markets**

JMP Securities	**Evercore ISI**	**Needham & Company**	**BTIG**	**SunTrust Robinson Humphrey**

Prospectus dated , 2019 20M Internet Properties as of August 15, 2019 10% of Fortune 1,000 are Paying Customers as of August 15, 2019 98% Internet Users in the Developed World within 100ms as of August 15, 2019 44B Cyber Threats Blocked per Day approximate average over three months ended June 30, 2019 77% GAPP Gross Margin six months ended June 30, 2019 51% Revenue Growth F16-F18 CAGR see “Prospectus Summary Consolidated Financial and Other Data” **TABLE OF CONTENTS**

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Through and including , 2019 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotment or subscriptions.

Neither we nor any of the underwriters have authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses we have prepared. Neither we nor any of the underwriters take responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the shares offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus is current only as of its date, regardless of the time of delivery of this prospectus or of any sale of our Class A common stock.

For investors outside the United States: Neither we nor any of the underwriters have done anything that would permit our initial public offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of our Class A common stock and the distribution of this prospectus outside the United States.

Prospectus Summary

PROSPECTUS SUMMARY *This summary highlights selected information that is presented in greater detail elsewhere in this prospectus. This summary does not contain all of the information you should consider before investing in our Class A common stock. You should read this entire prospectus carefully, including the sections titled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations," and our consolidated financial statements and the related notes thereto included elsewhere in this prospectus, before making an investment decision. Unless the context otherwise requires, the terms "Cloudflare," "the Company," "we," "us," and "our" in this prospectus refer to Cloudflare, Inc. and its consolidated subsidiaries, and references to our "common stock" include our Class A common stock and Class B common stock.*

Cloudflare, Inc.

Overview

Cloudflare's mission is to help build a better Internet.

Today, the Internet is the lifeblood of business and the primary vehicle of commerce and communication for people around the world. While it was brilliantly architected to deliver fault tolerance and robust connectivity, it was not designed to deliver the security, millisecond performance, and reliability required for businesses today.

For decades, a number of vendors have looked to address the core limitations and vulnerabilities of the Internet for businesses that operate online. These vendors built a range of standalone hardware boxes to address the emerging requirements for security, performance, and reliability. These boxes could be deployed in on-premise data centers to deliver functions such as virtual private network (VPN), firewall, routing, traffic optimization, load balancing, and

other network services. While they created massive complexity, cost, technical debt, and a tangled web of dependencies for the organizations that deployed them, the approach generally worked and these on-premise "band-aid boxes" were able to alleviate some of the Internet's fundamental security, performance, and reliability problems.

And then the cloud happened.

In recent years, the technology industry has undergone a massive transition from on-premise hardware and software that customers buy, to services in the cloud that they rent. This transition has swept through the application, compute, and storage layers of enterprise computing architectures.

Organizations now exist in a complex, heterogeneous infrastructure environment which exacerbates the fundamental problems of the Internet more than ever, and the on-premise band-aid boxes that they once relied upon to solve these problems were never designed to work in such an environment. An on-premise box will not solve the problems organizations now face. Nor can a business ship a band-aid box to a cloud vendor. Even if they wanted to, there is literally no place to install such a box in the cloud.

The result is that a major architectural shift at the network layer is now underway. Cloudflare is leading this transition.

We have built a global cloud platform that delivers a broad range of network services to businesses of all sizes and in all geographies—making them more secure, enhancing the performance of their business-critical applications, and eliminating the cost and complexity of managing individual network hardware. Our platform serves as a scalable, easy-to-use, unified control plane to deliver security, performance, and reliability across on-premise, hybrid, cloud, and software-as-a-service (SaaS) applications. Today, approximately 10% of the Fortune 1,000 are paying Cloudflare customers. Additionally, across the broader Internet, approximately 10% of the top million, 17% of the top 100,000, and 18% of the top 10,000 websites use at least one product on our platform on a paid or free basis.[(1)] We started by building an efficient, scalable network. This network forms the foundation of our platform on which we can rapidly develop and deploy our products for our customers. Together, the development of our network and products create the interconnected flywheels that drive our business and have allowed us to achieve our market position.

- **Network Flywheel:** We have created a network architecture that is flexible, scalable, and becomes more efficient as it expands.

- **Product Flywheel:** We have leveraged this network to deploy products that are easy to use, continuously improved, and can be delivered without adding significant incremental cost.

We have experienced significant growth, with our revenue increasing from $84.8 million in 2016 to $134.9 million in 2017 and to $192.7 million in 2018, increases of 59% and 43%, respectively. As we continue to invest in our business, we have incurred net losses of $17.3 million, $10.7 million, and $87.2 million for 2016, 2017, and 2018, respectively. For the six months ended June 30, 2018 and 2019, our revenue increased from $87.1 million to $129.2 million, an increase of 48%, and we incurred net losses of $32.5 million and $36.8 million, respectively.

Our Industry

The Internet was not built for what it has become.

Originally conceived as a decentralized, wired network to interconnect academic institutions, the Internet has evolved into a global platform for business and communications, hosting a wide variety of often mission-critical applications. While the Internet was brilliantly architected to deliver fault tolerance and robust connectivity, it was not designed to deliver the security, millisecond performance, and reliability required now that it has become the lifeblood for business and the primary vehicle of commerce and communication for humanity.

Despite the Internet's limitations, businesses relying on it must meet customer expectations for always-on access to their services, low latency, total reliability, and high levels of security and privacy. Furthermore, businesses are accountable for the delivery of these requirements end-to-end, to every customer and employee's desktop or mobile device, forcing them to address security, performance, and reliability globally and well beyond what they once thought of as the perimeter of their own infrastructure.

Band-Aid Boxes

To meet evolving expectations and navigate the limitations of the Internet, businesses have traditionally relied on a broad array of hardware devices deployed in on-premise data centers to deliver

(1) These percentages are derived from Datanyze, *Market Share*, from January 2019, based on the average percentage market share for website optimization, domain name system, security, and content delivery network solutions for websites in the Alexa top million, top 100,000, and top 10,000. Refer to the section titled "Industry and Market Data."

functions such as VPN, firewall, routing, traffic optimization, load balancing, and other network services. These band-aid boxes were meant to patch the Internet and address its core limitations. While the band-aid boxes added some security, performance, and reliability benefits, they contributed to massive complexity, cost, technical debt, and a tangled web of dependencies.

In spite of the drawbacks, the band-aid boxes were sufficient to ensure the safety, functionality, and resilience required by businesses that could afford them in the on-premise paradigm.

But these band-aid boxes were never designed to work in the cloud.

Shift to the Cloud

In recent years, the technology industry has been undergoing a transition from on-premise hardware and software that customers buy, to services in the cloud that they rent. Application vendors led this transition as companies like Salesforce, Workday, and NetSuite provided cloud-based, multi-tenant solutions that disrupted legacy, on-premise software from companies like SAP, Oracle, and Microsoft. Compute and storage followed, with public cloud

vendors such as Amazon Web Services, Microsoft Azure, Google Cloud Platform, and Alibaba Cloud disrupting server and storage vendors like HP, Dell, Lenovo, and Sun Microsystems.

The Network Layer Transitions to the Cloud

The rise of cloud computing architectures alongside the massive increase in mobile devices vastly complicates the already difficult task of securing and optimizing applications. Organizations exist in a complex, heterogeneous infrastructure environment of public cloud, on-premise, and hybrid deployments. The threat landscape, functional requirements, and scale of business applications are evolving faster than ever before, and the volume and sophistication of network attacks can strain the defensive capabilities of even the most advanced enterprises.

The hardware-based, inflexible, on-premise band-aid boxes that organizations once relied upon to meet these challenges were never designed to work in an environment like this. And even if the band-aid boxes could scale to meet the challenges of the modern enterprise, a business cannot simply ship a band-aid box to a cloud vendor. There is literally no place to install such a box in the cloud.

This is forcing a major architectural shift in how enterprises address security, performance, and reliability at the network layer. The functionality provided by companies such as Cisco Systems, Juniper Networks, F5 Networks, Check Point Software, Palo Alto Networks, FireEye, Riverbed Technology, and others is being elevated, abstracted, and unified into the cloud.

Cloudflare is leading this transition.

Our Platform

We have built a global cloud platform that delivers a broad range of network services to businesses of all sizes around the world—making them more secure, enhancing the performance of their business-critical applications, and eliminating the cost and complexity of managing and integrating individual network hardware. We provide businesses a scalable, easy-to-use, unified control plane to deliver security, performance, and reliability across their on-premise, hybrid, cloud, and SaaS applications.

Previously, enterprises would often string together a diverse set of on-premise band-aid boxes from different vendors to solve their network challenges. As these solutions move to the cloud, the network latency, support complexity, and cost of overhead makes stringing together multiple point-cloud solutions that only address a specific network need untenable. Customers are therefore looking to consolidate behind a single platform. We offer this unified control plane. Customers who join our platform using one product can adopt our other seamlessly integrated products with a single click. We serve comprehensive customer needs across security, performance, and reliability. Our platform and business model are designed to make rolling out our new products fast and efficient. We believe that platforms with the broadest catalogue of products will ultimately beat point-cloud solutions.

To achieve what we have, we started by building an efficient, scalable network. This network forms the foundation of our platform on which we can develop and deploy our products for our customers. Together the development of our network and products create the interconnected flywheels that drive our business and have allowed us to achieve our market position.

Network Flywheel

We have created a network architecture that is flexible, scalable, and gets more and more efficient as it expands. We designed and built our network to be able to grow capacity quickly and inexpensively; to allow for every server, in every city, to run every Cloudflare service; and to allow us to shift customers and traffic across our network efficiently. We refer to this architecture as “serverless” because it means we can deploy standard, commodity hardware, and our product developers and customers do not need to worry about the underlying servers. Our software automatically manages the deployment and execution of our product developers’ code and our customers’ code across our network. Because we manage the execution and prioritization of code running across our network, it means that we are both able to optimize the performance of our highest paying customers and also effectively leverage idle capacity across our network. We have chosen to utilize this idle capacity to create a free tier of service—which has generated substantial global scale for us. In turn, this scale makes us attractive partners for Internet Service Providers (ISPs) globally, which reduces our co-location and bandwidth costs. As our network grows, these dynamics become even more powerful.

Today, our network spans 193 cities in over 90 countries and interconnects with over 8,000 networks globally, including major ISPs, cloud services, and enterprises. We estimate that we operate within 100 milliseconds of 98% of the Internet-connected population in the developed world, and 93% of the Internet-connected population globally (for context, the blink of an eye is 300-400 milliseconds).[(2)] And, we have built this powerful network while achieving U.S. GAAP gross margin of 77% in the year ended December 31, 2018 and the six months ended June 30, 2019, demonstrating the cost and capital efficiency of our model.

Product Flywheel

We began with the idea of serving the broadest possible market. To do this, we made our products easy to use and affordable and were able to provide our entry level plan for free in part because of the cost advantage of our network. We leverage the resulting customer scale and diversity to continuously make our products better. Our machine learning systems improve our products with every customer’s request, optimizing our security, performance, and reliability globally. The over 20 million Internet properties (e.g., domains, websites, application programming interfaces, and mobile applications) that use our platform comprise a global sensor network, which functions like an immune system for the Internet—routing around congestion, optimizing for traffic conditions, and using data on cyber attacks

(2) These percentages are derived from our observed round-trip time for all unique IP addresses sending or receiving traffic through our network in the Organisation for Economic Co-operation and Development countries and in all countries, respectively.

against any one of our customers to better protect them all. We leverage these insights to block cyber threats every day, which in the three months ended June 30, 2019 averaged approximately 44 billion per day.

Feedback from our diverse, global customer base helps us expand into new, adjacent product areas. Since our customers' traffic is already passing through our network, our serverless architecture means we can add products on our platform to solve new network challenges without significantly increasing our incremental costs. This allows us to provide new products at competitive prices and further expand the overall market.

Market Opportunity

We believe our platform disrupts several large and well-established IT markets. The key markets that are addressed by our platform include VPN, internal and external firewalls, web security (including web application firewalls and content filtering), distributed denial of service (DDoS) prevention, intrusion detection and prevention, application delivery controls, content delivery networks, domain name systems, advanced threat prevention (ATP), and wide area network (WAN) technology. From our analysis based on IDC data, $31.6 billion was spent on those products in 2018, which is expected to grow to $47.1 billion in 2022, representing a compound annual growth rate of 10.5%. We also are actively developing new products to address adjacent markets including compute, storage, 5G, and Internet of Things (IoT) that are not included in the estimate of our addressable market.

Why We Win

We have six distinct advantages that uniquely position us to win:

1. **Disruptive Business Model**. Our business model is designed for efficiency. Our network and product flywheels create a virtuous cycle that has driven down our unit costs over time while we increase the diversity and quality of our products. We believe that our serverless platform's flexibility, as well as our aligned interests with our ISP partners, allows us to continue to become more efficient as we expand our network. At the same time, this architecture allows us to add new products and features across our platform without significant additional operating costs.

2. **Ease of Use**. A new customer can sign up in minutes, regardless of its technical ability or budget. The ease of use of our products significantly increases our total addressable market and has also allowed our enterprise customers, which consist of customers that sign up for our Enterprise plan, to simplify and streamline their network operations.

3. **Efficient Go-to-Market Model**. Our go-to-market strategy is designed to efficiently address the broad market we serve. Our self-serve offering, coupled with our attractive pricing, allows customers to easily adopt our products. We augment our self-serve offering with a highly productive sales force to serve larger customers.

4. **Product Innovation and Velocity**. We drive product innovation by continuously improving our platform through machine learning and diverse customer feedback. Our systems learn from every request that passes through our network. This allows us to automatically mitigate new attacks, optimize protocols for the best performance, and reroute traffic to avoid network outages. Many of our free customers volunteer to test new features early in the development cycle, which allows us to ensure product excellence before deploying to our paying customers.

5. **Integrated, Global Offering**. Our network spans 193 cities in over 90 countries, and this flexible, serverless platform offers the same set of core features in every city and country. This gives our customers a unified control plane—whether they are running on-premise, with SaaS vendors, in hybrid environments, or solely in the public cloud. Additionally, because we offer an integrated solution, we do not force our customers to choose between safer, faster, or stronger—our solution offers security, performance, and reliability by design.

6. **Trust and Neutrality**. As businesses move to the cloud, there are increasing concerns over interoperability and avoiding being locked into any one public cloud vendor. We empower customers to overcome these concerns through our independence and neutrality. Moreover, unlike some public cloud providers, our business model aligns with the interests of our customers. We do not sell user data. Nor do we aim to compete with our customers.

Growth Strategy

Key elements of our growth strategy include:

- **Acquire New Customers:** We believe that any person or business that relies on the Internet to deliver products, services, or content can be a Cloudflare customer. We will continue to grow our customer base across all of our service offerings—free, self-serve, and enterprise.

- **Expand Our Relationships with Existing Customers:** Today, approximately 10% of the Fortune 1,000 are paying Cloudflare customers. Additionally, across the broader Internet, approximately 10% of the top one million, 17% of the top 100,000, and 18% of the top 10,000 websites use at least one product on our platform on a paid or free basis. Customers expand their relationships with us by upgrading to premium plans, increasing their usage of our platform, or adding products. Once a customer has adopted one product on our platform, it can easily add additional products with a single click. Over 70% of our enterprise customers already leverage four or more of our products.

- **Develop New Products:** We continue to invest in new product development, and as we onboard more customers and more traffic on our network, our ability to identify promising new avenues for innovation improves.

- **Extend Our Serverless Platform Strategy:** We have opened our serverless platform to outside developers with a product called Cloudflare Workers. This enables our customers to write and deploy their own code in seconds directly onto our global cloud platform and have it run close to their users. We have seen a growing number of customers bring applications to market using Cloudflare Workers. This opens up an entirely new market for us: compute and storage.

Risk Factors Summary

Our business is subject to numerous risks and uncertainties, including those highlighted in the section titled "Risk Factors" immediately following this prospectus summary. These risks include, but are not limited to, the following:

- We have a history of net losses and may not be able to achieve or sustain profitability in the future.

- We have experienced rapid revenue growth, which may not be indicative of our future performance.

- If we are unable to attract new paying and free customers, our future results of operations could be harmed.

- Our business depends on our ability to retain and upgrade paying customers and, to a lesser extent, convert free customers to paying customers, and any decline in renewals, upgrades, or conversions could adversely affect our future results of operations.
- Problems with our internal systems, networks, or data, including actual or perceived breaches or failures, could cause our network or products to be perceived as insecure, underperforming, or unreliable, our reputation to be damaged, and our financial results to be negatively impacted.
- Activities of our paying and free customers or the content of their websites and other Internet properties could subject us to liability.
- Activities of our paying and free customers or the content of their websites or other Internet properties, as well as our responses to those activities, could cause us to experience adverse political, business, and reputational consequences with customers, employees, suppliers, government entities, and others.
- Although offering a free self-serve plan for certain of our products is an important part of our business strategy, we may not be able to realize all of the expected benefits of this strategy and the costs and other detriments associated with our free plan could outweigh the benefits we receive from our free customers.
- The actual or perceived failure of our products to block malware or prevent a security breach could harm our reputation and adversely impact our business, results of operations, and financial condition.
- If our global network that delivers our products or the core co-location facilities we use to operate our network are damaged or otherwise fail to meet the requirements of our business, our ability to provide access to our platform and products to our customers and maintain the performance of our network could be negatively impacted, which could cause our business, results of operations, and financial condition to suffer.
- If our customers' or channel partners' access to our platform and products is interrupted or delayed for any reason, our business could suffer.
- Detrimental changes in, or the termination of, any of our co-location relationships, ISP partnerships, or our other interconnection relationships with ISPs could adversely impact our business, results of operations, and financial condition.
- The dual-class structure of our common stock will have the effect of concentrating voting control with those stockholders who held our capital stock prior to the completion of this offering, and it may depress the trading price of our Class A common stock.

Channels for Disclosure of Information

Investors, the media, and others should note that, following the completion of this offering, we intend to announce material information to the public through filings with the Securities and Exchange Commission (the SEC), the investor relations page on our website, press releases, public conference calls, webcasts, our company news site at https://www.cloudflare.com/press, and our corporate blog at https://blog.cloudflare.com.

The information disclosed by the foregoing channels could be deemed to be material information. As such, we encourage investors, the media, and others to follow the channels listed above and to review the information disclosed through such channels.

Any updates to the list of disclosure channels through which we will announce information will be posted on the investor relations page on our website.

Corporate Information

We were incorporated in the state of Delaware in July 2009. Our principal executive offices are located at 101 Townsend Street, San Francisco, California 94107, and our telephone number is (888) 993-5273. Our website address is www.cloudflare.com and our corporate blog's address is https://blog.cloudflare.com. Information contained on, or that can be accessed through, our website or blog does not constitute part of this prospectus and inclusions of our website and blog addresses in this prospectus are inactive textual references only.

"Cloudflare," our logo, and our other registered or common law trademarks, service marks, and trade names appearing in this prospectus are the property of Cloudflare, Inc. Other trademarks and trade names referred to in this prospectus are the property of their respective owners.

Implications of Being an Emerging Growth Company

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012 (the JOBS Act). An emerging growth company may take advantage of specified reduced reporting requirements that are otherwise applicable generally to public companies. These reduced reporting requirements include:

- an exemption from compliance with the auditor attestation requirement on the effectiveness of our internal control over financial reporting;
- reduced disclosure about our executive compensation arrangements;
- an exemption from the requirements to obtain a non-binding advisory vote on executive compensation or stockholder approval of any golden parachute arrangements; and
- extended transition periods for complying with new or revised accounting standards.

We may take advantage of these provisions until we are no longer an emerging growth company. We would cease to be an "emerging growth company" upon the earliest to occur of: (i) the last day of the fiscal year in which we have greater than $1.07 billion in annual revenue; (ii) the date we qualify as a "large accelerated filer," with at least $700 million of equity securities held by non-affiliates; (iii) the date on which we have, in any three-year period, issued greater

than $1.0 billion in non-convertible debt securities; and (iv) the last day of the fiscal year ending after the fifth anniversary of this offering. We may choose to take advantage of some but not all of these reduced reporting burdens. We have taken advantage of certain reduced reporting burdens in this prospectus. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock.

The JOBS Act permits an emerging growth company like us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. We have elected to use this extended transition period until we are no longer an emerging growth company or until we affirmatively and irrevocably opt out of the extended transition period. As a result, our financial statements may not be comparable to companies that comply with new or revised accounting pronouncements as of public company effective dates.

See the section titled "Risk Factors—Risks Related to Ownership of Our Class A Common Stock—We are an "emerging growth company" and we cannot be certain if the reduced disclosure requirements applicable to emerging growth companies will make our Class A common stock less attractive to investors."

The Offering

The Offering

Class A common stock offered by us	shares
Class A common stock to be outstanding after this offering	shares
Class B common stock to be outstanding after this offering	shares
Total Class A common stock and Class B common stock to be outstanding after this offering	shares
Underwriters' option to purchase additional shares of Class A common stock from us	shares
Use of proceeds	We estimate that the net proceeds to us from the sale of shares of our Class A common stock in this offering will be approximately $ (or approximately $ if the underwriters' option to purchase additional shares of our Class A common stock from us is exercised in full), based upon the assumed initial public offering price of $ per share, which is the midpoint of the offering price range set forth on the cover page of this prospectus, and after deducting underwriting discounts and commissions and estimated offering expenses. The principal purposes of this offering are to increase our capitalization and financial flexibility, create a public market for our Class A common stock, and enable access to the public equity markets for us and our stockholders. We intend to use the net proceeds we receive from this offering for general corporate purposes, including working capital, operating expenses, and capital expenditures. Additionally, we may use a portion of the net proceeds we receive from this offering to acquire businesses, products, services, or technologies. However, we do not have agreements or commitments for any material acquisitions at this time. See "Use of Proceeds" for additional information.
Voting rights	Shares of our Class A common stock are entitled to one vote per share. Following the completion of this offering, shares of our Class B common stock will be entitled to 10 votes per share. Holders of our Class A common stock and Class B common stock will generally vote together as a single class, unless otherwise required by law or our amended and restated certificate of incorporation. The holders of our outstanding Class B common stock will hold approximately % of the voting power of our outstanding capital stock following this offering and will have the ability to control the outcome of matters submitted to our stockholders for approval, including the election of our directors and the approval of any change in control transaction. Additionally, our executive officers, directors, and holders of 5% or more of our common stock will hold, in the aggregate, approximately % of the voting power of our outstanding capital stock following this offering. See "Principal Stockholders" and "Description of Capital Stock" for additional information.
New York Stock Exchange symbol	"NET"

The number of shares of our Class A common stock and Class B common stock that will be outstanding after this offering is based on 46,360,728 shares of our Class A common stock and 211,982,959 shares of our Class B common stock outstanding as of June 30, 2019, and reflects:

- 31,381,152 shares of redeemable convertible preferred stock that will automatically convert into shares of Class A common stock immediately prior to the completion of this offering pursuant to the terms of our amended and restated certificate of incorporation;
- 14,979,576 shares of our Class B common stock held by former employees that will automatically convert into shares of Class A common stock immediately prior to the completion of this offering pursuant to the terms of our amended and restated certificate of incorporation; and
- 134,276,690 shares of redeemable convertible preferred stock that will automatically convert into shares of Class B common stock immediately prior to the completion of this offering pursuant to the terms of our amended and restated certificate of incorporation, which together with the conversion of redeemable convertible preferred stock and shares of Class B common stock into Class A common stock, we refer to as the Capital Stock Conversions.

The shares of our Class A common stock and Class B common stock outstanding as of June 30, 2019 exclude the following:

- 23,558,731 shares of our Class B common stock issuable upon the exercise of options to purchase shares of our Class B common stock outstanding as of June 30, 2019, with a weighted-average exercise price of $2.27 per share;
- No shares of our Class B common stock issuable upon the exercise of options to purchase shares of our Class B common stock granted after June 30, 2019;
- 177,410 shares of our Class B common stock issuable pursuant to warrants to purchase an aggregate of 177,410 shares of our redeemable convertible preferred stock outstanding as of June 30, 2019, with a weighted-average exercise price of $0.34 per share;
- 4,148,564 shares of our Class B common stock subject to restricted stock units (RSUs) outstanding as of June 30, 2019;
- 1,421,526 shares of our Class B common stock subject to RSUs granted after June 30, 2019; and
- shares of our Class A common stock reserved for future issuance under our equity compensation plans, consisting of:
- shares of our Class A common stock to be reserved for future issuance under our 2019 Equity Incentive Plan (our 2019 Plan), which will become effective prior to the completion of this offering;
- shares of our Class B common stock reserved for future issuance under our 2010 Equity Incentive Plan (our 2010 Plan), and upon the termination of such 2010 Plan in connection with the effectiveness of our 2019 Plan, an equivalent number of shares of our Class A common stock to be added to the shares reserved for future issuance under our 2019 Plan above; and
- shares of our Class A common stock to be reserved for future issuance under our 2019 Employee Stock Purchase Plan (our ESPP), which will become effective prior to the completion of this offering.

Our 2019 Plan and ESPP provide for annual automatic increases in the number of shares of our Class A common stock reserved thereunder, and our 2019 Plan also provides for increases to the number of shares of our Class A common stock that may be granted thereunder based on shares under our 2010 Plan that expire, are forfeited, or otherwise repurchased by us, as more fully described in the section titled "Executive Compensation—Employee Benefits and Stock Plans."

Except as otherwise indicated, all information in this prospectus assumes:

- the Capital Stock Conversions will occur immediately prior to the completion of this offering;
- the filing and effectiveness of our amended and restated certificate of incorporation in Delaware and the effectiveness of our amended and restated bylaws, each of which will occur immediately prior to the completion of this offering;
- no exercise of outstanding stock options or warrants, or settlement of outstanding RSUs, subsequent to June 30, 2019; and
- no exercise by the underwriters of their option to purchase up to an additional shares of our Class A common stock from us.

Summary Consolidated Financial and Other Data

Summary Consolidated Financial and Other Data The following summary consolidated financial and other data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations," "Selected Consolidated Financial and Other Data," and the consolidated financial statements and related notes thereto included elsewhere in this prospectus. The summary consolidated statements of operations data for the years ended December 31, 2016, 2017, and 2018 (except for the pro forma share and pro forma net loss per share information) are derived from our audited consolidated financial statements that are included elsewhere in this prospectus. The summary consolidated statements of operations data presented below for the six months ended June 30, 2018 and 2019 and the consolidated balance sheet data as of June 30, 2019 are derived from our unaudited interim consolidated financial statements that are included elsewhere in this prospectus. In management's opinion, the unaudited interim consolidated financial statements include all adjustments necessary to state fairly our financial position as of June 30, 2019 and the results of operations and cash flows for the six months ended June 30, 2018 and 2019. Our historical results are not necessarily indicative of our future results and our results for the six months ended June 30, 2019 are not necessarily indicative of the results that may be expected for the full year ending December 31, 2019 or any other period. The summary consolidated financial data in this section are not intended to replace the consolidated financial statements and are qualified in their entirety by the consolidated financial statements and related notes thereto included elsewhere in this prospectus.

Consolidated Statements of Operations Data:

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
	(in thousands, except per share data)				
Revenue	$84,791	$134,915	$192,674	$ 87,105	$129,151
Cost of revenue[(1)]	23,962	28,788	43,537	19,372	29,192
Gross profit	60,829	106,127	149,137	67,733	99,959

Operating expenses:					
Sales and marketing[1]	40,122	61,899	94,394	41,744	66,653
Research and development[1]	23,663	33,650	54,463	24,286	36,517
General and administrative[1]	14,073	20,308	85,179	33,041	33,707
Total operating expenses	77,858	115,857	234,036	99,071	136,877
Loss from operations	(17,029)	(9,730)	(84,899)	(31,338)	(36,918)
Non-operating income (expense):					
Interest income	626	762	1,895	460	1,743
Interest expense	(654)	(862)	(992)	(475)	(563)
Other income (expense), net	(208)	115	(2,091)	(663)	(379)
Total non-operating income (expense), net	(236)	15	(1,188)	(678)	801
Loss before income taxes	(17,265)	(9,715)	(86,087)	(32,016)	(36,117)
Provision for income taxes	69	1,033	1,077	472	703
Net loss	$(17,334)	$(10,748)	$(87,164)	$(32,488)	$(36,820)
Net loss per share attributable to common stockholders, basic and diluted[2]	$(0.23)	$(0.14)	$(1.08)	$(0.41)	$(0.43)
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted[2]	75,721	77,147	80,981	78,828	85,382

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
	(in thousands, except per share data)				
Pro forma net loss per share, basic and diluted[2]			$(0.37)		$(0.15)
Weighted-average shares used in computing pro forma net loss per share, basic and diluted[2]			237,322		251,085

(1) Includes stock-based compensation expense as follows:

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
	(in thousands)				
Cost of revenue	$64	$47	$119	$ 50	$ 66
Sales and marketing	381	488	979	388	554
Research and development	1,043	969	1,532	617	823
General and administrative	4,212	1,251	24,717		
Total stock-based compensation expense	$5,700	$2,755	$27,347	$1,849	$2,101

(2) Refer to Note 11 to our consolidated financial statements included elsewhere in this prospectus for an explanation of the method used to calculate our basic and diluted net loss per share attributable to common stockholders, our basic and diluted pro forma net loss per share attributable to common stockholders, and the weighted-average number of shares used in the computation of the per share amounts.

Consolidated Balance Sheet Data:

	June 30, 2019		
	Actual	Pro Forma[1]	Pro Forma As Adjusted[2][3]
	(in thousands)		
Cash, cash equivalents, and marketable securities	$ 124,688	$ 124,688	$
Working capital[4]	$ 88,518	$ 88,518	$
Property and equipment, net	$ 84,640	$ 84,640	$
Total assets	$ 286,859	$ 286,859	$
Deferred revenue, current and noncurrent	$ 27,764	$ 27,764	$
Redeemable convertible preferred stock	$ 331,521	$—	$
Accumulated deficit	$(232,698)	$(247,361)	$

Total stockholders' (deficit) equity	$(145,435)	$ 186,086	$

(1) The pro forma column above reflects (i) the Capital Stock Conversions, as if such conversions had occurred on June 30, 2019, (ii) stock-based compensation expense associated with outstanding qualified event options and RSUs subject to a performance condition of $14.7 million for the qualified event options service period rendered from the date of grant through June 30, 2019 and for the qualified event RSUs for which the service-based condition was satisfied as of June 30, 2019, which we will recognize in connection with this offering, as further described in Note 2 to our consolidated financial statements included elsewhere in this prospectus, and (iii) the filing and effectiveness of our amended and restated certificate of incorporation in Delaware that will become effective immediately prior to the completion of this offering. The pro forma adjustment related to stock-based compensation expense of $14.7 million has been reflected as an increase to additional paid-in capital and accumulated deficit. Payroll tax expenses and other withholding obligations have not been included in the pro forma adjustments, as further described in Note 2 to our consolidated financial statements included elsewhere in this prospectus.

(2) The pro forma as adjusted column above gives effect to (i) the pro forma adjustments set forth above and (ii) the receipt of $ million in net proceeds from the sale and issuance by us of shares of our Class A common stock in this offering, based upon the assumed initial public offering price of $ per share, which is the midpoint of the offering price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses.

(3) Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the offering price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the amount of our pro forma as adjusted cash, cash equivalents, and marketable securities, working capital, total assets, and total stockholders' (deficit) equity by $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, after deducting underwriting discounts and commissions. An increase or decrease of 1.0 million shares in the number of shares offered by us would increase or decrease, as applicable, the amount of our pro forma as adjusted cash, cash equivalents, and marketable securities, working capital, total assets, and total stockholders' (deficit) equity by $ million, assuming the assumed initial public offering price remains the same, and after deducting underwriting discounts and commissions.

(4) Working capital is defined as current assets less current liabilities.

Key Business Metrics and Non-GAAP Financial Measures

We review a number of operating and financial metrics, including the following key metrics and non-GAAP financial measures to evaluate our business, measure our performance, identify trends affecting our business, formulate business plans, and make strategic decisions. Refer to the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations—Key Business Metrics and Non-GAAP Financial Measures" for additional information and reconciliations of our non-GAAP financial measures to the most directly comparable financial measures stated in accordance with U.S. GAAP.

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
	(dollars in thousands)				
Gross profit	$60,829	$106,127	$149,137	$67,733	$99,959
Gross margin	72%	79%	77%	78%	77%
Loss from operations	$(17,029)	$(9,730)	$(84,899)	$(31,338)	$(36,918)
Non-GAAP loss from operations	$(11,291)	$(6,513)	$(57,035)	$(29,227)	$(34,754)
Operating margin	(20%)	(7%)	(44%)	(36%)	(29%)
Non-GAAP operating margin	(13%)	(5%)	(30%)	(34%)	(27%)
Net cash provided by (used in) operating activities	$(13,318)	$3,167	$(43,281)	$(17,099)	$(12,557)
Net cash provided by (used in) investing activities	$(15,256)	$9,544	$(120,795)	$ 15,604	$ 27,847
Net cash provided by (used in) financing activities	$418	$(149)	$168,621	$ 3,163	$ 2,049
Free cash flow	$(31,876)	$(19,808)	$(78,120)	$(27,022)	$(39,018)
Net cash provided by (used in) operating activities (as a percentage of revenue)	(16%)	2%	(22%)	(20%)	(10%)
Free cash flow margin	(38%)	(15%)	(40%)	(31%)	(30%)
Paying customers	35,002	49,309	67,899	56,119	74,873
Paying customers (> $100,000 Annualized Billings)	95	184	313	240	408

Risk Factors

RISK FACTORS *Investing in our Class A common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described below, together with all of the other information in this prospectus, including the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes, before making a decision to invest in our Class A common stock. Our business, results of operations, financial condition, or prospects could also be harmed by risks and uncertainties that are not presently known to us or that we currently believe are not material. If any of the risks actually occur, our business, results of operations, financial condition, and prospects could be materially and adversely affected. In that event, the market price of our Class A common stock could decline and you could lose all or part of your investment.*

Risks Related to Our Business and Our Industry

We have a history of net losses and may not be able to achieve or sustain profitability in the future.

We have incurred net losses in all periods since we began operations and we expect we will continue to incur net losses for the foreseeable future. We experienced net losses of $10.7 million and $87.2 million for the years ended December 31, 2017 and 2018, respectively, and $32.5 million and $36.8 million for the six months ended June 30, 2018 and 2019, respectively. Because the markets for our products are rapidly evolving, it is difficult for us to predict our future results of operations. We expect our operating expenses to increase over the next several years as we continue to hire additional personnel, expand our operations and infrastructure both domestically and internationally, and continue to develop our products. In addition to the expected costs to grow our business, we also expect to incur significant additional legal, accounting, and other expenses as we transition to a public company, as described in greater detail in the risk factors below. If we fail to increase our revenue to offset the increases in our operating expenses, we may not achieve or sustain profitability in the future.

We have experienced rapid revenue growth, which may not be indicative of our future performance.

We have experienced rapid revenue growth in recent periods, with revenue of $134.9 million and $192.7 million for the years ended December 31, 2017 and 2018, respectively, and $87.1 million and $129.2 million for the six months ended June 30, 2018 and 2019, respectively. You should not consider our recent growth in revenue as indicative of our future performance. In particular, our revenue growth rates may decline in the future and may not be sufficient to achieve and sustain profitability, as we also expect our costs to increase in future periods. We believe that historical comparisons of our revenue may not be meaningful and should not be relied upon as an indication of future performance. Accordingly, you should not rely on our revenue and other growth for any prior quarter or year as an indication of our future revenue or revenue growth.

Our rapid growth may also make it difficult to evaluate our future prospects. Our ability to forecast our future results of operations is subject to a number of uncertainties, including our ability to effectively plan for and model future growth. If we fail to achieve the necessary level of efficiency in our organization as it grows, or if we are not able to accurately forecast future growth, our business, results of operations, and financial condition could be harmed.

If we are unable to attract new paying and free customers, our future results of operations could be harmed.

The success of our business principally depends on our ability to attract new paying and free customers. To do so, we must persuade decision makers at potential customers that our products offer significant advantages over those of our competitors. Other factors, many of which are out of our control, may now or in the future impact our ability to add new paying and free customers, including:

- potential customers' commitments to existing equipment or vendors;
- potential customers' greater familiarity and/or comfort with on-premises, appliance-based products;
- actual or perceived switching costs;
- our failure to obtain or maintain government or industry security certifications for our network and products;
- negative media, industry, or financial analyst commentary regarding our products and the identities and activities of some of our paying and free customers;
- the adoption of new, or amendment of existing, laws, rules, or regulations that negatively impact the utility of our network and products;
- our failure to expand, retain, and motivate our sales and marketing personnel;
- our failure to develop or expand relationships with existing channel partners or to attract new channel partners;
- our failure to help our customers to successfully deploy and use our products;
- our failure to educate our customers about our platform and products;
- the perceived risk, commencement, or outcome of litigation; and
- deteriorating general economic conditions.

If our efforts to attract new paying customers are not successful, our revenue and rate of revenue growth may decline, we may not achieve profitability, and our future results of operations could be materially harmed. If our efforts to attract new free customers are not successful, the benefits to our network and product development cycles from our strategy of providing a free subscription plan will be diminished.

Our business depends on our ability to retain and upgrade paying customers and, to a lesser extent, convert free customers to paying customers, and any decline in renewals, upgrades, or conversions could adversely affect our future results of operations.

Our business is subscription-based and it is important for our business and financial results that our paying customers renew their subscriptions for our products when existing contract terms expire. Our self-serve paying customers pay with a credit card on a monthly basis and can terminate their subscriptions at will with little advance notice. Because self-serve customers that subscribe to our basic subscription plans are an important source of revenue, this ease of termination could cause our results of operations to fluctuate significantly from quarter to quarter. Our enterprise customers, which consist of customers that sign up for our Enterprise plan, enter into longer term agreements ranging from one to three years, and they generally have no obligation to renew their subscriptions for our products after the expiration of their contractual period and are allowed to cancel their subscriptions in the

case of an uncured material breach of the agreement. Some enterprise customers also have agreements that allow them to terminate the agreement without cause upon little or no advance written notice, or upon our failure to meet certain service level commitments, or to obtain and maintain industry security certifications within a specified time frame. Due to our varied customer base and short average subscription periods, it is difficult to accurately predict our long-term customer retention rate. Our customer retention and expansion may decline or fluctuate as a result of a number of factors, including our customers' satisfaction with the security, performance, and reliability of our products, our prices and subscription plans, our customers' budgetary restrictions, mergers, acquisitions, joint ventures, and business partnerships and relationships involving our customers, the perception that competitive products provide better or less expensive options, negative public perception of us or our free and paying customers, and deteriorating general economic conditions.

Our future financial performance also depends in part on our ability to continue to upgrade paying customers to higher-tier subscriptions or additional paid products and, to a lesser extent, to convert free customers into paying customers. Conversely, our paying customers may convert to lower-cost or free plans if they do not see the marginal value in paying for our higher-cost plans, thereby impacting our ability to increase revenue. Moreover, our free customers have no obligation to transition to paying customers at any point. In order to expand our commercial relationship with our customers, existing paying and free customers must decide that the incremental cost associated with such an upgrade is justified by the additional functionality. For example, some of our paying customers may decide that our enterprise offerings do not provide sufficient incremental value to upgrade from our self-serve offering. Our customers' decision whether to upgrade their subscription is driven by a number of factors, including customer satisfaction with the security, performance, and reliability of our platform and products, customer security and networking issues and requirements, general economic conditions, and customer reaction to the price for additional products. If our efforts to expand our relationship with our existing paying and free customers are not successful, our financial condition and results of operations may materially suffer.

Problems with our internal systems, networks, or data, including actual or perceived breaches or failures, could cause our network or products to be perceived as insecure, underperforming, or unreliable, our reputation to be damaged, and our financial results to be negatively impacted.

We face security threats from malicious third parties that could obtain unauthorized access to our internal systems, networks, and data, including the equipment at our network and core co-location facilities. It is virtually impossible for us to entirely mitigate the risk of these security threats and the security, performance, and reliability of our platform and products may be disrupted by third parties, including nation-states, competitors, hackers, disgruntled employees, former employees, or contractors. We also face the possibility of security threats from other sources, such as employee or contractor errors, or malfeasance. For example, hostile third parties, including nation-states, may seek to bribe, extort, or otherwise manipulate our employees or contractors to compromise our platform and products. While we have implemented security measures internally and have integrated security measures into our platform and products, these measures may not function as expected and may not detect or prevent all unauthorized activity, prevent all security breaches, mitigate all security breaches, or protect against all attacks or incidents. Because the equipment in our network co-location facilities is designed to run all of our products, any insertion of malicious code on, unauthorized access to, or other security breach with respect to, this equipment could potentially impact all of our products running on this equipment. We may also experience security breaches and other incidents that may remain undetected for an extended period and, therefore, may have a greater impact on our products and the networks and systems used in our business, and the proprietary and other confidential data contained on our platform or otherwise stored or processed in our operations, and ultimately on our business. We expect to incur significant costs in our efforts to detect and prevent security breaches and other security-related incidents, and we may face increased costs in the event of an actual or perceived security breach or other security-related incident. Our internal systems are exposed to the same cybersecurity risks and consequences of a breach as our customers and other enterprises, any of which could have an adverse effect on our business or reputation. These cybersecurity risks pose a particularly significant risk to a business like ours that is focused on providing highly secure products to customers.

Unauthorized access to, other security breaches of, or security incidents affecting, systems, networks, and data used in our business, including those of our vendors, contractors, or those with which we have strategic relationships, even if not resulting in an actual or perceived breach of our customers' networks, systems, or data, could result in the loss, compromise or corruption of data, loss of business, reputational damage adversely affecting customer or investor confidence, regulatory investigations and orders, litigation, indemnity obligations, damages for contract breach, penalties for violation of applicable laws or regulations, significant costs for remediation, and other liabilities.

Additionally, in the absence of malicious actions, our platform and products may experience errors, failures, vulnerabilities, or bugs that cause our products not to perform as intended. For example, from time to time we are subject to "route leaks" that involve the accidental or, less commonly, illegitimate advertisement of prefixes, or blocks of IP addresses, which propagate across networks such as ours and can lead to incorrect routing of traffic across our network, taking traffic offline, or in extreme cases, potential interception of customers' traffic by attackers. In June 2019, a route leak spread by a major telecommunications services provider caused significant disruption to our traffic and that of many other providers. Although events like this are outside our control, they could materially harm our reputation and diminish the confidence of our current and potential customers in our platform and products. In addition, deployment of our platform and products into other computing environments may expose these errors, failures, vulnerabilities, or bugs in our products. Any such errors, failures, vulnerabilities, or bugs may not be found until after they are deployed to our customers and may create the perception that our platform and products are insecure, underperforming, or unreliable. In July 2019, we deployed an update to our web application firewall and certain aspects of the related software code resulted in excessive consumption of computing resources across our network, resulting in an outage on our network. While we continue to monitor the impact of the June 2019 route leak and July 2019 outage, we do not expect that they will have a material impact on our results of operations or financial condition. We also provide frequent updates and fundamental enhancements to our platform and products, which increase the possibility of errors. Our quality assurance procedures and efforts to report, track, and monitor issues with our network may not be sufficient to ensure we detect any such defects in a timely manner. For example, in February 2017, a bug in our software code that processes computer information requests was identified. Instead of the requested data, in certain circumstances this bug, which became known as "Cloudbleed," caused our servers to output data that was not requested. The erroneous data output by our system included, but was not limited to, a portion of our customers' secure data. There can be no assurance that our software code is or will remain free from actual or perceived errors, failures, vulnerabilities, or bugs, or that we will accurately route or process all

requests and traffic on our network. Given the trillions of Internet requests that route through our network on a monthly basis and the large array of Internet properties (e.g., domains, websites, application programming interfaces (APIs), and mobile applications) we service, the impact of any such error, failure, vulnerability, or bug can be large in terms of absolute numbers of affected requests and customers.

Problems with our network or systems, or those of our vendors, contractors, or those with which we have strategic relationships, could result in actual or perceived breaches of our or our customers' networks and systems or data. Actual or perceived breaches or other security incidents from these or other causes could lead to claims and litigation, indemnity obligations, regulatory audits, proceedings, and investigations and significant legal fees, significant costs for remediation, the expenditure of significant financial resources in efforts to analyze, correct, eliminate, remediate, or work around errors or defects, to address and eliminate vulnerabilities, and to address any applicable legal or contractual obligations relating to any actual or perceived security breach. They could damage our relationships with our existing customers and have a negative impact on our ability to attract and retain new customers. Because our business is focused on providing secure and high performing network services to our customers, we believe that our products and the networks and systems we use in our business could be targets for hackers and others, and that an actual or perceived breach of, or security incident affecting, our networks, systems, or data, could be especially detrimental to our reputation, customer and channel partner confidence in our solution, and our business. Additionally, our products are designed to operate without interruption, including up to a 100% uptime guarantee for our Business and Enterprise plans. If a breach or security incident were to impact the availability of our platform and products, our business, results of operations, and financial condition, as well as our reputation, could be adversely affected.

Any cybersecurity insurance that we carry may be insufficient to cover all liabilities incurred by us in connection with any privacy or cybersecurity incidents or may not cover the kinds of incidents for which we submit claims. For example, insurers may consider cyberattacks by a nation-state as an "act of war" and any associated damages as uninsured. We also cannot be certain that our insurance coverage will be adequate for data handling or data security liabilities actually incurred, that insurance will continue to be available to us on economically reasonable terms, or at all, or that any insurer will not deny coverage as to any future claim. The successful assertion of one or more large claims against us that exceed available insurance coverage, or the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our business, results of operations, and financial condition, as well as our reputation.

Activities of our paying and free customers or the content of their websites and other Internet properties could subject us to liability.

Through our network, we provide a wide variety of products that enable our customers to exchange information, conduct business, and engage in various online activities both domestically and internationally. Our customers represent more than 20 million Internet properties, many of which utilize our free self-serve plan. Our customers may use our platform and products in violation of applicable law or in violation of our terms of service or the customer's own policies. The existing laws relating to the liability of providers of online products and services for activities of their users are highly unsettled and in flux both within the United States and internationally. We may be subject to lawsuits, regulatory enforcement actions, and/or liability arising from the conduct of our customers. For example, we have been named as a defendant in a number of lawsuits, both in the United States and abroad, alleging copyright infringement based on content that is made available through our customers' websites. There can be no assurance that we will not face similar litigation in the future or that we will prevail in any litigation we may face. An adverse decision in one or more of these lawsuits could materially and adversely affect our business, results of operations, and financial condition.

Several U.S. federal statutes may apply to us with respect to various activities of our customers, including: the Digital Millennium Copyright Act (the DMCA), which provides recourse for owners of copyrighted material who believe their rights under U.S. copyright law have been infringed on the Internet; and section 230 of the Communications Decency Act (the CDA), which addresses blocking and screening of content on the Internet. Although these and other similar legal provisions provide limited protections from liability for service providers like us, those protections may not be interpreted in a way that applies to us, may be amended in the future, or may not provide us with complete protection from liability claims. If we are found not to be protected by the safe harbor provisions of the DMCA, CDA or other similar laws, or if we are deemed subject to laws in other countries that may not have the same protections or that may impose more onerous obligations on us, we may face claims for substantial damages and our brand, reputation, and financial results may be harmed. Such claims may result in liability that exceeds our ability to pay or our insurance coverage. Even if claims against us are ultimately unsuccessful, defending against such claims will increase our legal expenses and divert management's attention from the operation of our business, which could materially and adversely impact our business and results of operations.

Policies and laws in this area remain highly dynamic, and we may face additional theories of intermediary liability in various jurisdictions. For example, the European Union (the EU) recently approved a copyright directive that could expose online platforms to liability. And recent laws in Germany (extremist content), Australia (violent content), and Singapore (online falsehoods), as well as other new laws like them, may also expose Internet companies like us to significant liability. We may incur additional costs to comply with these new laws, which may have an adverse effect on our business, results of operations, and financial condition.

Activities of our paying and free customers or the content of their websites or other Internet properties, as well as our response to those activities, could cause us to experience significant adverse political, business, and reputational consequences with customers, employees, suppliers, government entities, and others.

Activities of our paying and free customers or the content of their websites and other Internet properties could cause us to experience significant adverse political, business, and reputational consequences with customers, employees, suppliers, government entities, and other third parties. Even if we comply with legal obligations to remove or disable customer content, we may maintain relationships with customers that others find hostile, offensive, or inappropriate. For example, we experienced significant negative publicity in connection with the use of our network by *The Daily Stormer*, a neo-Nazi, white supremacist website, around the time of the 2017 protests in Charlottesville, Virginia. We also received negative publicity in connection with the use of our network by 8chan, a forum website that served as inspiration for the recent attacks in El Paso, Texas and Christchurch, New Zealand. We are aware of some potential customers that have indicated their decision to not subscribe to our products was impacted, at least in part, by the actions of certain of our paying

and free customers. We may also experience other adverse political, business and reputational consequences with prospective and current customers, employees, suppliers, and others related to the activities of our paying and free customers, especially if such hostile, offensive, or inappropriate use is high profile.

Conversely, actions we take in response to the activities of our paying and free customers, up to and including banning them from using our products, may harm our brand and reputation. Following the events in Charlottesville, Virginia, we terminated the account of *The Daily Stormer*. Similarly, following the events in El Paso, Texas, we terminated the account of 8chan. We received significant adverse feedback for these decisions from those concerned about our ability to pass judgment on our customers and the users of our platform, or to censor them by limiting their access to our products, and we are aware of potential customers who decided not to subscribe to our products because of this.

Although offering a free self-serve plan for certain of our products is an important part of our business strategy, we may not be able to realize all of the expected benefits of this strategy and the costs and other detriments associated with our free plan could outweigh the benefits we receive from our free customers.

We have historically offered a free self-serve plan for certain of our products. We believe that this strategy is valuable to us and it is an important part of our overall business strategy. However, to the extent that we do not achieve the expected benefits of this strategy, our business may be adversely affected by the costs and detriments of making certain of our products available on a free, self-serve basis to our free customers. While we do not receive any revenue from our free customers, we bear incremental expenses and other liabilities as a result of our free customers' continuing free access to our platform and certain of our products. Adverse political, business, and reputational consequences associated with Internet properties we serve that are perceived as hostile, offensive, or inappropriate may also be disproportionately common among our free customers. The vast majority of our customers do not pay for our products. In addition, a substantial majority of our free customers historically have not converted to paying customers and we expect this will continue in the future.

The actual or perceived failure of our products to block malware or prevent a security breach could harm our reputation and adversely impact our business, results of operations, and financial condition.

Our security products are designed to reduce the threat to our customers posed by malware and other Internet security threats. Our security products may fail to detect or prevent malware or security breaches for any number of reasons. Even where our security products perform as intended, the performance of our security products can be negatively impacted by our failure to enhance, expand, or update our network and products; improper classification of websites by our employees, automated systems, and partners which identify and track malicious websites; improper deployment or configuration of our products; and many other factors.

Companies are increasingly subject to a wide variety of attacks on their networks and systems, including traditional computer hackers; malicious code, such as viruses and worms; distributed denial-of-service attacks; sophisticated attacks conducted or sponsored by nation-states; advanced persistent threat intrusions; ransomware; phishing attacks and other forms of social engineering; employee, vendor, or contractor errors or malfeasance; and theft or misuse of intellectual property or business or personal data, including by disgruntled employees, former employees, or contractors. No security solution, including our products, can address all possible security threats or block all methods of penetrating a network or otherwise perpetrating a security incident. Accordingly, our security products may be unable to detect or prevent a threat until after our customers are impacted. As our products are adopted by an increasing number of enterprises, it is possible that the individuals and organizations behind cyber threats will focus on identifying ways to circumvent or defeat our security products. If our network is targeted by attacks specifically designed to disrupt it, it could create the perception that our security products are not capable of providing adequate security. As a provider of security products, any perceived lack of security to our network or any of our products could erode our customers' and potential customers' trust in our platform and products. Moreover, a high-profile security breach of another cloud services provider could cause our customers and potential customers to lose trust in cloud solutions generally, and cloud-based products like ours in particular. Any such loss of trust could materially and adversely impact our ability to retain existing customers or attract new customers.

Our customers must rely on complex network and security infrastructures, which include products and services from multiple vendors, to secure their networks. If any of our customers becomes infected with malware, or experiences a security breach, they could be disappointed with our products, regardless of whether our security products are intended to block the attack or would have blocked the attack if the customer had properly configured our products or their network, or taken other steps within their control. For example, in April 2017, we published details of a web cache deception attack method that exploits the misconfiguration of websites to circumvent reverse-proxy systems such as ours. While the vulnerability associated with this attack method relates to misconfiguration of websites outside of our control, a customer experiencing a security event related to this vulnerability may nevertheless blame us or become dissatisfied with our products as a result. Additionally, if any enterprises that are publicly known to use our platform and products are the subject of a cyberattack that becomes publicized, this could harm our reputation and our current or potential customers may look to our competitors for alternatives to our platform and products.

From time to time, industry or financial analysts and research firms test our platform and related security products against other security products. Our products may fail to detect or prevent threats in any particular test for a number of reasons, including misconfiguration. To the extent potential customers, industry or financial analysts, or testing firms believe that the occurrence of a failure to detect or prevent any particular threat is a flaw or indicates that our products do not provide significant value or provide less value than competitive solutions, our reputation and business could be materially harmed.

Any real or perceived flaws in our network, or any actual or perceived security breaches of our customers, could result in:

- a loss of existing or potential customers or channel partners;
- delayed or lost sales and harm to our financial condition and results of operations;
- a delay in attaining, or the failure to attain, market acceptance of our products;

- the expenditure of significant financial resources in efforts to analyze, correct, eliminate, remediate, or work around errors or defects, to address and eliminate vulnerabilities, and to address any applicable legal or contractual obligations relating to any actual or perceived security breach;
- negative publicity and damage to our reputation and brand; and
- legal claims and demands (including for stolen assets or information, repair of system damages, and compensation to customers and business partners), litigation, regulatory audits, proceedings or investigations, and other liability.

Any of the above results could materially and adversely affect our business, results of operations, and financial condition.

If our global network that delivers our products or the core co-location facilities we use to operate our network are damaged or otherwise fail to meet the requirement of our business, our ability to provide access to our platform and products to our customers and maintain the performance of our network could be negatively impacted, which could cause our business, results of operations and financial condition to suffer.

We currently host our global network and serve our customers from co-location and ISP-partner facilities located in 193 cities and over 90 countries around the world. In addition to these global facilities, much of the infrastructure for our global network and for our business and operations is maintained through a core co-location facility located in the U.S. Pacific Northwest, a second core co-location facility located in Luxembourg that provides certain redundancy to the U.S. core facility, and through a limited number of other U.S. co-location facilities that provide limited subsets of our network support. While we have electronic and, to a lesser extent, physical access to the components and infrastructure of our network and co-location facilities that are hosted by third parties—including ISP-partner facilities—we do not control the operation of these third-party facilities. Consequently, we may be subject to service disruptions as well as failures to provide adequate support for reasons that are outside of our direct control. All of our co-location and ISP-partner facilities and network infrastructure are vulnerable to damage or interruption from a variety of sources including earthquakes; floods; fires; power loss; system failures; computer viruses; physical or electronic break-ins; human error; malfeasance; or interference, including by disgruntled employees, former employees, or contractors; terrorism; and other catastrophic events. Co-location facilities housing our network infrastructure may also be subject to local administrative actions, changes to legal or permitting requirements, labor disputes, and litigation to stop, limit, or delay operations. Despite precautions taken at these facilities, such as disaster recovery and business continuity arrangements, the occurrence of a natural disaster or an act of terrorism, a decision to close the co-location facilities without adequate notice, or other unanticipated problems at these facilities could result in interruptions or delays in the availability of our network and products, impede our ability to scale our operations, or have other adverse impacts upon our business, results of operations, and financial condition.

The components of our global network are interrelated, such that disruptions or outages affecting one or more of our network co-location facilities may increase the strain on other components of our network. Concurrent disruptions or outages at a number of our network co-location facilities may lead to a cascading effect in which heightened strain on our network causes further disruptions or outages, particularly within the regions where the disruptions and outages occur. In addition, the failure of any of our core co-location facilities for any significant period of time, particularly our U.S. core co-location facility, could place a significant strain upon the ongoing operation of our business, as we have only limited redundant functionality for these facilities. Such a failure of a core co-location facility could degrade and slow down our network, reduce the functionality of our products for our customers, impact our ability to bill our customers, and otherwise materially and adversely impact our business, reputation, and results of operations.

If our customers' or channel partners' access to our platform and products is interrupted or delayed for any reason, our business could suffer.

Any interruption or delay in our customers' or channel partners' access to our platform and products will negatively impact our customers. Our customers depend on the continuous availability of our network for the delivery and use of our products, and our products are designed to operate without interruption, including up to 100% uptime guarantee for our Business and Enterprise plans. If all or a portion of our network were to fail, our customers and partners could lose access to the Internet until such disruption is resolved or they deploy disaster recovery options that allow them to bypass our network. The adverse effects of any network interruptions on our reputation and financial condition may be heightened due to the nature of our business and our customers' expectation of continuous and uninterrupted Internet access and low tolerance for interruptions of any duration. While we do not consider them to have been material, we have experienced, and may in the future experience, network disruptions and other performance problems due to a variety of factors.

The following factors, many of which are beyond our control, can affect the delivery, performance, and availability of our platform and products:

- the development, maintenance, and functioning of the infrastructure of the Internet as a whole;
- the performance and availability of third-party telecommunications services with the necessary speed, data capacity, and security for providing reliable Internet access and services;
- decisions by the owners and operators of the co-location and ISP-partner facilities where our network infrastructure is deployed or by global telecommunications service provider partners who provide us with network bandwidth to terminate our contracts, discontinue services to us, shut down operations or facilities, increase prices, change service levels, limit bandwidth, declare bankruptcy, or prioritize the traffic of other parties;
- the occurrence of earthquakes, floods, fires, power loss, system failures, physical or electronic break-ins, acts of war or terrorism, human error or interference (including by disgruntled employees, former employees, or contractors), and other catastrophic events;
- cyberattacks targeted at us, facilities where our network infrastructure is located, our global telecommunications service provider partners, or the infrastructure of the Internet;
- errors, defects, or performance problems in the software we use to operate our platform and provide our related products to our customers;

- our customers' or channel partners' improper deployment or configuration of our customer's access to our platform and products;
- the maintenance of the APIs in our systems that our partners use to interact with us;
- the failure of our redundancy systems, in the event of a service disruption at one of the facilities hosting our network infrastructure, to redistribute load to other components of our network; and
- the failure of our disaster recovery and business continuity arrangements.

The occurrence of any of these factors, or our inability to efficiently and cost-effectively fix such errors or other problems that may be identified, could damage our reputation, negatively impact our relationship with our customers, or otherwise materially harm our business, results of operations, and financial condition.

Detrimental changes in, or the termination of, any of our co-location relationships, ISP partnerships, or our other interconnection relationships with ISPs could adversely impact our business, results of operations, and financial condition.

Our relationships with ISP partners and other vendors that provide co-location services for our network infrastructure and the pricing and other material contract terms we have with these vendors are important for the maintenance, development, and expansion of our global network. If any of our co-location agreements were to expire or the pricing and other material terms of these agreements were to worsen, our business, results of operations, and financial condition would be adversely affected unless we were able to find a substitute vendor for the impacted facility on comparable or better terms. Moreover, a significant number of our important co-location agreements are with a single company and if our arrangements with this company were to change in a manner adverse to us, we could face difficulty in maintaining or growing our network on commercially viable terms. In addition, as part of our arrangements with some of our ISP partners, the ISP partner has agreed to host our equipment for free or at a discount to the partner's customary rate. There can be no assurances that these ISP partners will continue to provide these types of favorable equipment hosting arrangements in the future.

The efficient and effective operation of our network also relies upon a series of mutually beneficial arrangements with other Internet infrastructure companies. These arrangements are often referred to as "peering" or "interconnection" agreements, and allow us and our ISP partners to reduce bandwidth costs related to operating our respective networks. If the underlying competitive, business, or operational incentives supporting these arrangements were to change, we or our partners might terminate these agreements or allow them to expire. Many of our peering or interconnection agreements have a term of three years or less, after which such agreements auto-renew on an annual basis. Changes to the underlying incentive structure of peering arrangements may result from parties seeking to take advantage of an essential position or enter into exclusive arrangements, changes to U.S. or international laws, regulations, policies, or changes in the norms governing the relationships among Internet infrastructure providers. Without favorable peering arrangements, we would incur significantly increased costs to continue to provide our products at their current levels and such increased costs could adversely impact our business, results of operations, and financial condition. To the extent that other countries begin to regulate peering with outside networks, our costs may increase and our business and results of operations could be adversely impacted.

Abuse or misuse of our internal network services tools could cause significant harm to our business and reputation.

In order to provide real-time support to our customers, we have created internal network services tools that are used by our employees to diagnose and correct customer security, performance, and reliability issues. If our employees were to intentionally abuse these tools by interfering with or altering our customers' Internet properties, our customers could be significantly harmed. Our employees' inadvertent misuse of these tools could similarly harm our customers. For example, third parties have in the past attempted to induce our employees to use their administrative access to reveal, remove, or disable our customers' information and content, including by submitting fraudulent law enforcement requests, copyright takedown requests, or other content-based complaints. Any such improper disclosure or removal could significantly and adversely impact our business and reputation. While our tools have been developed only for authorized use by our employees, any unauthorized release of these tools to third parties would represent a significant vulnerability in our products. Accordingly, any abuse or misuse of our network services tools could significantly harm our business and reputation. If it became necessary to further restrict the availability or use of our network services tools by our employees in response to any abuse or misuse, our ability to deliver high-quality and timely customer support could be harmed.

Our network presence within China is dependent upon our commercial relationship with Baidu, and any detrimental changes in, or the termination of, that relationship could jeopardize our ability to offer an integrated global network that includes China.

We believe our offering of an integrated global network that includes facilities in China is important to our existing and potential future customers. Our ability to continue to offer an integrated network presence that includes China currently is dependent on our commercial relationship with an affiliate of Baidu. Regulation of Internet infrastructure and traffic by the Chinese government creates challenges to the peering of Chinese and non-Chinese networks. We have a strategic agreement with Baidu to provide a solution that accommodates the requirements imposed by Chinese regulations through Baidu's development and operation of facilities in China that are included as part of our network. We have needed to periodically negotiate extensions to our existing agreement with Baidu and there can be no assurance that future extensions will be available on comparable terms. The term of our current agreement with Baidu expires at the end of 2020, but is subject to earlier termination by Baidu at the end of 2019 if notice is delivered before September 2019 or by either party under certain circumstances such as the other party's material breach. In addition, the agreement with Baidu can be terminated by Baidu under certain circumstances if necessary Chinese governmental approvals are revoked or become limited or impaired or if public law or regulatory action by the Chinese or U.S. government expressly prohibits or materially restricts the collaboration contemplated by the agreement. The risk of such an early termination event may have increased during the current environment of economic trade negotiations and tensions between the Chinese and U.S. governments. Although we have been successful in negotiating extensions of this agreement in the past, we cannot provide any assurance that we will continue to be able to do so in the future if we determine that we would like to continue to extend the agreement. If our commercial relationship with Baidu were terminated, identifying an alternative solution in China could be difficult, time-consuming, and expensive. Even if an alternative solution is identified,

we cannot be certain that the economic terms or performance of any such alternative arrangement will be comparable to our existing relationship with Baidu, which could materially negatively impact our financial results and customer satisfaction with such alternative arrangement. A lack of network presence in China would represent a significant loss of utility to many of our customers and could materially harm our business.

Our customers that use our network presence in China through our Baidu commercial relationship are subject to Chinese laws and regulations of Internet infrastructure, traffic, and content. Under our agreement with Baidu, in some circumstances, these customers' use of our Chinese network presence can be terminated if they violate these laws and regulations. The removal of our customers from our Chinese network presence could result in these customers deciding to terminate their overall relationship with us. In addition, any adverse publicity associated with the removal of some or all of our customers from our Chinese network presence as a result of the application of Chinese laws and regulations could cause us to experience adverse reputational and business consequences.

Our international operations expose us to significant risks, and failure to manage those risks could materially and adversely impact our business.

Historically, we have derived a significant portion of our revenue from outside the United States. We derived 52% of our revenue from our international customers for each of the years ended December 31, 2017 and 2018 and 53% and 50% for the six months ended June 30, 2018 and 2019, respectively. We are continuing to adapt to and develop strategies to address international markets and our growth strategy includes expansion into geographies around the world, but there is no guarantee that such efforts will be successful. In addition, our global network includes co-location facilities located in 193 cities and over 90 countries around the world. We expect that our international sales and network activities will continue to grow in the future, as we continue to pursue opportunities in international markets and further grow our network around the world. These international operations will require significant management attention and financial resources and are subject to substantial risks, including:

- political, economic, and social uncertainty, including the potential nationalization of key peering partners by foreign governments, or terrorist activities;
- changes in a specific country's or region's political or economic conditions, including in the United Kingdom as a result of its pending withdrawal from the EU (i.e., Brexit);
- unexpected costs for the localization of our products, including translation into foreign languages and adaptation for local practices and regulatory requirements;
- greater difficulty in enforcing contracts and accounts receivable collection, and longer collection periods;
- reduced or uncertain protection for intellectual property rights in some countries;
- greater risk of unexpected changes in regulatory practices, tariffs, and tax laws and treaties, including with respect to our business in China;
- greater risk of a failure of foreign employees and channel partners to comply with both U.S. and foreign laws, including antitrust regulations, anti-bribery laws, export and import control laws, and any applicable trade regulations ensuring fair trade practices;
- heightened security risks associated with our co-location facilities in high-risk countries and the software code and systems access shared with our service providers located in such countries;
- greater risks associated with third-party contractors that we use to install and maintain our hardware in co-location facilities in foreign countries and the limited background checks and screening that we can perform on such service providers;
- regulations related to privacy, data protection, security requirements, data localization, or content restriction that could pose risks to our intellectual property, increase the cost of doing business in a country, or create other disadvantages to our business;
- potential changes in laws, regulations, and costs affecting our U.K. operations and local employees due to Brexit;
- increased expenses incurred in establishing and maintaining office space and equipment for our international operations;
- greater difficulty in identifying, attracting, and retaining local qualified personnel and the costs and expenses associated with such activities;
- differing employment practices and labor relations issues;
- increased regulatory requirements and litigation risk related to the presence of our physical infrastructure in countries around the world;
- difficulties in managing and staffing international offices and increased travel, infrastructure, and legal compliance costs associated with operating multiple international locations; and
- fluctuations in exchange rates between the U.S. dollar and foreign currencies in markets where we do business, particularly the United Kingdom and Singapore where we have large offices and pay employees in local currency.

The expansion of our existing international operations and entry into additional international markets will require significant management attention and financial resources. Our failure to successfully manage our international operations and the associated risks could limit the future growth of our business. In particular, we are exposed to risks in China, which amounts to a significant part of both our short-term and long-term revenue growth plans. Our Chinese operations are substantially dependent on our relationship with Baidu, and due to economic and political challenges in servicing the Chinese market, the loss of this arrangement could have a significant adverse effect on our business and results of operations.

Geo-political events such as Brexit may increase the likelihood of certain of these risks materializing or heighten their impact on us in affected regions. In particular, it is possible that the level of economic activity in the United Kingdom and the rest of Europe will be adversely impacted and that we will face increased regulatory and legal complexities, including those related to tax, trade, data privacy, security, and employee relations, as a result of Brexit. Given the significance of our presence in the United Kingdom, such changes could be particularly costly and disruptive to our operations and business relationships. In addition, heightened use of trade restrictions such as tariffs or prohibitions on technology transfers to achieve diplomatic ends, including with respect to the current environment of economic trade negotiations and tensions between the Chinese and U.S. governments, could impact our ability to conduct our business as planned.

Our business could be adversely impacted by the decision of foreign governments, Internet service providers, or others, to block transmission from Cloudflare IP addresses in order to enforce certain Internet content blocking efforts.

Some of our security products involve making origin IP addresses and other operational assets of our customers more difficult for cyberattackers to target. The evolving design of our platform and products may create challenges for various organizations, including governments, that seek to block certain content based on IP address "black lists" or other mechanisms. This problem is exacerbated by the fact that a single Cloudflare IP address may be used for a number of Internet properties, and the Cloudflare IP used for any one Internet property may change over time. This means that efforts by ISPs to block a single domain name may end up blocking a number of other domains that share that Cloudflare IP address or domains that use that same Cloudflare IP address previously or subsequently. If these challenges become too difficult for those organizations to overcome, they could make the decision to block content in an overbroad manner or block completely websites and other Internet properties that are using our network and/or transmitted using known Cloudflare IP addresses. Some of these blocking efforts would be out of our control once they have been put in place and may limit our ability to provide our products on a fully global basis, which could reduce demand for our products among current or potential customers that are focused on the impacted regions or could otherwise adversely impact our business, results of operations, and financial condition.

We are subject to governmental trade sanctions laws, and export and import controls, that could impair our ability to compete in international markets and subject us to liability if we are not in full compliance with applicable laws.

Our business activities are subject to various economic and trade sanctions regulations administered by the U.S. Department of the Treasury's Office of Foreign Assets Control (OFAC) and U.S. export control and similar foreign laws and regulations, including the U.S. Department of Commerce's Export Administration Regulations (EAR). We incorporate encryption technology into certain of our products, and the encryption products and the underlying technology may be exported outside the United States only with the required export authorizations, including by license, a license exception or other appropriate government authorizations, including the filing of classification requests or self-classification reports. Further, the U.S. economic sanctions laws and export control laws include restrictions or prohibitions on the sale or supply of most products and services to U.S. embargoed or sanctioned countries, governments, persons, and entities. Even though we take precautions and have implemented policies and practices to assist in compliance, there is a risk that we may not be in full compliance with these laws.

In 2019, we learned that we may have failed to comply with certain U.S. export-related filing and reporting requirements and may have submitted incorrect information to the U.S. government in connection with certain hardware exports. Upon learning of these potential violations and associated export control requirements, we promptly initiated a voluntary internal review and are taking remedial measures to prevent similar export control anomalies from occurring in the future. In May 2019, we submitted a voluntary self-disclosure to the Bureau of Industry and Security regarding potential violations of EAR and a voluntary self-disclosure to the Census Bureau regarding potential violations of the Foreign Trade Regulations. These voluntary self-disclosures are under review by the respective agencies.

In May 2019, we submitted a voluntary self-disclosure to OFAC related to our non-compliance with certain economic and trade sanctions programs. Specifically, we identified that our products were used by, or for the benefit of, certain individuals and entities included in OFAC's Specially Designated Nationals and Blocked Persons List (the SDN List), including entities identified in OFAC's counter-terrorism and counter-narcotics trafficking sanctions programs, or affiliated with governments currently subject to comprehensive U.S. sanctions. A small number of these parties made payments to us in connection with their use of our platform. Although we have implemented, and are working to implement additional controls and screening tools designed to prevent similar activity from occurring in the future, there is no guarantee that we will not inadvertently provide our products to additional individuals, entities, or governments prohibited by U.S. sanctions in the future. The voluntary self-disclosure is under review by OFAC.

Additionally, we currently provide products to certain OFAC-sanctioned regions based upon general licenses issued by OFAC to engage in such activity. We continue to review the OFAC sanctions and our practices to verify compliance.

These efforts related to export controls and OFAC sanctions could result in negative consequences for us, including costs related to government investigations, financial penalties and harm to our reputation. The impact on us related to these matters could be substantial.

In addition, various countries regulate the import of certain technologies and have enacted or could enact laws that could limit our ability to provide our products and operate our network or could limit our customers' ability to access or use our platform and products in those countries.

If we are found to have violated the U.S. or foreign laws and regulations, we and certain of our employees could be subject to civil or criminal penalties, including the possible loss of export privileges and fines. We may be materially and adversely affected through penalties, reputational harm, loss of access to certain markets, or otherwise. Obtaining the necessary authorizations, including any required license, for a particular transaction may be time-consuming, is not guaranteed, and may result in the delay or loss of sales opportunities. In addition, changes in our platform, products, or screening process, or changes in

export, sanctions, and import laws, could delay the introduction and sale of subscriptions to our products in international markets, prevent customers in certain countries from accessing our platform and products or, in some cases, prevent the provision of our platform and products to certain countries, governments, persons, or entities altogether. Any decrease in our ability to sell our products could materially and adversely affect our business, results of operations, and financial condition.

We face intense and increasing competition, which could adversely affect our business, financial condition, and results of operations.

The markets for our platform and products are intensely competitive and characterized by rapid changes in technology, customer requirements, industry standards, and frequent introductions of new, and improvements of, existing products. Our broad portfolio of products exposes us to competition from a large number of competitors in a number of different markets, including companies and their product and services offerings in, among others, virtual private networks, internal and external firewalls, web security (including web application firewalls and content filtering), distributed denial of service prevention, intrusion detection and prevention, application delivery controls, content delivery networks, domain name systems, advanced threat prevention, and wide area network (WAN) technology.

Our competitors provide both on-premises, appliance-based solutions, and cloud-based services that have functionality similar to our platform and products. We expect competition to increase as other established and emerging companies and start-ups enter the markets for products and solutions for security, performance, and reliability, in particular with respect to cloud-based solutions, as customer requirements evolve and as new products, services, and technologies are introduced. If we are unable to anticipate or effectively react to these competitive challenges, our competitive position could weaken, and we could experience a decline in revenue or our growth rate that could materially and adversely affect our business and results of operations.

Our potential competitors include large companies with substantial infrastructure, such as global telecommunications services provider partners and public cloud providers. These companies could choose to enter the markets for products and solutions for security, performance, and reliability, including by acquiring existing companies, developing their own internal solutions, or establishing cooperative relationships with businesses that may allow them to offer more comprehensive solutions or to adapt more quickly than us to new technologies and customer needs. Additionally, if an increasing portion of web content is housed on another company's platform or portions of the Internet are otherwise privatized, it could reduce the demand for our products and increase competitive pressure on us. These competitive pressures in our markets or our failure to compete effectively may result in price reductions, fewer subscriptions, reduced revenue and gross margin, increased net losses, and loss of market share.

Our current and potential future competitors include a number of different types of companies, including:

- on-premise hardware network vendors, such as Cisco Systems Inc., F5 Networks, Inc., Check Point Software Technologies Ltd., FireEye, Inc., Imperva, Inc., Palo Alto Networks, Inc., Juniper Networks, Inc., and Riverbed Technology, Inc.;
- point-cloud solution vendors, including cloud security vendors such as Zscaler, Inc. and Cisco Systems Inc. through Umbrella (formerly known as OpenDNS), content delivery network vendors such as Akamai Technologies, Inc., Limelight Networks, Inc., Fastly, Inc., and Verizon Communications Inc. through Edgecast, domain name system vendors services such as Oracle Corporation through DYN, NeuStar, Inc., and UltraDNS Corporation, and cloud SD-WAN vendors; and
- traditional public cloud vendors, such as Amazon.com, Inc. through Amazon Web Services, Alphabet Inc. through Google Cloud Platform, Microsoft Corporation through Azure, and Alibaba Group Holding Limited through Alibaba Cloud.

Many of our existing and potential competitors have or could have substantial competitive advantages including, among others:

- greater name recognition;
- longer operating histories and larger customer bases;
- larger sales and marketing budgets and capital resources;
- broader distribution and established relationships with partners and customers;
- greater customer support resources;
- greater resources to make acquisitions and enter into strategic partnerships;
- lower labor and research and development costs;
- larger and more mature intellectual property rights portfolios;
- control of significant technologies, standards, or networks, including operating systems, with which our products must interoperate;
- higher or more difficult to obtain security certifications than we possess; and
- substantially greater financial, technical, and other resources.

In particular, some of our larger competitors have substantially broader and more diverse product and services offerings, which may allow them to leverage existing commercial relationships, incorporate functionality into existing products, sell products and services with which we compete at zero or negative margins, offer fee waivers and reductions or other economic and non-economic concessions, bundle products, maintain closed technology platforms, or render our products unable to interoperate with such platforms. If they were to engage in predatory practices, it could harm our existing product offerings or prevent us from creating viable products in other segments of the markets in which we participate. If our competitors are able to exploit their advantages or are able to persuade our customers or potential customers that their products are superior to ours, we may not be able to compete effectively and our business, financial condition, and results of operations may be materially affected.

Our policies regarding user privacy could cause us to experience adverse business and reputational consequences with customers, employees, suppliers, government entities, and other third parties.

As a company, we strive to protect our customers' privacy consistent with applicable law. Consequently, we generally do not provide personal information about our customers without legal process. From time to time, government entities may also seek our assistance with obtaining information about our customers or could request that we modify our platform and products in a manner to permit access or monitoring. In light of our privacy commitments, we may legally challenge law enforcement requests to provide a feed of content transiting our network, to obtain encryption keys, or to modify or weaken encryption. We may face complaints from individuals who assert we have provided their information improperly to law enforcement or in response to third-party abuse complaints, despite policies we have in place to protect that information. To the extent that we do not provide assistance to or comply with requests from government entities or challenge those requests publicly or in court, we may experience adverse political, business, and reputational consequences. We may also face such adverse political, business, and reputational consequences to the extent that we provide, or are perceived as providing, assistance to government entities that exceeds our legal obligations. For example, we periodically receive requests for information purportedly originating from law enforcement agencies or pursuant to legal process, but which are fraudulent or improper attempts to cause us to reveal customer information. Any such disclosure could significantly and adversely impact our business and reputation.

We publish a transparency report on a semi-annual basis to provide details of law enforcement and government requests we receive. Our transparency report also includes a list of certain actions we have not taken in response to law enforcement requests. If we are ever required by law enforcement to take one or more of the actions covered by those disclosures, then we would have to remove the applicable disclosures from our transparency report. Both the publishing of our transparency report and, conversely, the potential narrowing of the list of actions we have not taken in response to law enforcement requests could damage our business and reputation.

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

A majority of our revenue in the year ended December 31, 2018 and the six months ended June 30, 2019 was from Enterprise plan customers that were acquired through our inside and field sales teams. We expect this trend will continue for the foreseeable future. As a result, our financial condition and results of operations are dependent to a significant degree on the ability of our dedicated sales personnel to acquire new enterprise customers and expand our relationships with our existing enterprise customers. Our sales representatives typically engage in direct interaction with our prospective enterprise customers. Increasing our customer base and achieving broader market acceptance of our platform and products will depend, to a significant extent, on our ability to expand and further invest in our sales and marketing operations and activities. There is significant competition for sales personnel with the advanced sales skills and technical knowledge we need. We believe that selling subscriptions to our products requires particularly talented sales personnel that understand both cloud-based and appliance-based solutions, as well as the key differences between them. 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 these talented sales personnel in both the United States and international markets. New sales hires require significant training and may take significant time before they achieve full productivity. As a result, our new sales hires and planned sales hires may not become as productive as we would like or as quickly as we expect, and we may be unable to hire or retain sufficient numbers of qualified individuals. As a result of our rapid growth, a large percentage of our sales and marketing team is new to our company and inexperienced in selling subscriptions to our products, and therefore these personnel may be less effective than our more seasoned employees. Experienced sales personnel are particularly sought after in our industry and we may have to expend significant resources to retain our most productive sales employees. Even with considerable effort, we may be unsuccessful at retaining our experienced sales employees, which would adversely impact our business, results of operations, and financial condition.

Furthermore, hiring sales personnel in new countries, or expanding our existing presence in the countries in which we currently operate, requires upfront and ongoing expenditures that we may not recover if the sales personnel fail to achieve full productivity or that may be recovered on a more delayed basis than expected. We cannot predict whether, or when or to what extent, our sales will increase as we expand our sales force or how long it will take for sales personnel to become productive. If we are unable to hire, train, and retain a sufficient number of effective sales personnel, or the sales personnel we hire are not successful in obtaining new customers or increasing sales to our existing customer base, our business and future growth prospects will be materially and adversely affected.

If we fail to effectively manage our growth, we may be unable to execute our business plan, maintain high-quality levels of support, ensure the security of our network, adequately address competitive challenges, or maintain our corporate culture, and our business, financial condition, and results of operations would be harmed.

We have recently experienced, and continue to experience, a period of rapid growth. For example, our headcount grew from 540 employees as of December 31, 2017, to 865 employees as of December 31, 2018, to 1,069 employees as of June 30, 2019. We also have offices around the world, and we opened offices in Beijing and Munich during 2018 and opened an office in Sydney in January 2019. In addition, we expanded our network into 17 and 46 new cities in 2017 and 2018, respectively, and into six new cities during the three months ended June 30, 2019. The number of customers, users, and requests on our network also has increased rapidly in recent years. While we expect to continue to expand our operations and to increase our headcount, network, and products significantly in the future, both domestically and internationally, our growth may not be sustainable. Our growth has placed, and future growth will

continue to place, a significant strain on our management and our administrative, operational, and financial infrastructure. Our success will depend in part on our ability to manage this growth effectively, which will require that we continue to improve our administrative, operational, financial, and management systems and controls by, among other things:

- effectively attracting, training, and integrating a large number of new employees, particularly members of our sales, engineering, and management teams;
- ensuring the integrity and security of our network and IT infrastructure throughout the world;
- maintaining our corporate culture, which we believe fosters innovation, teamwork, and an emphasis on customer-focused results and contributes to our cost-effective business model;
- further improving our key business applications, processes, and IT infrastructure, including our core co-location facilities, to support our business needs;
- enhancing our information and communication systems to ensure that our employees and offices around the world are well coordinated and can effectively communicate with each other and our growing base of channel partners, customers, and users;
- maintaining high levels of customer support; and
- appropriately documenting and testing our IT systems and business processes.

Managing our growth will require significant capital expenditures and allocation of valuable management and employee resources. If we fail to manage our expected growth, the uninterrupted and secure operation of our network and products and key business systems, our corporate culture, our compliance with the rules and regulations applicable to our operations, the quality of our products, and our ability to compete could suffer. Any failure to preserve our culture also could further harm our ability to retain and recruit personnel, innovate and create new products, operate effectively, and execute on our business strategy.

Our quarterly results may fluctuate significantly and may not fully reflect the underlying performance of our business.

Our quarterly results of operations, including our revenue, gross margin, operating margin, profitability, cash flow from operations, and deferred revenue, may vary significantly in the future and period-to-period comparisons of our results of operations may not be meaningful. Accordingly, the results of any one quarter should not be relied upon as an indication of future performance. Our quarterly results of operations may fluctuate as a result of a variety of factors, many of which are outside of our control, and as a result, may not fully reflect the underlying performance of our business. Fluctuation in quarterly results may negatively impact the trading price of our Class A common stock. Factors that may cause fluctuations in our quarterly results of operations include, without limitation:

- our ability to attract new paying customers and, to a lesser extent, convert free customers to paying customers;
- our ability to retain and upgrade paying customers;
- the timing of expenses and recognition of revenue;
- the amount and timing of operating expenses related to the maintenance and expansion of our business, operations, and infrastructure, as well as entry into operating and capital leases and co-location and similar agreements related to the expansion of our network;
- the timing of expenses related to acquisitions;
- any large indemnification payments to our customers or other third parties;
- changes in our pricing policies or those of our competitors;
- the timing and success of new product feature and service introductions by us or our competitors;
- network outages or actual or perceived security breaches;
- our involvement in litigation or regulatory enforcement efforts, or the threat thereof;
- changes in the competitive dynamics of our industry, including consolidation among competitors;
- the length of the sales cycle for our enterprise customers;
- changes in laws and regulations that impact our business; and
- general economic and market conditions.

We rely on our key technical, sales, and management personnel to grow our business, and the loss of one or more key employees or the inability to attract and retain qualified personnel could harm our business.

Our future success is substantially dependent on our ability to attract, retain, and motivate the members of our management team and other key employees throughout our organization, particularly Matthew Prince, our Chief Executive Officer, and Michelle Zatlyn, our Chief Operating Officer. We rely on our leadership team in the areas of operations, security, marketing, sales, support, research and development, and general and administrative functions, and on individual contributors on our research and development team. Although we have entered into employment offer letters with our key personnel, these agreements have no specific duration and constitute at-will employment. We do not maintain key person life insurance policies on any of our employees. The loss of one or more of our executive officers or key employees could seriously harm our business.

To execute our growth plan, we must attract and retain highly qualified personnel. In particular, it is critical for us to attract and retain engineering talent in our fast growing industry. Competition for these personnel in the San Francisco Bay Area, where our headquarters is located, and in London, Singapore, Austin, Texas, and other locations where we maintain offices, is intense, especially for experienced sales professionals and for engineers experienced in designing and developing cloud applications. We have from time to time experienced, and we expect to continue to experience, difficulty in hiring and retaining employees with appropriate qualifications. For example, in recent years, recruiting, hiring, and retaining employees with expertise in the cybersecurity industry has become increasingly difficult as the demand for cybersecurity professionals has increased as a result of high-profile cybersecurity attacks on global corporations and governments. Many of the companies with which we compete for experienced personnel have greater resources than we have and may provide higher levels of compensation. In addition, job candidates and existing employees often consider the value of the equity awards they receive in connection with their employment. Volatility or lack of performance in our stock price may also affect our ability to attract and retain our key employees. Upon vesting of equity awards, many of our employees have acquired or may soon acquire a substantial amount of personal wealth. This may make it more difficult for us to retain and motivate these employees, and this wealth could affect their decision about whether or not they continue to work for us. Any failure to successfully attract, integrate, or retain qualified personnel to fulfill our current or future needs could materially and adversely affect our business, results of operations, and financial condition.

We believe our long-term value as a company will be greater if we focus on growth, which may negatively impact our profitability.

A significant part of our business strategy is to focus on long-term growth. For example, in the year ended December 31, 2018 we increased our operating expenses to $234.0 million as compared to $115.9 million in the year ended December 31, 2017, and to $136.9 million in the six months ended June 30, 2019 as compared to $99.1 million in the six months ended June 30, 2018. In the year ended December 31, 2018, our net loss increased to $87.2 million from $10.7 million in the year ended December 31, 2017, and to $36.8 million in the six months ended June 30, 2019 as compared to $32.5 million in the six months ended June 30, 2018. As a result, we may continue to operate at a loss or our profitability may be lower than it would be if our strategy were to maximize short-term profitability. Significant expenditures on sales and marketing efforts, and expenditures on growing our platform and expanding our research and development and portfolio of products, each of which we intend to continue to invest in, may not ultimately grow our business or cause long-term profitability. If we are ultimately unable to achieve or improve profitability at the level or during the time frame anticipated by industry or financial analysts and our stockholders, our stock price may decline.

If we are not able to maintain our brand, our business and results of operations may be adversely affected.

We believe that maintaining our reputation as a provider of products with the highest levels of security, performance, and reliability is critical to our relationship with our existing customers and our ability to attract new customers. The successful promotion of our brand will depend on a number of factors, including our record of security, performance, and reliability; our marketing efforts; our ability to continue to develop high-quality features and products for our network; and our ability to successfully differentiate our products from competitive products and services. Our brand promotion activities may not be successful or yield increased revenue.

Independent industry and financial analysts often provide reviews of our products, as well as those of our competitors. Perception of our offerings in the marketplace may be significantly influenced by these expert reviews. If reviews of our products are negative, or less positive than those of our competitors', our brand may be adversely affected. The performance of our channel partners may also affect our brand and reputation, particularly if customers do not have a positive experience with our channel partners. The promotion of our brand requires us to make substantial expenditures, and we anticipate that the expenditures will increase as our markets become more competitive and we expand into new markets. Expenditures intended to maintain and enhance our brand may not be cost-effective or effective at all. If we do not successfully maintain and enhance our brand, we may have reduced pricing power relative to our competitors, we could lose customers, or we could fail to attract potential new customers or expand sales to our existing customers, all of which could materially and adversely affect our business, results of operations, and financial condition.

We provide service level commitments under our Enterprise plan customer contracts and our Business plan terms of service. If we fail to meet these contractual commitments, we could be obligated to provide credits for future service or allow customers to terminate their subscriptions and our business could suffer.

Our Enterprise plan agreements and our Business plan terms of service typically provide for service level commitments, which contain specifications regarding the availability and performance of our network. In particular, our Enterprise plan subscriptions and our Business plan terms of service include up to a 100% uptime guarantee. Any failure of or disruption to our infrastructure could adversely impact the security, performance, and reliability of our platform and products for our customers. If we are unable to meet our stated service level commitments or if we suffer extended periods of poor performance or unavailability of our platform and products, these customers could seek to bring claims against us or terminate their agreements with us and, in the case of our enterprise customers, we may be contractually obligated to provide affected customers with service credits that they may apply against future subscription fees otherwise owed to us, and, in certain cases, refunds of pre-paid and other fees. For example, the June 2019 route leak and the July 2019 outage on our network triggered certain of these types of obligations. While we continue to monitor the impact of the June 2019 route leak and July 2019 outage and do not expect they will have a material impact on our results of operations or financial condition, our estimates could be wrong

and these and other future events like these may materially and adversely impact our results of operations or financial condition. Our revenue, other results of operations, and financial condition could be harmed if we suffer performance issues or downtime that exceeds the service level commitments under our agreements and terms of service with our paying customers.

If our products do not obtain and maintain market acceptance, our ability to grow our business and our results of operations may be adversely affected.

Our products are still evolving and it is difficult to predict customer demand and adoption rates for our product offerings. We believe that our platform and cloud-based products represent a major shift from traditional solutions. Many of our potential customers, particularly large enterprises and government entities, face barriers to adopting our offerings because of their prior investment in, and the familiarity of their IT personnel with, on-premises, appliance-based solutions. As a result, our sales process often involves extensive efforts to educate our customers about our products, particularly as we continue to pursue customer relationships with large organizations.

Our customers also expect us to meet voluntary certifications or adhere to standards established by third parties and may demand that they be provided a report from our auditors that we are in compliance. Although we currently have certain certifications such as SOC2 Type 1 and Type 2, SOC3, PCI DSS, and ISO27001, we may not be successful in continuing to maintain those certifications or in obtaining other certifications. In addition, sales to government entities and other large enterprises may in particular be conditioned upon adherence to the FedRAMP and eIDAS standards in the United States and the EU, respectively, and we do not currently have these certifications. The costs of obtaining and maintaining certification pursuant to any of these standards are significant, and any failure to obtain and maintain such certifications for our platform and products could reduce demand for them, which would harm our business, results of operations, and financial condition. To the extent our competitors have, and we do not have, these certifications, we may lose the opportunity to obtain subscriptions from certain potential paying customers.

Despite our efforts, we can provide no assurance that our cloud-based products will obtain market acceptance or that competing products or services based on other cloud-based and/or on-premises technologies will not achieve market acceptance. If we fail to achieve market acceptance of our products or are unable to keep pace with industry changes or obtain necessary product certifications, our ability to grow our business, results of operations, and financial condition will be materially and adversely affected.

We may not be able to respond to rapid technological changes or develop new products and features that are attractive to our current and prospective future customers.

The industry in which we compete is characterized by rapid technological change, including frequent introductions of new products and services, evolving industry standards, changing regulations, and the development of novel cyber-attacks by hostile parties, as well as changing customer needs, requirements and preferences. Our need for continuous innovation is driven not only by competitive forces within our industry but also by our need to out-innovate the highly motivated third parties seeking to breach or compromise our network and those of our customers for economic, political, or military purposes.

Our ability to attract new customers and increase revenue from existing customers will depend in significant part on our ability to anticipate and respond effectively to these forces on a timely basis and continue to introduce enhancements to our platform and develop new products. If new technologies emerge that deliver competitive products and services at lower prices, more efficiently, more conveniently, more securely or reliably, or are higher performing, these technologies could render our platform and existing products less attractive to our current and prospective future customers, or obsolete. The development of novel attacks or exploits by criminal or malicious elements or hostile state actors also could render our platform and existing products less effective or obsolete. The success of our business depends on our continued investment in our research and development organization to increase the integrity, reliability, availability, and scalability of our products. We may experience difficulties with development, design, or marketing of such enhancements to our platform and products that could delay or prevent their development, introduction, or implementation. We have in the past experienced delays in the planned expansion of our network and in our internally planned or publicly announced release dates of new products and new features and capabilities, and there can be no assurance that planned expansions of our network will occur on schedule and that new products, features, or capabilities will be released according to schedule. Any delays could result in adverse publicity, loss of revenue or market acceptance, or claims by customers brought against us, all of which could have a material and adverse effect on our reputation, business, results of operations, and financial condition.

Adverse economic conditions, including reduced spending on products and solutions for network security, performance, and reliability, may adversely impact our revenue and profitability.

Our operations and financial performance depend in part on worldwide economic conditions and the impact these conditions have on levels of spending on products and solutions for network security, performance, and reliability. Our business depends on the overall demand for these products and on the economic health and general willingness of our current and prospective customers to purchase our products. Some of our paying customers may view a subscription to our products as a discretionary purchase and may reduce their discretionary spending on our products during an economic downturn. Weak economic conditions, including a reduction in spending on products and solutions for security, performance, and reliability, could reduce sales, lengthen sales cycles, increase churn, and lower demand for our products, any of which could adversely affect our business, results of operations, and financial condition.

Our relatively limited operating history makes it difficult to evaluate our current business and prospects, and may increase the risk that we will not be successful.

Our relatively limited operating history makes it difficult to evaluate our current business and prospects, and to plan for our anticipated future growth. We began operations in 2010 and much of our growth has occurred in recent years. As a result, our business model has not been fully proven, which subjects us to a number of uncertainties, including our ability to plan for and model future growth. While we have continued to expand our network and develop additional reliability products, we have encountered, and will continue to encounter, risks and uncertainties frequently experienced by rapidly growing companies in developing industries, including our ability to achieve broad market acceptance of our products, attract additional customers, identify and grow partnerships, withstand increasing competition in our existing and future markets, and manage increasing expenses as we continue to grow our

business. If our assumptions regarding these risks and uncertainties are incorrect or change in response to changes in the markets for products and solutions for network security, performance, and reliability, our business could suffer and our results of operations and financial condition could differ materially from our expectations.

We have limited experience with our pricing models, and may not accurately predict the long-term rate of paying customer adoption or renewal, or the impact these will have on our revenue or results of operations.

We generate revenue primarily from subscriptions to our platform and products. We offer subscription plans that provide varying degrees of functionality, and also offer separate subscriptions to various add-on products and platform functionality. We have limited experience with respect to determining the optimal prices and pricing models for our subscription plans and add-on products. As the markets for our products mature, as we enter into newer product markets for our business, or as new competitors introduce new products or services that compete with ours, we may be unable to attract new customers or retain existing customers at the same price or based on the same pricing model as we have used historically. Moreover, our increasing focus on larger customers may lead to greater price concessions in the future or have a more significant impact period to period on our revenue and results of operations. As a result, in the future we may be required to reduce our prices, which could adversely affect our revenue, gross margin, profitability, financial condition, and cash flow.

We also have limited experience in determining which products and functionality to offer as part of our subscription plans and which to offer as add-on products. Our limited experience in determining the optimal manner in which to bundle our various products and functionalities could reduce our ability to capture the value delivered by our offerings, which could adversely impact our business, results of operations, and financial condition.

As we expand our sales to enterprise customers, our sales cycle could lengthen and become unpredictable.

Historically, the implementation period to start using our products has been short, with most customers under our self-serve plans implementing usage of our products within a matter of minutes and our sales cycle for customers under our Enterprise plan typically lasting less than one quarter. As our business evolves, we are investing more resources into sales efforts directed to larger enterprises. These larger enterprises may undertake a significant evaluation and negotiation process, which could lengthen our sales cycle materially. The timing of sales to enterprise customers can be more difficult to predict because of the length and unpredictability of the sales cycle for these customers. Our sales efforts typically involve educating our prospective enterprise customers about the uses, benefits, and value proposition of our platform and products. Potential enterprise customers often view the subscription to our products as a significant strategic decision and, as a result, in some cases require considerable time to evaluate, test, and qualify our platform and products prior to entering into or expanding a relationship with us.

Our sales force develops relationships directly with our customers and our channel partners on account penetration, account coordination, sales, and overall market development. We spend substantial time and resources on our sales efforts without any assurance that our efforts will produce a sale. Subscriptions to our products often are subject to budget constraints, multiple approvals, and unanticipated administrative, processing, and other delays. As a result, it is difficult to predict whether or when a sale to a prospective enterprise customer will be completed and when revenue from a subscription will be recognized.

Sales to larger enterprise customers involve risks that may not be present, or that are present to a lesser extent, with sales to smaller customers, including:

- competition from companies that traditionally target larger enterprises and that may have pre-existing relationships or purchase commitments from such customers;
- longer evaluation periods, more detailed evaluations, and more cumbersome contract negotiation and approval processes;
- increased purchasing power and leverage in negotiating contractual arrangements with us;
- requirements for more technically complex configurations, integrations, deployments, or features;
- more stringent requirements in our support obligations; and
- longer sales cycles and the associated risk that substantial time and resources may be spent on a potential customer that elects not to purchase our products.

These additional risks also can potentially act as a disincentive to our sales team's pursuit of these larger customers. As a result, sales to large organizations may lead to greater unpredictability in our business, results of operations, and financial condition. If our sales efforts are not successful or cost-effective, we could lose other sales opportunities or incur expenses that are not offset by an increase in revenue, either of which could harm our business.

Our growth depends, in part, on the success of our strategic relationships with third parties.

To grow our business, we anticipate that we will continue to depend on relationships with third parties, such as channel partners. Identifying partners, negotiating and documenting relationships with them, and maintaining APIs that some of our partners use to interact with our business, each require significant time and resources. Our competitors may be effective in providing incentives to third parties to favor their products or services over subscriptions to our products. In addition, acquisitions of such partners by our competitors could result in a decrease in the number of our current and potential customers, as these partners may no longer facilitate the adoption of our applications by potential customers. Further, some of our partners are or may become competitive with certain of our products and may elect to no longer integrate with our platform and products. If we are unsuccessful in establishing or maintaining our relationships with third parties, our ability to compete in the marketplace or to grow our revenue could be impaired, and our results of operations may suffer. Even if we are successful, we cannot assure you that these relationships will result in increased customer usage of our products or increased revenue.

Our ability to maintain customer satisfaction depends in part on the quality of our customer support. Failure to maintain high-quality customer support could have an adverse effect on our business, results of operation, and financial condition.

We believe that the successful use of our platform and products requires a high level of support and engagement for many of our customers, particularly our larger enterprise customers. In order to deliver appropriate customer support and engagement, we must successfully assist our customers in deploying and continuing to use our platform and products, resolving performance issues, addressing interoperability challenges with the customers' existing IT infrastructure, and responding to security threats and cyberattacks and performance and reliability problems that may arise from time to time. The IT architecture of our enterprise customers, particularly the larger organizations, is very complex and may require high levels of focused support to effectively utilize our platform and products. Because our platform and products are designed to be highly configurable and to rapidly implement customers' reconfigurations, customer errors in configuring our platform and products can result in significant disruption to our customers. Our support organization faces additional challenges associated with our international operations, including those associated with delivering support, training, and documentation in languages other than English. Increased demand for customer support, without corresponding increases in revenue, could increase our costs and adversely affect our business, results of operations, and financial condition.

We also rely on channel partners in order to provide frontline support to our customers, including in regions where we do not have a significant physical presence or the customers primarily speak languages other than English. If our channel partners do not provide support to the satisfaction of our customers, we may be required to hire additional personnel and to invest in additional resources in order to provide an adequate level of support, generally at a higher cost than that associated with our channel partners. There can be no assurance that we will be able to hire sufficient support personnel as and when needed, particularly if our sales exceed our internal forecasts. To the extent that we are unsuccessful in hiring, training, and retaining adequate support resources, our ability to provide high-quality and timely support to our customers will be negatively impacted, and our customers' satisfaction with our network could be adversely affected. Any failure to maintain high-quality customer support, or a market perception that we do not maintain high-quality customer support, could adversely affect our reputation, business, results of operations, and financial condition, particularly with respect to our large enterprise customers.

If our platform and products do not interoperate with our customers' internal networks and infrastructure or with third-party products, websites, or services, our network may become less competitive and our results of operations may be harmed.

Our platform and products must interoperate with our customers' existing internal networks and infrastructure. These complex internal systems are developed, delivered, and maintained by the customer and a myriad of vendors and service providers. As a result, the components of our customers' infrastructure have different specifications, rapidly evolve, utilize multiple protocol standards, include multiple versions and generations of products, and may be highly customized. We must be able to interoperate and provide products to customers with highly complex and customized internal networks, which requires careful planning and execution between our customers, our customer support teams and, in some cases, our channel partners. Further, when new or updated elements of our customers' infrastructure or new industry standards or protocols are introduced, we may have to update or enhance our network to allow us to continue to provide our products to customers. Our competitors or other vendors may refuse to work with us to allow their products to interoperate with our platform and products, which could make it difficult for our platform and products to function properly in customer internal networks and infrastructures that include these third-party products.

We may not deliver or maintain interoperability quickly or cost-effectively, or at all. These efforts require capital investment and engineering resources. If we fail to maintain compatibility of our platform and products with our customers' internal networks and infrastructures, our customers may not be able to fully utilize our platform and products, and we may, among other consequences, lose or fail to increase our market share and experience reduced demand for our products, which would materially harm our business, results of operations, and financial condition.

Because we provide some of our products through a reverse-proxy, which is a network arrangement in which Internet user requests initially are directed to our network's servers rather than those of our customers, the source of some traffic may be difficult to ascertain. When they cannot identify the source of the traffic, some governments, third-party products, websites, or services may block our traffic or blacklist our IP addresses. If our customers experience significant instances of traffic blockages, they will experience reduced functionality or other inefficiencies, which would reduce customer satisfaction with our platform and products and likelihood of renewal.

We rely on a limited number of suppliers for certain components of the equipment we use to operate our network and any disruption in the availability of these components could delay our ability to expand or increase the capacity of our global network or replace defective equipment.

We rely on a limited number of suppliers for several components of the equipment we use to operate our network and provide products to our customers. Our reliance on these suppliers exposes us to risks, including reduced control over production costs and constraints based on the then current availability, terms, and pricing of these components. For example, we generally rely on a single source to purchase the servers that we use in our network and we ordinarily purchase these components on a purchase-order basis, without any long-term contracts guaranteeing supply. While the network equipment and servers we purchase generally are commodity equipment and we believe an alternative supply source for servers on substantially similar terms could be identified quickly, our business could be adversely affected until those efforts were completed. In addition, the technology equipment industry has experienced component shortages and delivery delays in the past, and we may experience shortages or delays, including as a result of natural disasters, increased demand in the industry or our suppliers lacking sufficient rights to supply the components in all jurisdictions in which we have co-location facilities that support our global network. If our supply of certain components is disrupted or delayed, there can be no assurance that additional supplies or components can serve as adequate replacements for the existing components or that supplies will be available on terms that are favorable to us, if at all. Any disruption or delay in the supply of our hardware components may delay the opening of new co-location facilities, limit capacity expansion or replacement of defective or obsolete equipment at existing co-location facilities, or cause other constraints on our operations that could damage our customer relationships.

Our business could be adversely impacted by changes in Internet access for our customers or laws specifically governing the Internet.

Our network performance and reliability depends on the quality of our customers' access to the Internet. Certain features of our network require significant bandwidth and fidelity to work effectively. Internet access is frequently provided by companies that have significant market power that could take actions that degrade, disrupt, or increase the cost of user access to our network, which would negatively impact our business. We could incur greater operating expenses and our customer acquisition and retention could be negatively impacted if other network operators:

- implement usage-based pricing;
- discount pricing for competitive products;
- otherwise materially change their pricing rates or schemes;
- charge us to deliver our traffic at certain levels or at all;
- throttle traffic based on its source or type;
- implement bandwidth caps or other usage restrictions; or
- otherwise try to monetize or control access to their networks.

In addition, there are various laws and regulations that could impede the growth of the Internet or online services, and new laws and regulations may be adopted in the future. These laws and regulations could involve interconnection and network management; taxation; tariffs; privacy; data protection; content; copyrights; distribution; electronic contracts and other communications; consumer protection; and requirements for the characteristics and quality of services, any of which could decrease the demand for, or the usage of, our products. Legislators and regulators may make legal and regulatory changes, or interpret and apply existing laws, in ways that require us to incur substantial costs, expose us to unanticipated civil or criminal liability, or cause us to change our business practices. If these changes are implemented, it could have an adverse and negative impact on our business. In addition, we may be banned from providing our products in certain countries, which would prevent our ability to grow our business in such markets and would also have a detrimental impact on the performance and scope of our network. These changes or increased costs could materially harm our business, results of operations, and financial condition.

Failure to comply with laws and regulations applicable to our business could subject us to fines and penalties and could also cause us to lose customers or otherwise harm our business.

Our business is subject to regulation by various federal, state, local, and foreign governmental agencies, including agencies responsible for monitoring and enforcing compliance with various legal obligations, such as privacy and data protection laws and regulations, intellectual property laws, employment and labor laws, workplace safety, environmental laws, consumer protection laws, anti-bribery laws, governmental trade sanctions laws, import and export controls, anti-corruption and anti-bribery laws, federal securities laws, and tax laws and regulations. In certain jurisdictions, these regulatory requirements may be more stringent than in the United States. These laws and regulations impose added costs on our business. Noncompliance with applicable regulations or requirements could subject us to:

- investigations, enforcement actions, and sanctions;
- mandatory changes to our network and products;
- disgorgement of profits, fines, and damages;
- civil and criminal penalties or injunctions;
- claims for damages by our customers or channel partners;
- termination of contracts;
- loss of intellectual property rights; and
- temporary or permanent debarment from sales to government organizations.

If any governmental sanctions are imposed, or if we do not prevail in any possible civil or criminal litigation, our business, results of operations, and financial condition could be adversely affected. In addition, responding to any action will likely result in a significant diversion of our management's attention and resources and an increase in professional fees. Enforcement actions and sanctions could materially harm our business, results of operations, and financial condition.

Additionally, companies in the technology industry have recently experienced increased regulatory scrutiny. Any reviews by regulatory agencies or legislatures may result in substantial regulatory fines, changes to our business practices, and other penalties, which could negatively affect our business and results of operations. Changes in social, political, and regulatory conditions or in laws and policies governing a wide range of topics may cause us to change

our business practices. Further, our expansion into a variety of new fields also could raise a number of new regulatory issues. These factors could negatively affect our business and results of operations in material ways.

Our actual or perceived failure to comply with privacy, data protection, and information security laws, regulations, and obligations could harm our business.

We receive, store, use, and otherwise process personal information and other information relating to individuals. There are numerous federal, state, local, and international laws and regulations regarding privacy, data protection, information security, and the storing, sharing, use, processing, transfer, disclosure, and protection of personal information and other content, the scope of which are changing, subject to differing interpretations, and may be inconsistent among jurisdictions, or conflict with other rules. These data protection and privacy-related laws and regulations are evolving and may result in ever-increasing regulatory and public scrutiny and escalating levels of enforcement and sanctions. For example, the EU's General Data Protection Regulation (the GDPR), which became fully effective on May 25, 2018, imposes more stringent data protection requirements than previously effective EU data protection law and provides for penalties for noncompliance of up to the greater of €20 million or four percent of worldwide annual revenues. Additionally, Brexit has created additional uncertainty with regard to the regulation of data protection in the United Kingdom. In particular, although the United Kingdom has enacted a Data Protection Act that is designed to be consistent with the GDPR, it is unclear how data transfers to and from the United Kingdom will be regulated.

We are also subject to the terms of our privacy policies and contractual obligations to third parties related to privacy, data protection, and information security. We strive to comply with applicable laws, regulations, policies, and other legal obligations relating to privacy, data protection, and information security to the extent possible. However, the regulatory framework for privacy and data protection worldwide is, and is likely to remain, uncertain for the foreseeable future, and it is possible that these or other actual or alleged obligations may be interpreted and applied in a manner that is inconsistent from one jurisdiction to another and may conflict with other rules or our practices.

We also expect that there will continue to be new laws, regulations, and industry standards concerning privacy, data protection, and information security proposed and enacted in various jurisdictions. For example, in the United States, various laws and regulations apply to the collection, processing, disclosure and security of certain types of data, including the Electronic Communications Privacy Act, the Computer Fraud and Abuse Act, the Health Insurance Portability and Accountability Act of 1996, the Gramm-Leach-Bliley Act, and state laws relating to privacy and data security, including, the California Consumer Privacy Act (the CCPA), that will, among other things, require covered companies to provide new disclosures to California consumers and afford such consumers new abilities to opt-out of certain sales of personal information when the CCPA goes into effect on January 1, 2020. The CCPA was amended on September 23, 2018, and it remains unclear whether any further modifications will be made to this legislation or how it will be interpreted. We cannot yet predict the impact of the CCPA on our business or operations, but it may require us to modify our data processing practices and policies and to incur substantial costs and expenses in an effort to comply.

Any failure or perceived failure by us to comply with our privacy policies, our privacy-related obligations to customers or other third parties, applicable laws or regulations, or any of our other legal obligations relating to privacy, data protection, or information security may result in governmental investigations or enforcement actions, litigation, claims, or public statements against us by consumer advocacy groups or others and could result in significant liability or cause our customers to lose trust in us, which could cause them to cease or reduce use of our products and otherwise have an adverse effect on our reputation and business. Furthermore, the costs of compliance with, and other burdens imposed by, the laws, regulations, and policies that are applicable to the businesses of our customers may limit the adoption and use of, and reduce the overall demand for, our products.

Additionally, if third parties we work with, such as sub-processors, vendors, or developers, violate applicable laws or regulations, contractual obligations, or our policies—or if it is perceived that such violations have occurred—such actual or perceived violations may also have an adverse effect on our business. Further, any significant change to applicable laws, regulations, or industry practices regarding the collection, use, retention, security, disclosure, or other processing of users' content, or regarding the manner in which the express or implied consent of users for the collection, use, retention, disclosure, or other processing of such content is obtained, could increase our costs and require us to modify our network, products, and features, possibly in a material manner, which we may be unable to complete, and may limit our ability to store and process customer data or develop new products and features.

We are subject to anti-corruption, anti-bribery, and similar laws, and noncompliance with such laws can subject us to criminal penalties or significant fines and harm our business and reputation.

We are subject to the U.S. Foreign Corrupt Practices Act of 1977, the UK Bribery Act 2010, and other anti-corruption, anti-bribery, anti-money laundering, and similar laws in the United States and other countries in which we conduct activities. Anti-corruption and anti-bribery laws, which have been enforced aggressively and are interpreted broadly, prohibit companies and their employees and agents from promising, authorizing, making, or offering improper payments or other benefits to government officials and others in the public sector. We leverage third parties, including channel partners, to sell subscriptions to our products, host many of our co-location facilities for our network, and conduct our business abroad. We and these third parties may have direct or indirect interactions with officials and employees of government agencies or state-owned or affiliated entities and we may be held liable for the corrupt or other illegal activities of our business partners and intermediaries, our employees, representatives, contractors, channel partners and agents, even if we do not explicitly authorize such activities. Further, some of our international sales activity occurs, and some of our network infrastructure is located, in parts of the world that are recognized as having a greater potential for business practices that violate anti-corruption, anti-bribery, or similar laws.

We cannot assure you that all of our employees and agents have complied with, or in the future will comply with, our policies and applicable law. As we continue to increase our international sales and business and expand our network globally, our risks under these laws may increase. The investigation of possible violations of these laws, including internal investigations and compliance reviews that we may conduct from time to time, could have a material adverse effect on our business. Noncompliance with these laws could subject us to investigations, severe criminal or civil sanctions, settlements, prosecution, loss of export privileges, suspension or debarment from U.S. government contracts and other contracts, other enforcement actions, the appointment of a monitor, disgorgement of profits, significant fines, damages, other civil and criminal penalties or injunctions, whistleblower complaints, adverse media coverage and other consequences. Other internal and government investigations, regulatory proceedings, or litigation, including private litigation filed by our stockholders, may also follow as a consequence. Any investigations, actions, or sanctions could materially harm our reputation, business, results of

operations, and financial condition. Further, the promulgation of new laws, rules or regulations or new interpretations of current laws, rules or regulations could impact the way the we do business in other countries, including requiring us to change certain aspects of our business to ensure compliance, which could reduce revenue, increase costs, or subject us to additional liabilities.

We may face fines, penalties, or other costs, either directly or vicariously, if any of our partners, resellers, contractors, vendors or other third parties to adhere to their compliance obligations under our policies and applicable law.

We use a number of third parties to perform services or act on our behalf in areas like sales, network infrastructure, administration, research, and marketing. It may be the case that one or more of those third parties fail to adhere to our policies or violate applicable federal, state, local, and international laws, including but not limited to, those related to corruption, bribery, economic sanctions, and export/import controls. Despite the significant challenges in asserting and maintaining control and compliance by these third parties, we may be held fully liable for third parties' actions as fully as if they were a direct employee of ours. Such liabilities may create harm to our reputation, inhibit our plans for expansion, or lead to extensive liability either to private parties or government regulators, which could adversely impact our business, results of operations, and financial condition.

We are currently, and may be in the future, party to intellectual property rights claims and other litigation matters that, if resolved adversely, could have a material impact on our business, results of operations, or financial condition.

We own a large number of patents, copyrights, trademarks, domain names, and trade secrets and, from time to time, are subject to litigation based on allegations of infringement, misappropriation, or other violations of intellectual property or other rights. As we face increasing competition and gain an increasingly high profile, the possibility of intellectual property rights claims, commercial claims, and other assertions against us grows. In addition, a number of companies in our industry hold a large number of patents and also protect their copyright, trade secret, and other intellectual property rights, and companies in the networking and security industry frequently enter into litigation based on allegations of patent infringement or other violations of intellectual property rights. We have in the past been, are currently, and may from time to time in the future become, a party to litigation and disputes related to intellectual property, our business practices, and our products. We may also be subject to governmental and other regulatory investigations from time to time. The costs of supporting litigation and dispute resolution proceedings are considerable, and there can be no assurances that a favorable outcome will be obtained. Disputes, whether or not favorably resolved, may generate negative publicity and damage our reputation. We may need to settle litigation and disputes on terms that are unfavorable to us, or we may be subject to an unfavorable judgment that may not be reversible upon appeal. The terms of any settlement or judgment may require us to cease some or all of our operations or pay substantial amounts to the other party. With respect to any intellectual property rights claim, we may have to seek a license to continue practices found to be in violation of third-party rights, which may not be available on reasonable terms and may significantly increase our operating expenses. A license to continue such practices may not be available to us at all, and we may be required to develop alternative non-infringing technology or practices or discontinue the practices. The development of alternative, non-infringing technology or practices could require significant effort and expense. Our business, results of operations, and financial condition could be materially and adversely affected as a result.

Indemnity provisions in various agreements potentially expose us to substantial liability for intellectual property infringement and other losses.

Our agreements with certain of our enterprise customers or other third parties may include indemnification or other provisions under which we agree to indemnify or otherwise be liable to them for losses suffered or incurred as a result of claims of intellectual property infringement, damages caused by us to property or persons, or other liabilities relating to or arising from the use of our platform or other acts or omissions. The term of these contractual provisions often survives termination or expiration of the applicable agreement. We have in the past been sued on the basis of alleged violation of intellectual property rights in the form of patents and trade secrets. Although we were successful in defending the claims to date, as we continue to grow, the possibility of these and other intellectual property rights claims against us may increase. For any intellectual property rights indemnification claim against us or our customers, we may incur significant legal expenses and have to pay damages, pay license fees and/or stop using technology found to be in violation of the third party's rights. Large indemnity payments could harm our business, results of operations, and financial condition. We may also have to seek a license for the disputed technology. Such license may not be available on reasonable terms, if at all, and may significantly increase our operating expenses or may require us to restrict our business activities and limit our ability to deliver certain products. As a result, we may also be required to develop alternative non-infringing technology, which could require significant effort and expense and/or cause us to alter our platform, which could negatively affect our business.

From time to time, customers require us to indemnify or otherwise be liable to them for breach of confidentiality, violation of applicable law, or failure to implement adequate security measures with respect to their data stored, transmitted, or accessed using our platform. Our standard Enterprise plan agreements provide limited indemnification to our customers based on third-party claims related to our violation of intellectual property rights, and some of our Enterprise plan agreements offer indemnification for claims beyond that scope. The existence of such a dispute may have adverse effects on our customer relationship and reputation and we may still incur substantial liability related to them.

Any assertions by a third party, whether or not successful, with respect to such indemnification obligations could subject us to costly and time-consuming litigation, expensive remediation and licenses, divert management attention and financial resources, harm our relationship with that customer and other current and prospective customers, reduce demand for our products, and harm our brand, business, results of operations, and financial condition.

Our failure to protect our intellectual property rights and proprietary information could diminish our brand and other intangible assets.

We rely and expect to continue to rely on a combination of patent, patent licenses, trade secret, domain name protection, trademarks, copyrights, and confidentiality and license agreements with our employees, consultants, and third parties in order to protect our intellectual property and proprietary rights. As of June 30, 2019, we had over 100 issued patents and 60 pending patent applications in the United States and abroad. However, third parties may knowingly or unknowingly infringe our proprietary rights. Third parties may challenge our proprietary rights, pending and future patent, trademark, and copyright applications may not be approved, and we may not be able to prevent infringement without incurring substantial expense. We have also devoted

substantial resources to the development of our proprietary technologies and related processes, and we provide access to these technologies and processes to certain of our vendors and partners, including Baidu with respect to the facilities included within our network in China. We must protect this proprietary information in order to realize commercial benefit from our investment.

In order to protect our proprietary technologies and processes, we rely in part on trade secret laws and confidentiality agreements with our employees, consultants, and third parties. These agreements may not effectively prevent disclosure of confidential information and may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. In addition, others may independently discover our trade secrets or develop similar technologies and processes, in which case we would not be able to assert trade secret rights against them. Laws in certain jurisdictions may afford little or no trade secret protection, and any changes in, or unexpected interpretations of, the intellectual property laws in any country in which we operate may compromise our ability to enforce our intellectual property rights. We may not be effective in policing unauthorized use of our intellectual property rights, and even if we do detect violations, costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and any such litigation could be unsuccessful, lead to the invalidation of our proprietary rights, or lead to counterclaims by other parties against us. If the protection of our proprietary rights is inadequate to prevent use or appropriation by third parties, the value of our platform, brand, and other intangible assets may be diminished and competitors may be able to more effectively replicate our platform and its features. Any of these events could materially and adversely affect our business, results of operations, and financial condition.

We depend and rely upon software and technologies licensed from third parties to operate our business, and interruptions or the unavailability of these technologies may adversely affect our business and results of operations.

We license software and other technology from third parties that we incorporate into, or integrate with, our platform and products. We also rely on software and other technology from third parties in order to operate critical functions of our business, including enterprise resource planning and customer relationship management services. If the services we rely on become unavailable due to extended outages, expiration or termination of licenses, or because they are otherwise no longer available on commercially reasonable terms, our expenses could increase, and our ability to sell our products and our results of operations could be impaired until equivalent services are obtained or replacements are developed, all of which could adversely affect our business.

If we are unable to license necessary technology from third parties now or in the future, we may be forced to acquire or develop alternative technology, which we may be unable to do in a commercially feasible manner or at all, and we may be required to use alternative technology of lower quality or performance. This could limit and delay our ability to offer new or competitive products and increase our costs of production. As a result, our business and results of operations could be significantly harmed.

We cannot be certain that those from whom we license software and other technology are not infringing the intellectual property rights of third parties or have sufficient rights to the licensed intellectual property in all jurisdictions in which we may sell our products. Accordingly, our use of this intellectual property may expose us to third-party claims of infringement. In addition, many licenses are non-exclusive and may not prevent our competitors from licensing the same technology on equivalent or more favorable terms.

Some of our technology incorporates "open source" software, we license some of our software through open source projects and we voluntarily make available some of our software on an open source basis, which could negatively affect our ability to sell our products, subject us to possible litigation and be used by other companies to compete against us.

Our platform and products incorporate software licensed under open source licenses, including open source software included in software we receive from third-party commercial software vendors. Use of open source software may entail greater risks than use of third-party commercial software, as open source licensors generally do not provide support, updates, or warranties or other contractual protections regarding infringement claims or the quality of the software. In addition, the wide availability of source code incorporated in our products could allow hostile parties to more easily identify security vulnerabilities in our platform and products. The terms of some open source licenses may provide that under certain conditions we could be required to release the source code of our proprietary software, and to make our proprietary software available under open source licenses, including authorizing further modification and redistribution. In the event that certain portions of our proprietary software are determined to be subject to such requirements by an open source license, we could be required to publicly release the affected portions of our source code, re-engineer all or a portion of our network or applicable products, or otherwise be limited in the licensing of our network products, each of which provide an advantage to our competitors or other entrants to the market, create security vulnerabilities in our products and could reduce or eliminate the value of our products. Because the terms of open source licenses are novel and have not been widely interpreted by courts, we could be subject to lawsuits by parties claiming ownership of what we believe to be open source software or by third parties seeking to enforce the terms of open source licenses against us in a manner we do not anticipate. In addition, we voluntarily make available certain portions of our software on an open source basis to the public and such software could then be used by other companies to compete against us.

Any unanticipated disclosure of, or litigation regarding, our source code and any open source software incorporated into our source code could result in adverse judgments and liabilities, require us to reengineer all or a portion of our platform and products, limit the marketing of our products, provide an advantage to our competitors or other entrants to the market, create new security vulnerabilities or highlight existing security vulnerabilities in our platform and products, and reduce or eliminate the value of our platform and products. We cannot assure you that our processes for controlling our use of open source software in our platform and products will be effective.

Our business depends, in part, on sales to U.S. and foreign government organizations, which are subject to a number of challenges and risks.

We derive a portion of our revenue from contracts with government organizations, and we believe the success and growth of our business will in part depend on adding additional public sector customers. However, demand from government organizations is often unpredictable, and we cannot assure you that we will be able to maintain or grow our revenue from the public sector. Sales to government entities are subject to substantial additional risks that are not present in sales to other customers, including:

- selling to government agencies can be more highly competitive, expensive, and time-consuming than sales to other customers, often requiring significant upfront time and expense without any assurance that such efforts will generate a sale;
- U.S., European, or other government certification and audit requirements potentially applicable to our network, including the Federal Risk and Authorization Management Program, are often difficult and costly to obtain and maintain, and failure to do so will restrict our ability to sell to government customers;
- government demand and payment for our products may be impacted by public sector budgetary cycles, funding authorizations, or government shutdowns;
- governments routinely investigate and audit government contractors' administrative processes and any unfavorable audit could result in fines, civil or criminal liability, further investigations, damage to our reputation, and debarment from further government business;
- governments often require contract terms that differ from our standard customer arrangements, including terms that can lead to those customers obtaining broader rights in our products than would be expected under a standard commercial contract and terms that can allow for early termination; and
- governments may demand better pricing terms and public disclosure of such pricing terms, which may harm our ability to negotiate pricing terms with our non-government customers.

In addition, we must comply with laws and regulations relating to the formation, administration, and performance of contracts with the public sector, including U.S. federal, state, and local governmental organizations, which affect how we and our channel partners do business with governmental agencies. Selling our products to the U.S. government, whether directly or through channel partners, also subjects us to certain regulatory and contractual requirements. Failure to comply with these requirements by either us or our channel partners could subject us to investigations, fines, and other penalties, which could have an adverse effect on our business, results of operations, and financial condition. For example, the U.S. Department of Justice (the DOJ) and the General Services Administration (the GSA) have in the past pursued claims against and financial settlements with vendors under the False Claims Act and other statutes related to pricing and discount practices and compliance with certain provisions of GSA contracts for sales to the federal government. The DOJ and GSA continue to actively pursue such claims. Violations of certain regulatory and contractual requirements could also result in us being suspended or debarred from future government contracting. Any of these outcomes could have a material adverse effect on our revenue, results of operations, and financial condition. Any inability to address these risks and challenges could reduce the commercial benefit to us or otherwise preclude us from selling subscriptions to our products to government organizations.

We may have exposure to greater than anticipated income tax liabilities and may be affected by changes in tax laws, which could adversely impact our results of operations.

We operate in a number of tax jurisdictions globally, including in the United States at the federal, state, and local levels, and in many other countries, and plan to continue to expand the scale of our operations in the future. Accordingly, we are subject to income taxes in the United States and various jurisdictions outside of the United States. While to date we have not incurred significant income taxes in operating our business, we may in the future face significant tax liabilities. Our tax expense could also be impacted by changes in non-deductible expenses, changes in excess tax benefits of stock-based compensation, changes in the valuation of deferred tax assets and liabilities, and our ability to utilize them, the applicability of withholding taxes, and effects from acquisitions.

Our tax provision could also be impacted by changes in accounting principles, changes in U.S. federal, state, or international tax laws applicable to corporate multinationals such as the recent legislation enacted in the United States, United Kingdom, and Australia, other fundamental law changes currently being considered by many countries, and changes in taxing jurisdictions' administrative interpretations, decisions, policies, and positions. For example, on December 22, 2017, tax reform legislation referred to as the Tax Cuts and Jobs Act (the Tax Act) was enacted in the United States. The Tax Act significantly revises U.S. federal income tax law, including lowering the corporate income tax rate to 21%, requiring companies to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries, implementing a modified territorial tax system, requiring a current inclusion in U.S. federal taxable income of certain earnings of controlled foreign corporations, and creating a base erosion anti-abuse tax. We have reflected the impact of the Tax Act in our consolidated financial statements in accordance with our understanding of the Tax Act and guidance available as of the date of this prospectus. The primary effect of the Tax Act on our financial results was a reduction of our deferred tax assets resulting from the reduction in the U.S. federal corporate income tax rate. Because we have established a full valuation allowance against our U.S. deferred tax assets, our consolidated financial statements were not materially affected. Many consequences of the Tax Act, including whether and how state, local, and foreign jurisdictions will react to such changes, are not entirely clear at this time and the U.S. Department of the Treasury has broad authority to issue regulations and interpretive guidance that may significantly impact how the Tax Act will apply to us.

Additionally, in October 2015, the Organisation for Economic Co-Operation and Development (the OECD) released final guidance covering various topics, including transfer pricing, country-by-country reporting, and definitional changes to permanent establishment that could ultimately impact our tax liabilities. In March 2018, the European Commission released a proposal for a European Council directive on taxation of specified digital services. The proposal calls for an interim tax on certain revenues from digital activities, as well as a longer-term regime that creates a taxable presence for digital services and imposes tax on digital profits. We do not yet know the impact this proposal, if implemented, would have on our financial results. A number of other jurisdictions, including the United Kingdom, are considering enacting similar digital tax regimes. These efforts are alongside the OECD's ongoing work, as part of its Base Erosion and Profit Shifting Action Plan, to issue a final report in 2020 that provides a long-term, multilateral proposal on taxation of the digital economy. Any of the foregoing changes could have an adverse impact on our results of operations, cash flows, and financial condition.

Our results of operations may be harmed if we are required to collect sales and use, gross receipts, value-added, or similar taxes for our products in jurisdictions where we have not historically done so.

Sales and use, value-added, goods and services, and similar tax laws and rates vary greatly by jurisdiction. Our customers can be located in one jurisdiction, utilize our platform and products through our network equipment in a different jurisdiction, and pay us from an account located in a third jurisdiction. This divergence, along with the jurisdiction-by-jurisdiction variance in tax laws, causes significant uncertainty in the tax treatment of our business. There is further uncertainty as to what constitutes sufficient physical presence or nexus for a state or local jurisdiction to levy taxes, fees, and surcharges for sales made over the Internet, and there is also uncertainty as to whether our characterization of our platform and products as not taxable in certain jurisdictions will be accepted by state and local taxing authorities. In determining our tax filing obligations, management has made judgments regarding whether our activities in a jurisdiction rise to the level of taxability. These judgments may prove inaccurate, and one or more states or countries may seek to impose additional sales, use, or other tax collection obligations on us, including for past sales by us. It is possible that we could face sales tax audits and that our liability for these taxes could exceed our estimates as state and other tax authorities could still assert that we are obligated to collect additional amounts as taxes from our customers and remit those taxes to those authorities. Furthermore, the U.S. Supreme Court's ruling in *South Dakota v. Wayfair* may permit wider enforcement of sales tax collection requirements. A successful assertion by a state, country, or other jurisdiction that we should have been or should be collecting additional sales, use, or other taxes on our platform and products could, among other things, result in substantial tax liabilities for past sales, create significant administrative burdens for us, discourage customers from purchasing our platform and products, or otherwise harm our business, results of operations, and financial condition.

Our international operations require us to exercise judgment in determining the applicability of tax laws, which may subject us to potentially adverse tax consequences.

We are subject to income taxes as well as non-income-based taxes, such as payroll, sales, use, value-added, property, and goods and services taxes, in both the United States and various foreign jurisdictions. Our domestic and international tax liabilities are subject to various jurisdictional rules regarding the timing and allocation of revenue and expenses. Additionally, the amount of income taxes paid is subject to our interpretation of applicable tax laws in the jurisdictions in which we file and to changes in tax laws. Significant judgment is required in determining our worldwide provision for income taxes and other tax liabilities. From time to time, we may be subject to income and non-income tax audits. While we believe we have complied with all applicable income tax laws, there can be no assurance that a governing tax authority will not have a different interpretation of the law and assess us with additional taxes, including with respect to intercompany transfer pricing and the collection of sales and use tax, value-added tax, and goods and services tax. Should we be assessed with additional taxes, there could be a material adverse effect on our business, results of operations, and financial condition.

Our future effective tax rate may be affected by such factors as changes in tax laws, regulations, or rates, changing interpretation of existing laws or regulations, the impact of accounting for stock-based compensation, the impact of accounting for business combinations, changes in our international organization, and changes in our overall levels of income before tax. In addition, in the ordinary course of our global business, there are many intercompany transactions and calculations where the ultimate tax determination is uncertain. Although we believe that our tax estimates are reasonable, we cannot ensure that the final determination of tax audits or tax disputes will not be different from what is reflected in our historical income tax provisions and accruals. There can be no assurance that the outcomes from these continuous examinations will not have an adverse effect on our results of operations.

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

As of December 31, 2017 and 2018, we had net operating loss carryforwards for U.S. federal income tax purposes of $75.5 million and $122.3 million, net of uncertain tax positions, respectively, available to offset future U.S. federal taxable income. Also as of December 31, 2017 and 2018, we had net operating loss carryforwards for state income tax purposes of $39.9 million and $89.8 million, net of uncertain tax positions, respectively, available to offset future state taxable income. If not utilized, both the federal and state tax credit carryforwards for tax years beginning before December 31, 2017 will begin to expire in 2029. As of December 31, 2018, we had foreign tax credit carryforwards for federal income tax purposes of $1.8 million that will begin to expire, if not utilized, in 2025. Also as of December 31, 2018, we had federal research and development tax credit carryforwards of $5.7 million that will begin to expire in 2029 and state research and development tax credit carryforwards of $4.5 million that can be carried forward indefinitely.

Utilization of our net operating loss carryforwards and other tax attributes, such as research and development tax credits, may be subject to annual limitations, or could be subject to other limitations on utilization or benefit due to the ownership change limitations provided by Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the Code), and other similar provisions. Under Sections 382 and 383 of the Code, if a corporation undergoes an "ownership change," the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change attributes, such as research tax credits, to offset its post-change income may be limited. In general, an "ownership change" will occur if there is a cumulative change in our ownership by "5-percent shareholders" that exceeds 50 percentage points over a rolling three-year period. Similar rules may apply under state tax laws. At this time, we have not completed a study to assess whether such an ownership change has occurred, or whether there have been multiple ownership changes since our formation. We may have experienced various ownership changes, as defined by the Code, as a result of past financing transactions (or other activities), and we may experience ownership changes in the future as a result of subsequent changes in our stock ownership, some of which may be outside our control. Accordingly, our ability to utilize the aforementioned carryforwards may be limited.

Further, the Tax Act changed the federal rules governing net operating loss carryforwards. For net operating loss carryforwards arising in tax years beginning after December 31, 2017, the Tax Act limits a taxpayer's ability to utilize such carryforwards to 80% of taxable income. In addition, net operating loss carryforwards arising in tax years ending after December 31, 2017 can be carried forward indefinitely, but carryback is generally prohibited. Net operating loss carryforwards generated before January 1, 2018 (which represent the substantial majority of our net operating losses) will not be subject to the Tax Act's taxable income limitation and will continue to have a twenty-year carryforward period. Nevertheless, our net operating loss carryforwards and other tax assets could expire before utilization and could be subject to limitations, which could harm our business, revenue, and financial results.

We rely on third-party software for certain essential financial and operational services, and a failure or disruption in these services could materially and adversely affect our ability to manage our business effectively.

We rely on third-party software to provide many essential financial and operational services to support our business, including NetSuite, Salesforce, Atlassian, and Workday. Many of these vendors are less established and have shorter operating histories than traditional software vendors. Moreover, these vendors provide their services to us via a cloud-based model instead of software that is installed on our premises. As a result, we depend upon these vendors to provide us with services that are always available and are free of errors or defects that could cause disruptions in our business processes. Any failure by these vendors to do so, or any disruption in our ability to access the Internet, would materially and adversely affect our ability to manage our operations.

Our business is exposed to risks associated with credit card and other online payment processing methods.

Many of our customers pay for our service using a variety of different payment methods, including credit and debit cards, prepaid cards, direct debit, and online wallets. We rely on internal systems as well as those of third parties to process payments. Acceptance and processing of these payment methods are subject to certain rules and regulations and require payment of interchange and other fees. To the extent there are increases in payment processing fees, material changes in the payment ecosystem, such as large re-issuances of payment cards, delays in receiving payments from payment processors, changes to rules or regulations concerning payment processing, loss of payment partners, and/or disruptions or failures in our payment processing systems or payment products, including products we use to update payment information, our revenue, operating expenses, and results of operation could be adversely impacted. In addition, from time to time, we encounter fraudulent use of payment methods, which could impact our results of operations and if not adequately controlled and managed could create negative consumer perceptions of our service. If we are unable to maintain our chargeback rate at acceptable levels, card networks may impose fines and our card approval rate may be impacted. If we fail to comply with the rules or requirements applicable to processing payments, or if our data security systems are breached, compromised, or otherwise unable to detect or prevent fraudulent activity, we may be liable for card issuing banks' costs, subject to fines and higher transaction fees, and lose our ability to accept certain payments from our customers. The termination of our ability to process payments using any major payment method our business, results of operations, and financial condition could be harmed.

Because we recognize revenue from subscriptions for our products over the term of the subscription, downturns or upturns in new business may not be immediately reflected in our results of operations and may be difficult to discern.

We generally recognize revenue from customers ratably over the term of their subscription, which in the case of our enterprise customers range from one to three years and in the case of our self-serve customers is typically monthly. Consequently, any increase or decline in new sales or renewals to these customers in any one period may not be immediately reflected in our revenue for that period. Any such change, however, may affect our revenue in future periods. Accordingly, the effect of downturns or upturns in new sales and potential changes in our rate of renewals may not be fully reflected in our results of operations until future periods. We may also be unable to reduce our cost structure in line with a significant deterioration in sales or renewals. Our subscription model also makes it difficult for us to rapidly increase our revenue through additional sales in any period, as revenue from new customers must be recognized over the applicable subscription term.

By contrast, a significant majority of our costs are expensed as incurred, which occurs as soon as a customer starts using our platform. As a result, an increase in customers could result in our recognition of more costs than revenue in the earlier portion of the subscription term. We may not attain sufficient revenue to maintain positive cash flow from operations or achieve profitability in any given period.

We are exposed to fluctuations in currency exchange rates, which could negatively affect our results of operations.

Substantially all of our sales contracts are denominated in U.S. dollars and, therefore, substantially all of our revenue is not subject to foreign currency risk. However, a strengthening of the U.S. dollar could increase the real cost of our products to our customers outside of the United States, which could reduce demand for our products and adversely affect our financial condition and results of operations.

As our international operations expand, an increasing portion of our revenue and operating expenses is incurred outside the United States and is denominated in foreign currencies, such as the British pound and Singapore dollar. Accordingly, our revenue and operating expenses are increasingly subject to fluctuations due to changes in foreign currency exchange rates. As we continue to expand our international operations, we may become more exposed to foreign currency risk or remeasurement risk. If we become more exposed to currency fluctuations and are not able to successfully hedge against the risks associated with currency fluctuations, our results of operations could be materially and adversely affected.

If our estimates or judgments relating to our critical accounting policies prove to be incorrect or financial reporting standards or interpretations change, our results of operations could be adversely affected.

The preparation of financial statements in conformity with generally accepted accounting principles in the United States (U.S. GAAP) requires our management to make estimates and assumptions that affect the amounts reported and disclosed in our consolidated financial statements and accompanying notes. We base our estimates and assumptions on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. The results of these estimates form the basis for making judgments about the carrying values of assets, liabilities, and equity, and the amount of revenue and expenses that are not readily apparent from other sources. Significant assumptions and estimates used in preparing our consolidated financial statements include those related to determination of deferred contract acquisitions costs, the period of benefit generated from our deferred contract acquisition costs, the capitalization and estimated useful life of internal-use software, the assessment of recoverability of intangible assets and their estimated useful lives, useful lives of property and equipment, the valuation and recognition of stock-based compensation, uncertain tax positions, and the recognition and measurement of current and deferred income tax assets and liabilities. Our results of operations may be adversely affected if our assumptions change or if actual circumstances differ from those in our assumptions, which could cause our results of operations to fall below the expectations of industry or financial analysts and investors, resulting in a decline in the trading price of our common stock.

Additionally, we regularly monitor our compliance with applicable financial reporting standards and review new pronouncements and drafts thereof that are relevant to us. As a result of new standards, or changes to existing standards, and changes in their interpretation, we might be required to change our accounting policies, alter our operational policies and implement new or enhance existing systems so that they reflect new or amended financial reporting

standards, or we may be required to restate our published financial statements. Such changes to existing standards or changes in their interpretation may have an adverse effect on our reputation, business, financial condition, and profit and loss, or cause an adverse deviation from our revenue and operating profit and loss target, which may negatively impact our results of operations.

If we fail to maintain an effective system of disclosure controls and internal control over financial reporting, our ability to produce timely and accurate financial statements or comply with applicable regulations could be impaired.

As a public company, we will be subject to the reporting requirements of the Securities Exchange Act of 1934, as amended (the Exchange Act), the Sarbanes-Oxley Act of 2002 (the Sarbanes-Oxley Act), and the rules and regulations of the applicable listing standards of the New York Stock Exchange (the NYSE). We expect that the requirements of these rules and regulations will continue to increase our legal, accounting, and financial compliance costs, make some activities more difficult, time-consuming, and costly, and place significant strain on our personnel, systems, and resources.

The Sarbanes-Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal control over financial reporting. We are continuing to develop and refine our disclosure controls and other procedures that are designed to ensure that information required to be disclosed by us in the reports that we will file with the SEC is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms and that information required to be disclosed in reports under the Exchange Act is accumulated and communicated to our principal executive and financial officers. We are also continuing to improve our internal control over financial reporting. In order to maintain and improve the effectiveness of our disclosure controls and procedures and internal control over financial reporting, we have expended, and anticipate that we will continue to expend, significant resources, including accounting-related costs, and significant management oversight.

Our current controls and any new controls that we develop may become inadequate because of changes in conditions in our business. Further, weaknesses in our disclosure controls and internal control over financial reporting may be discovered in the future. Any failure to develop or maintain effective controls or any difficulties encountered in their implementation or improvement could harm our results of operations or cause us to fail to meet our reporting obligations and may result in a restatement of our financial statements for prior periods. Any failure to implement and maintain effective internal control over financial reporting also could adversely affect the results of periodic management evaluations and annual independent registered public accounting firm attestation reports regarding the effectiveness of our internal control over financial reporting that we will eventually be required to include in our periodic reports that will be filed with the SEC. Ineffective disclosure controls and procedures and internal control over financial reporting could also cause investors to lose confidence in our reported financial and other information, which would likely have a negative effect on the trading price of our Class A common stock. In addition, if we are unable to continue to meet these requirements, we may not be able to remain listed on the NYSE. We are not currently required to comply with the SEC rules that implement Section 404 of the Sarbanes-Oxley Act and are therefore not required to make a formal assessment of the effectiveness of our internal control over financial reporting for that purpose. As a public company, we will be required to provide an annual management report on the effectiveness of our internal control over financial reporting. In the period ended December 31, 2017, we identified one material weakness in our internal control over financial reporting related to our lack of a formal process over stock administration and lack of adequate controls to ensure that all stock issuances and stock-based compensation transactions were completely and accurately documented, executed, and properly reflected in our consolidated financial statements and our capitalization table. Although the material weakness was remediated as of December 31, 2018, there can be no assurance that we will maintain internal control over financial reporting sufficient to enable us to identify or avoid material weaknesses in the future.

Our independent registered public accounting firm is not required to formally attest to the effectiveness of our internal control over financial reporting until after we are no longer an "emerging growth company" as defined in the JOBS Act. At such time, our independent registered public accounting firm may issue a report that is adverse in the event it is not satisfied with the level at which our internal control over financial reporting is documented, designed, or operating. Any failure to maintain effective disclosure controls and internal control over financial reporting could materially and adversely affect our business, results of operations, and financial condition and could cause a decline in the trading price of our Class A common stock.

Our business is subject to the risks of catastrophic events.

The occurrence of any catastrophic event, including an earthquake, fire, flood, tsunami, or other weather event, power loss, telecommunications failure, software or hardware malfunctions, cyber-attack, war, or terrorist attack, could result in lengthy interruptions in our service. Our corporate headquarters is located in the San Francisco Bay Area and one of our core co-location facilities is located in the U.S. Pacific Northwest, both regions known for seismic activity, and we also have a second core co-location facility in Luxembourg. Our insurance coverage may not compensate us for losses that may occur in the event of an earthquake or other significant natural disaster. In addition, acts of terrorism could cause disruptions to the Internet or the economy as a whole. Even with our disaster recovery arrangements, our service could be interrupted. If our systems were to fail or be negatively impacted as a result of a natural disaster or other event, our ability to deliver products to our customers would be impaired or we could lose critical data.

Our partners, suppliers, and customers are also subject to the risk of catastrophic events. In those events, our ability to deliver our products in a timely manner, as well as the demand for our products, may be divided on account of factors outside our control.

Future acquisitions, strategic investments, partnerships, or alliances could be difficult to identify and integrate, divert the attention of key management personnel, disrupt our business, dilute stockholder value, and adversely affect our results of operations, financial condition, and prospects.

Part of our business strategy is to make acquisitions of other companies, products, and technologies; however, we have limited experience in making such acquisitions. We may not be able to find suitable acquisition candidates and we may not be able to complete acquisitions on favorable terms, if at all. If we do complete acquisitions, we may not ultimately strengthen our competitive position or achieve our goals, and any acquisitions we complete could be viewed negatively by customers, developers, or investors. In addition, we may not be able to integrate acquired businesses successfully or effectively manage the combined company following an acquisition. If we fail to successfully integrate our acquisitions, or the people or technologies associated with those acquisitions, into our company, the results of operations of the combined company could be adversely affected. Any integration process will require significant time and resources, require significant attention from management, and disrupt the ordinary functioning of our business, and we may not be able

to manage the process successfully, which could adversely affect our business, results of operations, and financial condition. In addition, we may not successfully evaluate or utilize the acquired technology and accurately forecast the financial impact of an acquisition transaction, including accounting charges.

In order to expand our network and product offerings, we also may enter into relationships with other businesses, which could involve joint ventures, preferred or exclusive licenses, additional channels of distribution, or investments in other companies. Negotiating these transactions can be time-consuming, difficult, and costly, and our ability to close these transactions may be subject to third-party approvals, such as government regulatory approvals, which are beyond our control. Consequently, we cannot assure you that these transactions, once undertaken and announced, will close or will lead to commercial benefit for us.

In connection with the foregoing strategic transactions, we may:

- issue additional equity securities that would dilute our stockholders;
- use cash that we may need in the future to operate our business;
- incur debt on terms unfavorable to us or that we are unable to repay;
- incur large charges or substantial liabilities;
- encounter difficulties integrating diverse business cultures; and
- become subject to adverse tax consequences, substantial depreciation, or deferred compensation charges.

These challenges related to acquisitions or other strategic transactions could adversely affect our business, results of operations, financial condition, and prospects.

Certain of our market opportunity estimates, growth forecasts, and key metrics included in this prospectus could prove to be inaccurate, and any real or perceived inaccuracies may harm our reputation and negatively affect our business.

Market opportunity estimates and growth forecasts are subject to significant uncertainty and are based on assumptions and estimates that may not prove to be accurate. The estimates and forecasts in this prospectus relating to the size and expected growth of our target market may prove to be inaccurate. Even if the markets in which we compete meet the size estimates and growth forecasted in this prospectus, our business could fail to grow at similar rates, if at all. We also rely on assumptions and estimates to calculate certain of our key metrics, such as dollar-based net retention rate. We regularly review and may adjust our processes for calculating our key metrics to improve their accuracy. Our key metrics may differ from estimates published by third parties or from similarly titled metrics of our competitors due to differences in methodology. If investors or analysts do not perceive our metrics to be accurate representations of our business, or if we discover material inaccuracies in our metrics, our reputation, business, results of operations, and financial condition would be harmed.

The requirements of being a public company may strain our resources, divert management's attention, and affect our ability to attract and retain executive management and qualified board members.

As a public company, we will be subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, the listing requirements of the NYSE, and other applicable securities rules and regulations. Compliance with these rules and regulations will increase our legal and financial compliance costs, make some activities more difficult, time-consuming, or costly, and increase demand on our systems and resources. The Exchange Act requires, among other things, that we file annual, quarterly, and current reports with respect to our business and results of operations. The Sarbanes-Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal control over financial reporting. In order to maintain and, if required, improve our disclosure controls and procedures and internal control over financial reporting to meet this standard, significant resources and management oversight is required. We are required to disclose changes made in our internal control and procedures on a quarterly basis and we may be required to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting. As a result of the complexity involved in complying with the rules and regulations applicable to public companies, our management's attention may be diverted from other business concerns, which could adversely affect our business and results of operations. Although we have already hired additional employees and have engaged outside consultants to assist us in complying with these requirements, we may need to hire more employees in the future or engage additional outside consultants, which will increase our operating expenses.

In addition, changing laws, regulations, and standards relating to corporate governance and public disclosure are creating uncertainty for public companies, increasing legal and financial compliance costs, and making some activities more time consuming. These laws, regulations, and standards are subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. We intend to invest substantial resources to comply with evolving laws, regulations, and standards, and this investment may result in increased general and administrative expenses and a diversion of management's time and attention from revenue-generating activities to compliance activities. If our efforts to comply with new laws, regulations, and standards differ from the activities intended by regulatory or governing bodies due to ambiguities related to their application and practice, regulatory authorities may initiate legal proceedings against us and our business may be adversely affected.

Being a public company and the aforementioned rules and regulations may make it more expensive for us to maintain director and officer liability insurance, and in the future we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. These factors could also make it more difficult for us to attract and retain qualified members of our Board of Directors, particularly to serve on our audit committee and compensation committee, and qualified executive officers.

As a result of disclosure of information in our filings with the SEC, our business and financial condition have become more visible, which we believe may result in threatened or actual litigation, including by competitors and other third parties. If such claims are successful, our business and results of operations could be adversely affected, and even if the claims do not result in litigation or are resolved in our favor, these claims, and the time and resources necessary to resolve them, could divert the resources of our management and adversely affect our business and results of operations.

Our management team has limited experience managing a public company.

Most members of our management team have limited experience managing a publicly traded company, interacting with public company investors, and complying with the increasingly complex laws pertaining to public companies. Our management team may not successfully or efficiently manage our transition to being a public company that is subject to significant regulatory oversight and reporting obligations under the federal securities laws and the continuous scrutiny of securities analysts and investors. These new obligations and constituents will require significant attention from our senior management and could divert their attention away from the day-to-day management of our business, which could harm our business, results of operations, and financial condition.

Risks Related to Ownership of Our Class A Common Stock

An active trading market for our Class A common stock may never develop or be sustained.

We have applied to list our Class A common stock on the NYSE under the symbol "NET." However, we cannot assure you that an active trading market for our Class A common stock will develop on that exchange or elsewhere or, if developed, that any market will be sustained. Accordingly, we cannot assure you of the likelihood that an active trading market for our Class A common stock will develop or be maintained, the liquidity of any trading market, your ability to sell your shares of our Class A common stock when desired, or the prices that you may obtain for your shares.

The trading price of our Class A common stock may be volatile, and you could lose all or part of your investment.

Prior to this offering, there has been no public market for shares of our Class A common stock. The initial public offering price of our Class A common stock was determined through negotiation among us and the underwriters. This price does not necessarily reflect the price at which investors in the market will be willing to buy and sell shares of our Class A common stock following this offering. In addition, the trading price of our Class A common stock following this offering is likely to be volatile and could be subject to fluctuations in response to various factors, some of which are beyond our control. These fluctuations could cause you to lose all or part of your investment in our Class A common stock since you might be unable to sell your shares at or above the price you paid in this offering. Factors that could cause fluctuations in the trading price of our Class A common stock include:

- price and volume fluctuations in the overall stock market from time to time;
- volatility in the trading prices and trading volumes of technology stocks;
- changes in operating performance and stock market valuations of other technology companies generally, or those in our industry in particular;
- sales of shares of our Class A common stock and Class B common stock by us or our stockholders;
- failure of securities analysts to maintain coverage of us, changes in financial estimates by securities analysts who follow our company, or our failure to meet these estimates or the expectations of investors;
- the financial projections we may provide to the public, any changes in those projections, or our failure to meet those projections;
- announcements by us or our competitors of new products, features, or services;
- the public's reaction to our press releases, other public announcements, and filings with the SEC;
- rumors and market speculation involving us or other companies in our industry;
- actual or anticipated changes in our results of operations or fluctuations in our results of operations;
- actual or anticipated developments in our business, our competitors' businesses or the competitive landscape generally;
- litigation involving us, our industry, or both, or investigations by regulators into our operations or those of our competitors;
- developments or disputes concerning our intellectual property or other proprietary rights;
- actual or perceived data security breaches or other data security incidents;

- announced or completed acquisitions of businesses, products, services, or technologies by us or our competitors;
- new laws or regulations or new interpretations of existing laws or regulations applicable to our business;
- changes in accounting standards, policies, guidelines, interpretations, or principles;
- any significant change in our management; and
- general economic conditions and slow or negative growth of our markets.

In addition, in the past, following periods of volatility in the overall market and the market price of a particular company's securities, securities class action litigation has often been instituted against these companies. This litigation, if instituted against us, could result in substantial costs and a diversion of our management's attention and resources.

We may need additional capital, and we cannot be certain that additional financing will be available on favorable terms, or at all.

Historically, we have financed our operations primarily through the sale of our equity securities as well as payments received from customers using our global cloud platform. Although we currently anticipate that our existing cash, cash equivalents, and marketable securities, and cash flow from operations will be sufficient to meet our working capital and capital expenditure needs for at least the next 12 months, we may require additional financing. We evaluate financing opportunities from time to time, and our ability to obtain financing will depend, among other things, on our development efforts, business plans, and operating performance, and the condition of the capital markets at the time we seek financing. We cannot assure you that additional financing will be available to us on favorable terms when required, or at all. If we raise additional funds through the issuance of equity or equity-linked or debt securities, those securities may have rights, preferences or privileges senior to the rights of our Class A common stock, and, in the case of equity or equity-linked securities, our stockholders may experience dilution.

The dual-class structure of our common stock will have the effect of concentrating voting control with those stockholders who held our capital stock prior to the completion of this offering, and it may depress the trading price of our Class A common stock.

Following this offering, our Class B common stock will have 10 votes per share and our Class A common stock, which is the stock we are offering in this offering, will have one vote per share. Following this offering, our directors, executive officers, and holders of more than 5% of our common stock, and their respective affiliates, will hold in the aggregate % of the voting power of our capital stock. Because of the ten-to-one voting ratio between our Class B and Class A common stock, the holders of our Class B common stock collectively will continue to control a majority of the combined voting power of our common stock and therefore be able to control all matters submitted to our stockholders for approval. This concentrated control will limit or preclude your ability to influence corporate matters for the foreseeable future, including the election of directors, amendments of our organizational documents, and any merger, consolidation, sale of all or substantially all of our assets, or other major corporate transaction requiring stockholder approval. In addition, this may prevent or discourage unsolicited acquisition proposals or offers for our capital stock that you may feel are in your best interest as one of our stockholders.

Future transfers by holders of shares of Class B common stock and the cessation of employment by holders of our Class B common stock will generally result in those shares converting to Class A common stock, subject to limited exceptions, such as certain transfers effected for estate planning purposes and transfers between related entities. The conversion of Class B common stock to Class A common stock will have the effect, over time, of increasing the relative voting power of those individual holders of Class B common stock who retain their shares in the long term. See the section titled "Description of Capital Stock—Anti-Takeover Provisions" for additional information.

In July 2017, FTSE Russell and Standard & Poor's announced that they would cease to include most newly public companies utilizing dual or multi-class capital structures in their indices. Affected indices include the Russell 2000 and the S&P 500, S&P MidCap 400, and S&P SmallCap 600, which together make up the S&P Composite 1500. Under the announced policies, our multi-class capital structure likely makes us ineligible for inclusion in any of these indices, and as a result, mutual funds, exchange-traded funds, and other investment vehicles that attempt to passively track these indices may not invest in our stock. These policies are still new and it is as of yet unclear what effect, if any, they will have on the valuations of publicly traded companies excluded from the indices, but it is possible that they may depress these valuations compared to those of other similar companies that are included.

A substantial portion of the outstanding shares of our Class A common stock and Class B common stock after this offering will be restricted from immediate resale, but may be sold on a stock exchange in the near future. The large number of shares of our capital stock eligible for public sale or subject to rights requiring us to register them for public sale could depress the market price of our Class A common stock.

The market price of our Class A common stock could decline as a result of sales of a large number of shares of our Class A common stock in the market after this offering, and the perception that these sales could occur may also depress the market price of our Class A common stock. Based on 46,360,728 shares of our Class A common stock (after giving effect to the Capital Stock Conversions) and 211,982,959 shares of our Class B common stock (after giving effect to the Capital Stock Conversions) outstanding as of June 30, 2019, we will have shares of our Class A common stock and shares of our Class B common stock outstanding immediately after this offering. Our executive officers, directors, and the holders of substantially all of our capital stock and securities convertible into or exchangeable for our capital stock have entered into market standoff agreements with us or have entered into lock-up agreements with the underwriters under which they have agreed, subject to specific exceptions, not to sell any of our stock for 180 days following the date of this prospectus. We refer to such period as the lock-up period. Pursuant to the lock-up agreements with the underwriters, if (i) at least 120 days have elapsed since the date of this prospectus, (ii) we have publicly released our earnings results for the fiscal year ended December 31, 2019, and (iii) the lock-up period is scheduled to end during a broadly applicable period during which trading in our securities would not be permitted under our insider trading policy (a blackout period) or within five trading days prior to a blackout period, the lock-up period will end 10 trading days prior to the commencement of such blackout period. We and the underwriters may release certain stockholders from the market standoff agreements or lock-up agreements prior to the end of the lock-up period.

As a result of these agreements and the provisions of our investors' rights agreement described further in the section titled "Description of Capital Stock—Registration Rights," and subject to the provisions of Rule 144 or Rule 701 under the Securities Act of 1933, as amended (the Securities Act), shares of our Class A common stock and Class B common stock will be available for sale in the public market as follows based on the shares of our capital stock outstanding as of June 30, 2019 (after giving effect to the Capital Stock Conversions):

- beginning on the date of this prospectus, all shares of our Class A common stock sold in this offering will be immediately available for sale in the public market; and
- beginning 181 days after the date of this prospectus (subject to the terms of the lock-up agreements and market standoff agreements described above), an additional 46,360,728 shares of our Class A common stock and 211,982,959 shares of our Class B common stock will be eligible for sale in the public market from time to time thereafter, of which 31,479,639 shares of our Class A common stock and 188,623,161 shares of our Class B common stock will be subject to the volume and other restrictions of Rule 144, as described below.

Upon completion of this offering, stockholders owning an aggregate of up to 150,002,517 shares of our Class B common stock and 31,381,152 shares of our Class A common stock will be entitled, under our investors' rights agreement, to require us to register shares owned by them for public sale in the United States. In addition, we intend to file a registration statement to register shares reserved for future issuance under our equity compensation plans. Upon effectiveness of the registration statement of which this prospectus forms a part, subject to the satisfaction of applicable exercise periods and the expiration or waiver of the market standoff agreements and lock-up agreements referred to above, the shares issued upon exercise of outstanding stock options or upon settlement of outstanding RSU awards will be available for immediate resale in the United States in the open market.

Sales of our shares as restrictions end or pursuant to registration rights may make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate. These sales also could cause the trading price of our Class A common stock to fall and make it more difficult for you to sell shares of our Class A common stock.

If you purchase our Class A common stock in this offering, you will incur immediate and substantial dilution.

The initial public offering price of the Class A common stock is substantially higher than the pro forma as adjusted net tangible book value per share of our outstanding common stock of $ per share as of June 30, 2019. Investors purchasing shares of our Class A common stock in this offering will pay a price per share that substantially exceeds the book value of our tangible assets after subtracting our liabilities. As a result, investors purchasing Class A common stock in this offering will incur immediate dilution of $ per share, based on the assumed initial public offering price of $ per share, which is the midpoint of the offering price range set forth on the cover of this prospectus.

This dilution is due to the substantially lower price paid by our investors who purchased shares prior to this offering as compared to the price offered to the public in this offering, and any previous exercise of stock options or settlement of RSUs granted to our service providers. In addition, as of June 30, 2019, options to purchase 23,558,731 shares of our Class B common stock, with a weighted-average exercise price of $2.27 per share, and RSUs covering 4,148,564 shares of our Class B common stock were outstanding. The exercise of any of these options or the settlement of any of these RSUs would result in additional dilution. As a result of the dilution to investors purchasing shares in this offering, investors may receive less than the purchase price paid in this offering, if anything, in the event of our liquidation.

We have broad discretion over the use of the net proceeds from this offering and we may not use them effectively.

We cannot specify with any certainty the particular uses of the net proceeds that we will receive from this offering. Our management will have broad discretion in the application of the net proceeds from this offering, including for any of the purposes described in "Use of Proceeds," and you will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. The failure by our management to apply these proceeds effectively could adversely affect our business, results of operations, and financial condition. Pending their use, we may invest our proceeds in a manner that does not produce income or that loses value. Our investments may not yield a favorable return to our investors and may negatively impact the price of our Class A common stock.

We are an "emerging growth company" and we cannot be certain if the reduced disclosure requirements applicable to emerging growth companies will make our Class A common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act, and we intend to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies," including not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, exemptions from the requirements of holding a non-binding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved, and exemptions from complying with new or revised financial accounting standards until private companies are required to comply with the new or revised accounting standards. We may take advantage of these exemptions for so long as we are an "emerging growth company," which could be as long as five years following the effectiveness of this offering. We expect, however, that we will cease being an "emerging growth company" prior to such time. We cannot predict if investors will find our Class A common stock less attractive to the extent that we rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and the price of our common stock may be more volatile.

Delaware law and provisions in our amended and restated certificate of incorporation and amended and restated bylaws could make a merger, tender offer, or proxy contest difficult, thereby depressing the market price of our Class A common stock.

Our status as a Delaware corporation and the anti-takeover provisions of the Delaware General Corporation Law may discourage, delay, or prevent a change in control by prohibiting us from engaging in a business combination with an interested stockholder for a period of three years after the person becomes an interested stockholder, even if a change of control would be beneficial to our existing stockholders. In addition, our amended and restated certificate of

incorporation and amended and restated bylaws, as they will be in effect following this offering, contain provisions that may make the acquisition of our company more difficult, including the following:

- our dual-class common stock structure, which provides Mr. Prince and Ms. Zatlyn with the ability to significantly influence the outcome of matters requiring stockholder approval, even if they own significantly less than a majority of the shares of our outstanding Class A common stock and Class B common stock;
- our Board of Directors is classified into three classes of directors with staggered three-year terms and directors are only able to be removed from office for cause;
- vacancies on our Board of Directors will be able to be filled only by our Board of Directors and not by stockholders;
- only the Chair of our Board of Directors, our Chief Executive Officer, or a majority of our entire Board of Directors are authorized to call a special meeting of stockholders;
- certain litigation against us can only be brought in Delaware;
- our amended and restated certificate of incorporation authorizes undesignated preferred stock, the terms of which may be established and shares of which may be issued, without the approval of the holders of Class A common stock;
- advance notice procedures apply for stockholders to nominate candidates for election as directors or to bring matters before an annual meeting of stockholders;
- our stockholders will only be able to take action at a meeting of stockholders and not by written consent; and
- any amendment of the above anti-takeover provisions in our amended and restated certificate of incorporation or amended and restated bylaws will require the approval of two-thirds of the combined vote of our then-outstanding shares of Class A common stock and Class B common stock.

These anti-takeover defenses could discourage, delay, or prevent a transaction involving a change in control of our company. These provisions could also discourage proxy contests and make it more difficult for stockholders to elect directors of their choosing and to cause us to take other corporate actions they desire, any of which, under certain circumstances, could limit the opportunity for our stockholders to receive a premium for their shares of our capital stock, and could also affect the price that some investors are willing to pay for our Class A common stock.

Our amended and restated bylaws will designate a state or federal court located within the State of Delaware as the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to choose the judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated bylaws, which will become effective immediately prior to the completion of this offering, will provide that the Court of Chancery of the State of Delaware is the exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: (i) any derivative action or proceeding brought on our behalf; (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, or other employees to us or our stockholders; (iii) any action arising pursuant to any provision of the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws; or (iv) any other action asserting a claim that is governed by the internal affairs doctrine shall be the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware), in all cases subject to the court having jurisdiction over indispensable parties named as defendants. The provisions would not apply to suits brought to enforce a duty or liability created by the Exchange Act. Additionally, nothing in our amended and restated bylaws precludes stockholders that assert claims under the Securities Act from bringing such claims in state or federal court, subject to applicable law.

Any person or entity purchasing or otherwise acquiring any interest in any of our securities shall be deemed to have notice of and consented to this provision. This exclusive-forum provision may limit a stockholder's ability to bring a claim in a judicial forum of its choosing for disputes with us or our directors, officers, or other employees, which may discourage lawsuits against us and our directors, officers, and other employees. If a court were to find the exclusive-forum provision in our amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving the dispute in other jurisdictions, which could harm our results of operations.

Our Class A common stock market price and trading volume could decline if equity or industry analysts do not publish research or publish inaccurate or unfavorable research about our business.

The trading market for our Class A common stock will depend in part on the research and reports that equity or industry analysts publish about us or our business. The analysts' estimates are based upon their own opinions and are often different from our estimates or expectations. If one or more of the analysts who cover us downgrade our Class A common stock or publish inaccurate or unfavorable research about our business, the price of our securities would likely decline. If few securities analysts commence coverage of us, or if one or more of these analysts cease coverage of us or fail to publish reports on us regularly, demand for our securities could decrease, which might cause the price and trading volume of our Class A common stock to decline.

We do not intend to pay dividends for the foreseeable future.

We have never declared nor paid cash dividends on our capital stock. We currently intend to retain any future earnings to finance the operation and expansion of our business, and we do not expect to declare or pay any dividends in the foreseeable future. As a result, stockholders must rely on sales of their Class A common stock after price appreciation as the only way to realize any future gains on their investment.

Special Note Regarding Forward-looking Statements

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS This prospectus contains forward-looking statements within the meaning of the federal securities laws, which statements involve substantial risks and uncertainties. Forward-looking statements generally relate to future events or our future financial or operating performance. In some cases, you can identify forward-looking statements because they contain words such as "may," "will," "should," "expects," "plans," "anticipates," "could," "intends," "target," "projects," "contemplates," "believes," "estimates," "predicts," "potential," or "continue," or the negative of these words, or other similar terms or expressions that concern our expectations, strategy, plans, or intentions. Forward-looking statements contained in this prospectus include, but are not limited to, statements about:

- our ability to retain and upgrade paying customers;
- our ability to attract new customers or convert free customers to paying customers;
- our future financial performance, including trends in revenue, costs of revenue, gross profit or gross margin, operating expenses, paying customers, and free cash flow;
- our ability to achieve or maintain profitability;
- the consequences we may face resulting from the activities of our customers and the actions we take in response, including associated theories of liability;
- the demand for our products or for solutions for security, performance, and reliability in general;
- possible harm caused by significant disruption of service, loss or unauthorized access to customers' content, or the actual or perceived failure of our products to prevent security incidents;
- our ability to compete successfully in competitive markets;
- our ability to respond to rapid technological changes;
- our ability to continue to innovate and develop new products;
- our expectations and management of future growth;
- our ability to maintain existing co-location relationships, ISP partnerships, and other interconnection arrangements around the world;
- our ability to offer high-quality customer support;
- our ability to manage our global operations;
- our expectations of and ability to comply with applicable laws around the world;
- our ability to correctly estimate our tax obligations around the world;
- our ability to attract and retain key personnel and highly qualified personnel;
- our ability to maintain our brand;
- our ability to prevent serious errors or defects across, and to otherwise maintain the uninterrupted operation of, our network;
- our ability to maintain, protect, and enhance our intellectual property;
- our ability to successfully identify, acquire, and integrate companies and assets;
- the increased expenses associated with being a public company; and
- our anticipated uses of net proceeds from this offering.

We caution you that the foregoing list may not contain all of the forward-looking statements made in this prospectus.

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

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

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

Industry and Market Data

INDUSTRY AND MARKET DATA This prospectus contains estimates and information concerning our industry, including market size of the markets in which we participate, that are based on industry publications and reports. This information involves a number of assumptions and limitations, and you are cautioned not to give undue weight to these estimates. While we believe that the data we use from third parties are reliable, we have not independently verified the accuracy or completeness of the data contained in these industry publications and reports. The markets in which we operate are subject to a high degree of uncertainty and risk due to a variety of factors, including those described in the section titled “Risk Factors.” These and other factors could cause results to differ materially from those expressed in these publications and reports.

The source of certain statistical data, estimates, and forecasts contained in this prospectus are the following independent industry publications or reports:

- International Data Corporation, Inc.: Worldwide Content Delivery Network Services Forecast, 2018-2022.
- International Data Corporation, Inc.: Worldwide Network Security Forecast, 2018-2022: Hybrid and Multicloud Driving Investment in Core Technologies.
- International Data Corporation, Inc.: Worldwide Web Security Forecast, 2018-2022: Cloud Security Gateways and Web Application Firewalls Drive Market Resurgence.
- International Data Corporation, Inc.: Worldwide DDoS Prevention Products and Services Forecast, 2018-2022.
- International Data Corporation, Inc.: Worldwide Network Security Forecast, 2018-2022: Hybrid and Multicloud Driving Investment in Core Technologies.
- International Data Corporation, Inc.: Application Delivery Qview, 4Q18 Release (March 2019).
- International Data Corporation, Inc.: Datacenter Networks Qview, 4Q18 Release (March 2019).
- Datanyze, Market Share, 2019.

Use of Proceeds

USE OF PROCEEDS We estimate that the net proceeds to us from the sale of shares of our Class A common stock in this offering will be approximately $ million, based upon the assumed initial public offering price of $ per share, which is the midpoint of the offering price range set forth on the cover page of this prospectus, and after deducting underwriting discounts and commissions and estimated offering expenses. If the underwriters’ option to purchase additional shares of our Class A common stock from us is exercised in full, we estimate that the net proceeds to us would be approximately $ million, after deducting underwriting discounts and commissions and estimated offering expenses.

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the offering price range set forth on the cover page of this prospectus, would increase or decrease the net proceeds that we receive from this offering by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the underwriting discounts and commissions. Similarly, each increase or decrease of 1.0 million in the number of shares of our Class A common stock offered by us would increase or decrease the net proceeds that we receive from this offering by approximately $ million, assuming the assumed initial public offering price remains the same and after deducting the underwriting discounts and commissions.

The principal purposes of this offering are to increase our capitalization and financial flexibility, create a public market for our Class A common stock, and enable access to the public equity markets for us and our stockholders.

We intend to use the net proceeds we receive from this offering for general corporate purposes, including working capital, operating expenses, and capital expenditures. Additionally, we may use a portion of the net proceeds we receive from this offering to acquire businesses, products, services, or technologies. However, we do not have agreements or commitments for any material acquisitions at this time. We cannot specify with certainty the particular uses of the net proceeds that we will receive from this offering. Accordingly, we will have broad discretion in using these proceeds. Pending the use of proceeds from this offering as described above, we may invest the net proceeds that we receive in this offering in short-term, investment grade, interest-bearing instruments.

Dividend Policy

DIVIDEND POLICY We have never declared or paid any cash dividends on our capital stock. We currently intend to retain any future earnings and do not expect to pay any dividends in the foreseeable future. Any future determination to declare cash dividends will be made at the discretion of our Board of Directors, subject to applicable laws, and will depend on a number of factors, including our financial condition, results of operations, capital requirements, contractual restrictions, general business conditions, and other factors that our Board of Directors may deem relevant.

Capitalization

CAPITALIZATION The following table sets forth cash, cash equivalents, and marketable securities, as well as our capitalization, as of June 30, 2019, as follows:

- on an actual basis;
- on a pro forma basis, giving effect to (i) the Capital Stock Conversions, as if such conversions had occurred on June 30, 2019, (ii) stock-based compensation expense associated with outstanding qualified event options and RSUs subject to a performance condition of $14.7 million for the service period rendered from the date of grant through June 30, 2019 and for the qualified event RSUs for which the service-based condition was satisfied as of June 30, 2019, which we will recognize in connection with this offering, as further described in Note 2 to our consolidated financial statements included elsewhere in this prospectus, and (iii) the filing and effectiveness of our amended and restated certificate of incorporation in Delaware that will become effective immediately prior to the completion of this offering. The pro forma adjustment related to stock-based compensation expense of $14.7 million has been reflected as an increase to additional paid-in capital and accumulated deficit; and
- on a pro forma as adjusted basis, giving effect to (i) the pro forma adjustments set forth above and (ii) the receipt of $ million in net proceeds from the sale and issuance by us of shares of our Class A common stock in this offering, based upon the assumed initial public offering price of $ per share, which is the midpoint of the offering price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses.

The pro forma as adjusted information set forth in the table below is illustrative only and will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. You should read this table together with our consolidated financial statements and related notes thereto, and the sections titled “Selected Consolidated Financial and Other Data” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” that are included elsewhere in this prospectus.

	June 30, 2019		
	Actual	Pro Forma	Pro Forma as Adjusted[1]
	(in thousands, except share and per share data)		
Cash, cash equivalents, and marketable securities	$ 124,688	$ 124,688	$
Redeemable convertible preferred stock, par value $0.001 per share: 168,107,981 shares authorized, 165,657,842 shares issued and outstanding, actual; no shares authorized issued and outstanding, pro forma and pro forma as adjusted	$ 331,521	$—	$
Stockholders’ (deficit) equity:			
Preferred stock, par value $0.001 per share; no shares authorized or issued and outstanding, actual; shares authorized, no shares issued and outstanding, pro forma and pro forma as adjusted	—	—	
Class A common stock, par value $0.001 per share: 550,000,000 shares authorized, no shares issued and outstanding, actual; shares authorized, 46,360,728 shares issued and outstanding, pro forma; shares authorized, shares issued and outstanding, pro forma as adjusted	—	31	
Class B common stock, par value $0.001 per share: 300,000,000 shares authorized, 92,685,845 shares issued and outstanding, actual; shares authorized, 211,982,959 shares issued and outstanding, pro forma; shares authorized, shares issued and outstanding, pro forma as adjusted	86	220	
Additional paid-in capital	87,111	433,130	
Accumulated other comprehensive loss	66	66	
Accumulated deficit	(232,698)	(247,361)	
Total stockholders’ (deficit) equity	(145,435)	186,086	
Total capitalization	$ 186,086	$ 186,086	$

(1) Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the offering price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the amount of our pro forma as adjusted cash, cash equivalents, and marketable securities, additional paid-in capital, total stockholders' (deficit) equity, and total capitalization by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting underwriting discounts and commissions. An increase or decrease of 1.0 million shares in the number of shares offered by us would increase or decrease, as applicable, the amount of our pro forma as adjusted cash, cash equivalents and marketable securities, additional paid-in capital, total stockholders' (deficit) equity, and total capitalization by approximately $, assuming the assumed initial public offering price remains the same, and after deducting underwriting discounts and commissions.

If the underwriters' option to purchase additional shares of our Class A common stock were exercised in full, pro forma as adjusted cash, cash equivalents, and marketable securities, additional paid-in capital, total stockholders' (deficit) equity, total capitalization, and Class A common stock shares outstanding as of June 30, 2019, would be $, $, $, $, and shares, respectively.

The number of shares of our Class A common stock and Class B common stock that will be outstanding after this offering is based on 46,360,728 shares of our Class A common stock (after giving effect to the Capital Stock Conversions) and 211,982,959 shares of our Class B common stock (after giving effect to the Capital Stock Conversions) outstanding as of June 30, 2019, and excludes:

- 23,558,731 shares of our Class B common stock issuable upon the exercise of options to purchase shares of our Class B common stock outstanding as of June 30, 2019, with a weighted-average exercise price of $2.27 per share;
- No shares of our Class B common stock issuable upon the exercise of options to purchase shares of our Class B common stock granted after June 30, 2019;
- 177,410 shares of our Class B common stock issuable pursuant to warrants to purchase an aggregate of 177,410 shares of our redeemable convertible preferred stock outstanding as of June 30, 2019, with a weighted-average exercise price of $0.34 per share;
- 4,148,564 shares of our Class B common stock subject to RSUs outstanding as of June 30, 2019;
- 1,421,526 shares of our Class B common stock subject to RSUs granted after June 30, 2019; and
- shares of our Class A common stock reserved for future issuance under our equity compensation plans, consisting of:
- shares of our Class A common stock to be reserved for future issuance under our 2019 Plan, which will become effective prior to the completion of this offering;
- shares of our Class B common stock reserved for future issuance under our 2010 Plan, and upon the termination of such 2010 Plan in connection with the effectiveness of the 2019 Plan, an equivalent number of shares of our Class A common stock to be added to the shares reserved for future issuance under our 2019 Plan above; and
- shares of our Class A common stock to be reserved for future issuance under our ESPP, which will become effective prior to the completion of this offering.

Our 2019 Plan and ESPP provide for annual automatic increases in the number of shares of our Class A common stock reserved thereunder, and our 2019 Plan also provides for increases to the number of shares of our Class A common stock that may be granted thereunder based on shares under our 2010 Plan that expire, are forfeited, or otherwise repurchased by us, as more fully described in the section titled "Executive Compensation—Employee Benefits and Stock Plans."

Dilution

DILUTION

If you invest in our Class A common stock in this offering, your ownership interest will be diluted to the extent of the difference between the initial public offering price per share of our Class A common stock and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering. Net tangible book value dilution per share to new investors represents the difference between the amount per share paid by purchasers of shares of our Class A common stock in this offering and the pro forma as adjusted net tangible book value per share of our common stock immediately after completion of this offering.

Net tangible book value per share is determined by dividing our total tangible assets less our total liabilities by the number of shares of our common stock outstanding. Our historical net tangible book value as of June 30, 2019 was $159.5 million, or $1.72 per share. Our pro forma net tangible book value as of June 30, 2019 was $159.5 million, or $0.62 per share, based on the total number of shares of our Class A common stock and Class B common stock outstanding as of June 30, 2019, after giving effect to the Capital Stock Conversions.

After giving effect to the sale by us of shares of our Class A common stock in this offering, at the assumed initial public offering price of $ per share, which is the midpoint of the offering price range set forth on the cover page of this prospectus, and after deducting underwriting discounts and commissions and estimated offering expenses, our pro forma as adjusted net tangible book value as of June 30, 2019 would have been $ million, or $ per share. This represents an immediate increase in pro forma net tangible book value of $ per share to our existing stockholders and an immediate dilution in pro forma net tangible book value of $ per share to investors purchasing shares of our Class A common stock in this offering at the assumed initial public offering price. The following table illustrates this dilution:

Assumed initial public offering price per share	$

Pro forma net tangible book value per share as of June 30, 2019	$0.62
Increase in pro forma net tangible book value per share attributable to new investors purchasing shares of Class A common stock in this offering	
Pro forma as adjusted net tangible book value per share after this offering	
Dilution in pro forma as adjusted net tangible book value per share to new investors in this offering	$

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the offering price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, our pro forma as adjusted net tangible book value per share after this offering by $, and would increase or decrease, as applicable, dilution in pro forma as adjusted net tangible book value per share to new investors purchasing shares of our Class A common stock in this offering by $, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting underwriting discounts and commissions. Similarly, each increase or decrease of 1.0 million shares in the number of shares of our Class A common stock offered by us would increase or decrease, as applicable, our pro forma as adjusted net tangible book value by approximately $ per share and increase or decrease, as applicable, the dilution in pro forma as adjusted net tangible book value per share to new investors purchasing shares of our Class A common stock in this offering by $ per share, assuming the assumed initial public offering price remains the same, and after deducting underwriting discounts and commissions.

If the underwriters' option to purchase additional shares of our Class A common stock were exercised in full, the pro forma as adjusted net tangible book value per share of our common stock would be $ per share, and the dilution in pro forma net tangible book value per share to new investors purchasing shares of our Class A common stock in this offering would be $ per share.

The following table summarizes, on a pro forma as adjusted basis, as described above, as of June 30, 2019 after giving effect to the sale of shares of Class A common stock by us in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the offering price range set forth on the cover page of this prospectus, the difference between existing stockholders and new investors with respect to the number of shares of common stock purchased from us, the total consideration paid to us and the average price per share paid or to be paid to us at an assumed initial public offering price of $ per share, which is the midpoint of the offering price range set forth on the cover page of this prospectus, before deducting the underwriting discounts and commissions and estimated offering expenses:

	Shares Purchased		Total Consideration		Average Price per Share
	Number	Percent	Amount	Percent	
	(in thousands)				
Existing stockholders		%		$%	$
New public investors					
Total		100%		100%	

Each $1.00 increase or decrease in the assumed initial public offering price of $ per share, which is the midpoint of the offering price range set forth on the cover page of this prospectus, would increase or decrease total consideration paid by new investors and total consideration paid by all stockholders by $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting the underwriting discounts and commissions.

Except as otherwise indicated, the above discussion and tables assume no exercise of the underwriters' option to purchase additional shares of our Class A common stock from us. If the underwriters' option to purchase additional shares of our Class A common stock were exercised in full, our existing stockholders would own % and our new investors would own % of the total number of shares of our common stock outstanding upon completion of this offering.

To the extent that any outstanding options to purchase our common stock are exercised, RSUs are settled or new awards are granted under our equity compensation plans, there will be further dilution to investors participating in this offering.

The number of shares of our Class A common stock and Class B common stock that will be outstanding after this offering is based on 46,360,728 shares of our Class A common stock (after giving effect to the Capital Stock Conversions) and 211,982,959 shares of our Class B common stock (after giving effect to the Capital Stock Conversions) outstanding as of June 30, 2019, and excludes:

- 23,558,731 shares of our Class B common stock issuable upon the exercise of options to purchase shares of our Class B common stock outstanding as of June 30, 2019, with a weighted-average exercise price of $2.27 per share;
- No shares of our Class B common stock issuable upon the exercise of options to purchase shares of our Class B common stock granted after June 30, 2019;
- 177,410 shares of our Class B common stock issuable pursuant to warrants to purchase an aggregate of 177,410 shares of our redeemable convertible preferred stock outstanding as of June 30, 2019, with a weighted-average exercise price of $0.34 per share;
- 4,148,564 shares of our Class B common stock subject to RSUs outstanding as of June 30, 2019;
- 1,421,526 shares of our Class B common stock subject to RSUs granted after June 30, 2019;
- shares of our Class A common stock reserved for future issuance under our equity compensation plans, consisting of:

- shares of our Class A common stock to be reserved for future issuance under our 2019 Plan, which will become effective prior to the completion of this offering;
- shares of our Class B common stock reserved for future issuance under our 2010 Plan, and upon the termination of such 2010 Plan in connection with the effectiveness of the 2019 Plan, an equivalent number of shares of our Class A common stock to be added to the shares reserved for future issuance under our 2019 Plan above; and
- shares of our Class A common stock to be reserved for future issuance under our ESPP, which will become effective prior to the completion of this offering.

Our 2019 Plan and ESPP provide for annual automatic increases in the number of shares of our Class A common stock reserved thereunder, and our 2019 Plan also provides for increases to the number of shares of our Class A common stock that may be granted thereunder based on shares under our 2010 Plan that expire, are forfeited, or otherwise repurchased by us, as more fully described in the section titled "Executive Compensation—Employee Benefits and Stock Plans."

Selected Consolidated Financial and Other Data

SELECTED CONSOLIDATED FINANCIAL AND OTHER DATA The following selected consolidated financial and other data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and related notes thereto included elsewhere in this prospectus. The selected consolidated statements of operations data presented below for the years ended December 31, 2016, 2017, and 2018 (except for the pro forma share and pro forma net loss per share information) and the consolidated balance sheet data as of December 31, 2017 and 2018, are derived from our audited consolidated financial statements that are included elsewhere in this prospectus. The selected consolidated statements of operations data presented below for the six months ended June 30, 2018 and 2019 and the consolidated balance sheet data as of June 30, 2019 are derived from our unaudited interim consolidated financial statements that are included elsewhere in this prospectus. In management's opinion, the unaudited interim consolidated financial statements include all adjustments necessary to state fairly our financial position as of June 30, 2019 and the results of operations and cash flows for the six months ended June 30, 2018 and 2019. Our historical results are not necessarily indicative of our future results and our results for the six months ended June 30, 2019 are not necessarily indicative of the results that may be expected for the full year ending December 31, 2019 or any other period. The selected consolidated financial data in this section are not intended to replace the consolidated financial statements and are qualified in their entirety by the consolidated financial statements and related notes thereto included elsewhere in this prospectus.

Consolidated Statements of Operations Data:

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
	(in thousands, except per share data)				
Revenue	$84,791	$134,915	$192,674	$87,105	$129,151
Cost of revenue[(1)]	23,962	28,788	43,537	19,372	29,192
Gross profit	60,829	106,127	149,137	67,733	99,959
Operating expenses:					
Sales and marketing[(1)]	40,122	61,899	94,394	41,744	66,653
Research and development[(1)]	23,663	33,650	54,463	24,286	36,517
General and administrative[(1)]	14,073	20,308	85,179	33,041	33,707
Total operating expenses	77,858	115,857	234,036	99,071	136,877
Loss from operations	(17,029)	(9,730)	(84,899)	(31,338)	(36,918)
Non-operating income (expense):					
Interest income	626	762	1,895	460	1,743
Interest expense	(654)	(862)	(992)	(475)	(563)
Other income (expense), net	(208)	115	(2,091)	(663)	(379)
Total non-operating income (expense), net	(236)	15	(1,188)	(678)	801
Loss before income taxes	(17,265)	(9,715)	(86,087)	(32,016)	(36,117)
Provision for income taxes	69	1,033	1,077	472	703
Net loss	$(17,334)	$(10,748)	$(87,164)	$(32,488)	$(36,820)
Net loss per share attributable to common stockholders, basic and diluted[(2)]	$(0.23)	$(0.14)	$(1.08)	$(0.41)	$(0.43)
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted[(2)]	75,721	77,147	80,981	78,828	85,382

Pro forma net loss per share, basic and diluted[2]	$(0.37)	$(0.15)
Weighted-average shares used in computing pro forma net loss per share, basic and diluted[2]	237,322	251,085

(1) Includes stock-based compensation expense as follows:

	Year Ended December 31,			Six Months EndedJune 30,	
	2016	2017	2018	2018	2019
	(in thousands)				
Cost of revenue	$64	$47	$119	$50	$66
Sales and marketing	381	488	979	388	554
Research and development	1,043	969	1,532	617	823
General and administrative	4,212	1,251	24,717	794	658
Total stock-based compensation expense	$5,700	$2,755	$27,347	$1,849	$2,101

(2) Refer to Note 11 to our consolidated financial statements included elsewhere in this prospectus for an explanation of the method used to calculate our basic and diluted net loss per share attributable to common stockholders, our basic and diluted pro forma net loss per share attributable to common stockholders, and the weighted-average number of shares used in the computation of the per share amounts.

Consolidated Balance Sheet Data:

	December 31,		
	2017	2018	June 30, 2019
	(in thousands)		
Cash, cash equivalents, and marketable securities	$73,407	$160,657	$ 124,688
Working capital[1]	$64,861	$135,358	$ 88,518
Property and equipment, net	$51,423	$73,210	$ 84,640
Total assets	$163,143	$298,380	$ 286,859
Deferred revenue, current and noncurrent	$12,134	$17,037	$ 27,764
Redeemable convertible preferred stock	$181,546	$331,521	$ 331,521
Accumulated deficit	$(108,714)	$(195,878)	$(232,698)
Total stockholders' deficit	$(59,834)	$(113,505)	$(145,435)

(1) Working capital is defined as current assets less current liabilities.

Management's Discussion and Analysis of Financial Condition and Results of Operations

MANAGEMENT'S DISCUSSION AND ANALYSIS OF

Financial Condition and Results of Operations

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with the section titled "Selected Consolidated Financial and Other Data" and our consolidated financial statements and related notes thereto included elsewhere in this prospectus. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those discussed below. 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" included elsewhere in this prospectus.

Overview

Cloudflare's mission is to help build a better Internet.

We have built a global cloud platform that delivers a broad range of network services to businesses of all sizes and in all geographies—making them more secure, enhancing the performance of their business-critical applications, and eliminating the cost and complexity of managing individual network hardware. Our platform serves as a scalable, easy-to-use, unified control plane to deliver security, performance, and reliability across their on-premise, hybrid, cloud, and software-as-a-service (SaaS) applications.

We started by building an efficient, scalable network. This network forms the basis of our platform on which we can rapidly develop and deploy our products for our customers. Together the development of our network and products create the interconnected flywheels that drive our business and have allowed us to achieve our market position.

Since our inception, our focus on innovation and dedication to customer experience has allowed us to achieve numerous key milestones. Over time as we have launched new products on our platform, our Annualized Billings have grown significantly. For additional information on how we calculate Annualized Billings see "—Our Business Model."

Key Milestones Annualized Billings $250M $200M $150M $100M $50M $0 TechCrunch Disrupt's Most Innovative Company 2010 Launch page views Wan Optimization could WAF First Free SSL Project Galileo Strategic Investments from Google Microsoft, Baidu, and Qualcomm Enter China Virtual DNS Load Balancing Rate Limiting 100th Data Center Serverless Platform Video Services App Platform Smart Routing loT Security IBM Partnership Spectrum Consumer DNS Access 2010 2011 2012 2013 2014 2015 2016 2017 2018 Firewall Network Spans to 100th City Intelligent Routing Zero Trust Security DNS Resolver Multi-Protocol Network Performance and Security

Opportunities, Challenges, and Risks

We believe that the growth of our business and our future success are dependent upon many factors, including growing our customer base, expanding our relationships with existing paid customers, developing and successfully launching new products, expanding into additional market segments, expanding our base of free customers, and developing and maintaining favorable peering and co-location relationships. Each of these factors presents significant opportunities for us, but also poses material challenges and risks that we must successfully address in order to grow our business and improve our operating results. We expect that addressing these challenges and risks will increase our operating expenses significantly over the next several years. The timing of our future profitability, if we achieve profitability at all, will depend upon many variables, including the success of our growth strategies and the timing and size of investments and expenditures that we choose to undertake, as well as market growth and other factors that are not within our control. In addition, we must comply with evolving laws, rules, and regulatory requirements across federal, state, and international jurisdictions. If we fail to successfully address these challenges, risks, and variables, our business, operating results, financial condition, and prospects may be adversely affected. Refer to the sections titled "Risk Factors" and "Business—Growth Strategy" for additional information on the challenges and risks we face.

Our Business Model

Our business model benefits from our ability to serve the needs of all customers ranging from individual developers on free and self-serve plans to the largest enterprises, in a cost-effective manner. Our products are easy to deploy and allow for rapid and efficient onboarding of new customers and expansion of our relationships with customers over time. Given the large customer base we have and the immense amount of Internet traffic that we manage, we are able to negotiate mutually beneficial agreements with Internet Service Providers (ISPs) that allow us to place our equipment directly in their data centers, which dramatically drives down our bandwidth and co-location expenses. This symbiotic relationship that we have with ISPs and the efficiency of our serverless network architecture allows us to introduce new products on our platform at low marginal cost. The cost efficiency of our model has allowed us to grow revenue significantly faster than our cost of revenue. Between the three months ended March 31, 2016 and the three months ended June 30, 2019, our revenue increased by 247% with only a 146% increase in cost of revenue.

Quarterly Revenue and Cost of Revenue $80M $60M $40M $20M $0 Q1 2016 Q4 2016 Q4 2017 Q4 2018 Q2 2019 Revenue Cost of Revenue Revenue Growth: 247% Cost of Revenue Growth: 146% We generate revenue primarily from sales to our customers of subscriptions to access our platform. For our self-serve paying customers, we offer Pro and Business plans per registered domain, and it is common for customers to purchase subscriptions to cover multiple Internet properties (e.g., domains, websites, application programming interfaces (APIs), and mobile applications). Our Pro plan provides basic functionality to improve the security, performance, and reliability of applications, such as enhanced web application firewall and image and mobile optimization. Our Business plan includes additional functionality often required by larger organizations, including service level agreements of 100% uptime, dynamic content acceleration, and enhanced customer support. While our Pro and Business plans offer significant value to customers, customers can subscribe to add-on products and platform functionality we offer to meet their more advanced needs. This includes Cloudflare Argo, which enables intelligent routing using our private network, and Cloudflare Workers, which allows developers to deploy code at the edge of our network to enhance existing, or create new, applications more efficiently and rapidly.

Our pricing model reflects the flexibility and value that our customers have come to expect from our platform. Our self-serve customers typically pay with a credit card on a monthly basis. Our enterprise customers, which consist of customers that sign up for our Enterprise plan, have contracts that range from one to three years and are typically billed on a monthly basis. Our implementation period is extremely short with most self-serve customers implementing our services within a matter of minutes and our enterprise sales cycle typically lasting less than one quarter. Our agreements with enterprise customers are tailored and priced to meet their varying needs and requirements. Enterprise pricing agreements generally include a base subscription and a smaller portion based on usage. We have had an increasing number of customers with Annualized Billings greater than $100,000 and we have customers with Annualized Billings in excess of $3 million.

We offer a variety of plans to our free and paying customers depending on their required features and functionality. The below chart is an illustrative view of what we provide our customers as part of the different plans, but is not a full comprehensive list of our product offerings.

FREE PRO BUSINESS ENTERPRISE Multiple custom SSL certificate SSL Shared SSL certificates Shared SSL certificates Custom SSL Certificates uploads Enterprise-grade DDoS DDoS Unmetered DDoS Unmetered DDoS Unmetered DDoS protection Content Delivery DNSSEC AMP Firewall Rules 5 20 100 Unlimited Page Rules 5 20 50 100 Network Prioritization Good Better Best Cloud Firewall Image and Mobile Optimization Image Resizing Dynamic Content Acceleration CNAME Setup Role Based Account Access Single Sign On Support Access to Raw Logs Access to China Data Centers (Additional Cost) SLA 100% uptime SLA 2500% uptime SLA 24x7x365 phone support w/ Support Email only Prioritized email only 24x7x365 chat support named solution engineer We are uniquely positioned due to our distinct advantages to grow with our customers as they add new Internet properties or expand the usage of our global cloud platform within their organizations. We have grown our Annualized Billings with our paying customer base over time as the needs of those organizations grow and expand as well. To measure Annualized Billings, we take the billings for each customer in the final month of a period and multiply that amount by 12. This measure provides us a view of what our billings would be had the customer been using our platform for an entire calendar year. Our Annualized Billings calculation excludes (i) our strategic agreement with Baidu and (ii) other agreements that were not entered into through our ordinary sales channels and that together represent an insignificant amount of our 2018 revenue. We include both month-to-month subscriptions and

contractual agreements in the calculation of Annualized Billings. Our Annualized Billings metric also includes any usage charges by a customer during a period, which represent a small portion of our total billings and may not be recurring. As a result, Annualized Billings may be higher than actual billings over the course of the year. For example, if we signed a new customer that was billed for $200 in December, that customer would account for $2,400 of Annualized Billings for that year. The below chart illustrates the growth in Annualized Billings for cohorts of customers that first became paying customers in each of the years from 2011 to 2018, and demonstrates how we attract new paying customers and expand their Annualized Billings with us over time.

Customer Cohorts Annualized Billings $250M $200M $150M $100M $50M $0 2018 2017 2016 2015 2014 2013 2012 and prior 2012 2013 2014 2015 2016 2017 Our business model has allowed us to grow our paying customers and revenue rapidly over the past several years. In 2016, 2017, and 2018, we generated revenue of $84.8 million, $134.9 million, and $192.7 million, respectively, representing year-over-year growth of 59% and 43%, respectively. In the six months ended June 30, 2018 and 2019, we generated revenue of $87.1 million and $129.2 million, respectively, representing growth of 48%. We generated net losses of $17.3 million, $10.7 million, and $87.2 million for 2016, 2017, and 2018, respectively, and $32.5 million and $36.8 million for the six months ended June 30, 2018 and 2019, respectively.

Key elements of our business model include:

- **Free customer base**—Free customers are an important part of our business. These customers sign up for our service through our self-serve portal and are typically individual

developers, early stage startups, hobbyists, and other users. Our free customers create scale, serve as efficient brand marketing, and help us attract developers, customers, and potential employees. These free customers expose us to diverse traffic, threats, and problems, often allowing us to see potential security, performance, and reliability issues at the earliest stage. This knowledge allows us to improve our products and deliver more effective solutions to our paid customers. In addition, the added scale and diversity of this traffic makes us valuable to a diverse set of global ISPs, improving the breadth and economic terms of our interconnections, bandwidth costs, and co-location expenses. Finally, the enthusiastic engagement of our free customer base represents a "virtual quality assurance" function that allows us to maintain a high rate of product innovation, while ensuring products are extensively tested in real world environments before they are deployed to enterprise customers.

- **Significant investment in ongoing product development**—We invest significantly in research and development. Our focus on research and development allows us to continuously enhance the capabilities and functionality of our global cloud platform with new products that are innovative and powerful and can be quickly adopted by our customers and helps us grow our free and paying customer base, which allows us to serve a greater portion of the world's Internet traffic. That in turn provides us with greater knowledge and insight into the challenges that Internet users face every day.

- **Investments in our network for growth**—We believe that the size, sophistication, and distributed nature of our network provide us with a significant competitive advantage and have driven our high revenue growth rate. We intend to continue to make substantial investments in network infrastructure to support the growth of our business. As we invest in our network, we believe the service that we can provide our customers and the insight and knowledge that we can gain will continue to grow.

- **Efficient go-to-market model**—Since our inception, we have built an efficient go-to market model that reflects the flexibility and ease of use our platform offers to our customers around the world. This has enabled us to acquire new customers as well as to expand within our existing customer base in an extremely rapid and cost-effective manner. In particular, we have invested heavily in our enterprise sales efforts, and as a result of those investments, the number of customers with Annualized Billings of greater than $100,000 grew from 240 as of June 30, 2018 to 408 as of June 30, 2019, a 70% increase year-over-year. This increase was due to new customer acquisitions as well as the expansion of Annualized Billings with existing customers.

- *New customer acquisition*—We believe that any person or business that relies on the Internet to deliver products, services, or content can be a Cloudflare customer. As such, we are focused on driving an increased number of customers on our platform to support our long-term growth. Through our self-serve offering, a new customer can subscribe to one of our many plans and begin using our platform within minutes, with minimal technical skill and no professional services. This has allowed us to acquire a large portion of paying customers very rapidly and at significantly lower customer acquisition costs. Additionally, we continue to invest to build our direct sales force and improve the sophistication of our sales operations.

- *Expansion of existing customers*—We believe that our platform enables a large opportunity for growth within our existing customer base given the breadth of products we offer on our platform. Our relationships with customers often start with servicing a portion of their overall network needs and expand over time as they realize the significant value we deliver. Once a customer has adopted one product on our platform it can easily add additional products with a single click. As we add more products and functionality to our platform, we see opportunities to drive upsell as customers seek to consolidate onto one

platform to meet all of their security, performance, and reliability network requirements. Over 70% of our enterprise customers already leverage four or more of our products.

- *International reach*—Our global network, with a presence in 193 cities in over 90 countries, has helped to foster our strong international growth. International markets represented over 50% of our revenue in the years ended December 31, 2017 and 2018, and in the six months ended June 30, 2019, and we intend to continue to invest in our international growth as a strategy to expand our customer base around the world.

Key Business Metrics and Non-GAAP Financial Measures

We review a number of operating and financial metrics, including the following key metrics and non-GAAP financial measures to evaluate our business, measure our performance, identify trends affecting our business, formulate business plans, and make strategic decisions.

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
	(dollars in thousands)				
Gross profit	$60,829	$106,127	$149,137	$67,733	$99,959
Gross margin	72%	79%	77%	78%	77%
Loss from operations	$(17,029)	$(9,730)	$(84,899)	$(31,338)	$(36,918)

Non-GAAP loss from operations	$(11,291)	$(6,513)	$(57,035)	$(29,227)	$(34,754)
Operating margin	(20%)	(7%)	(44%)	(36%)	(29%)
Non-GAAP operating margin	(13%)	(5%)	(30%)	(34%)	(27%)
Net cash provided by (used in) operating activities	$(13,318)	$3,167	$(43,281)	$(17,099)	$(12,557)
Net cash provided by (used in) investing activities	$(15,256)	$9,544	$(120,795)	$15,604	$27,847
Net cash provided by (used in) financing activities	$418	$(149)	$168,621	$3,163	$2,049
Free cash flow	$(31,876)	$(19,808)	$(78,120)	$(27,022)	$(39,018)
Net cash provided by (used in) operating activities (as a percentage of revenue)	(16%)	2%	(22%)	(20%)	(10%)
Free cash flow margin	(38%)	(15%)	(40%)	(31%)	(30%)
Paying customers	35,002	49,309	67,899	56,119	74,873
Paying customers (> $100,000 Annualized Billings)	95	184	313	240	408

Non-GAAP Financial Measures

In addition to our results determined in accordance with generally accepted accounting principles in the United States (U.S. GAAP), we believe the following non-GAAP measures are useful in evaluating our operating performance. We use the following non-GAAP financial information to evaluate our ongoing operations and for internal planning and forecasting purposes. We believe that non-GAAP financial information, when taken collectively, may be helpful to investors because it provides consistency and comparability with past financial performance. However, non-GAAP financial information is presented for supplemental informational purposes only, has limitations as an analytical tool and should not be considered in isolation or as a substitute for financial information presented in accordance with U.S. GAAP. In particular, free cash flow is not a substitute for cash provided by (used in) operating activities. Additionally, the utility of free cash flow as a measure of our liquidity is further limited as it does not represent the total increase or decrease in our cash balance for a given period. In addition, other companies, including companies in our industry, may calculate similarly-titled non-GAAP measures differently or may use other measures to evaluate their performance, all of which could reduce the usefulness of our non-GAAP financial measures as tools for comparison. A reconciliation is provided below for each non-GAAP financial measure to the most directly comparable financial measure stated in accordance with U.S. GAAP. Investors are encouraged to review the related U.S. GAAP financial measures and the reconciliation of these non-GAAP financial measures to their most directly comparable U.S. GAAP financial measures, and not to rely on any single financial measure to evaluate our business.

Non-GAAP Loss from Operations and Non-GAAP Operating Margin

We define non-GAAP loss from operations and non-GAAP operating margin as U.S. GAAP loss from operations and U.S. GAAP operating margin, respectively, excluding stock-based compensation expense and amortization of acquired intangible assets. We exclude stock-based compensation expense, which is a non-cash expense, from certain of our non-GAAP financial measures because we believe that excluding this item provides meaningful supplemental information regarding operational performance. We exclude amortization of intangible assets, which is a non-cash expense, related to business combinations from certain of our non-GAAP financial measures because such expenses are related to business combinations and have no direct correlation to the operation of our business.

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
	(dollars in thousands)				
Loss from operations	$(17,029)	$(9,730)	$(84,899)	$(31,338)	$(36,918)
Add:					
Stock-based compensation expense	5,700	2,755	27,347	1,849	2,101
Amortization of acquired intangible assets	38	462	517	262	63
Non-GAAP loss from operations	$(11,291)	$(6,513)	$(57,035)	$(29,227)	$(34,754)
Operating margin	(20%)	(7%)	(44%)	(36%)	(29%)
Non-GAAP operating margin (non-GAAP loss from operations as a percentage of revenue)	(13%)	(5%)	(30%)	(34%)	(27%)

Free Cash Flow and Free Cash Flow Margin

Free cash flow is a non-GAAP financial measure that we calculate as net cash provided by (used in) operating activities less cash used for purchases of property and equipment and capitalized internal-use software. Free cash flow margin is calculated as free cash flow divided by revenue. We believe that free cash flow and free cash flow margin are useful indicators of liquidity that provide information to management and investors about the amount of cash generated from our operations that, after the investments in property and equipment and capitalized internal-use software, can be used for strategic initiatives, including investing in our business, and strengthening our financial position. We believe that historical and future trends in free cash flow and free cash flow margin, even if negative, provide useful information about the amount of cash generated (or consumed) by our operating activities that is available (or not available) to be used for strategic initiatives. For example, if free cash flow is negative, we may need to access cash reserves or other sources of capital to invest in strategic initiatives. One limitation of free cash flow and free cash flow margin is that they do not reflect our future contractual commitments. Additionally, free cash flow does not represent the total increase or decrease in our cash balance for a given period.

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
	(dollars in thousands)				
Net cash provided by (used in) operating activities	$(13,318)	$3,167	$(43,281)	$(17,099)	$(12,557)
Less: Purchases of property and equipment	(15,898)	(19,031)	(25,466)	(6,307)	(18,990)
Less: Capitalized internal-use software	(2,660)	(3,944)	(9,373)	(3,616)	(7,471)
Free cash flow	$(31,876)	$(19,808)	$(78,120)	$(27,022)	$(39,018)
Net cash provided by (used in) investing activities	$(15,256)	$9,544	$(120,795)	$15,604	$27,847
Net cash provided by (used in) financing activities	$418	$(149)	$168,621	$3,163	$2,049
Net cash provided by (used in) operating activities (as a percentage of revenue)	(16%)	2%	(22%)	(20%)	(10%)
Less: Purchases of property and equipment (as a percentage of revenue)	(19%)	(14%)	(13%)	(7%)	(15%)
Less: Capitalized internal-use software (as a percentage of revenue)	(3%)	(3%)	(5%)	(4%)	(5%)
Free cash flow margin	(38%)	(15%)	(40%)	(31%)	(30%)

Key Business Metrics

Paying Customers

We believe our ability to grow the number of paying customers on our platform provides a key indicator of the growth of our business and our future business opportunities. We define a paying customer at the end of any period as a person or entity who has been billed for our services in the last month of the period, excluding (i) Baidu and (ii) other customers that were not acquired through ordinary sales channels. An entity is defined as a company, a government institution, a non-profit organization, or a distinct business unit of a large company that has an active contract with us or one of our partners. The number of paying customers was 35,002, 49,309, and 67,899 as of December 31, 2016, 2017, and 2018, respectively, and 56,119 and 74,873 for the six months ended June 30, 2018 and 2019, respectively.

Paying Customers (> $100,000 Annualized Billings)

While we continue to grow customers across all sizes, over time, our large customers have contributed an increasing share of our revenue. We view the number of customers with Annualized Billings greater than $100,000 as indicative of our penetration within large enterprise accounts. The number of paying customers with Annualized Billings greater than $100,000 was 95, 184, and 313 as of December 31, 2016, 2017, and 2018, respectively, and 240 and 408 for the six months ended June 30, 2018 and 2019, respectively. We believe this trend will continue as customers increasingly adopt cloud technology and we are able to supplant an increasing share of our customers' legacy hardware solutions by adding new capabilities to our global cloud platform.

Dollar-Based Net Retention Rate

Our ability to maintain long-term revenue growth and achieve profitability is dependent on our ability to retain and grow revenue generated from our existing paid customers. We believe that we will achieve these objectives by continuing to focus on customer loyalty and adding additional products and functionality to our platform. Our dollar-based net retention rate is a key way we measure our performance in these areas. Dollar-based net retention measures our ability to retain and expand recurring revenue from existing customers. To calculate dollar-based net retention for a period, we compare the Annualized Billings from paid customers 12 months prior to the Annualized Billings from the same set of customers in the last month of the current period. Our dollar-based net retention includes any expansion and is net of contraction and attrition, but excludes Annualized Billings from new customers in the current period. Our dollar-based net retention excludes the benefit of free customers which upgrade to a paid subscription between the prior and current periods, even though this is an important source of incremental growth. We believe this provides a more meaningful representation of our ability to add incremental business from existing paid customers as they renew and expand their contracts. Our dollar-based net retention rates over the trailing eight quarters for the period ended June 30, 2019 were 111.7%, 113.1%, 114.4%, 113.6%, 114.4%, 110.5%, 115.6%, and 111.3%, respectively.

Components of Our Results of Operations

Revenue

We generate revenue primarily from sales to our customers of subscriptions to access our platform, together with related support services. Arrangements with customers generally do not provide the customer with the right to take possession at any time of our software operating our global cloud platform. Instead, customers are granted continuous access to our platform and products over the contractual period. A time-elapsed output method is used to measure progress because we transfer control evenly over the contractual period. Accordingly, the fixed consideration related to subscription and support revenue is generally recognized on a straight-line basis over the contract term beginning on the date that the service is made available to the customer. Usage-based consideration is primarily related to fees charged for our customer's use of excess bandwidth when accessing our platform in a given period and is recognized as revenue in the period in which the usage occurs.

The typical subscription and support term for our enterprise customers is one year and subscription and support term lengths range from one to three years. Most of our contracts with enterprise customers are non-cancelable over the contractual term. Customers typically have the right to terminate their contracts for cause if we fail to perform in accordance with the contractual terms. For our self-serve customers, subscription and support terms are typically monthly.

Cost of Revenue

Cost of revenue consists primarily of expenses that are directly related to providing our service to our paying customers. These expenses include expenses related to operating in co-location facilities, network and bandwidth costs, depreciation of our equipment located in co-location facilities, certificate authority services costs for paying customers, related overhead costs, the amortization of our capitalized internal-use software, and the amortization of acquired developed technologies. Cost of revenue also includes employee-related costs, including salaries, bonuses, benefits, and stock-based compensation for employees whose primary responsibilities relate to supporting our paying customers and delivering paid customer support. Other costs included in cost of revenue include credit card fees related to processing customer transactions and allocated overhead costs.

As our customers expand and increase the use of our global cloud platform driven by additional applications and connected devices, we expect that our cost of revenue will increase due to higher network and bandwidth costs and expenses related to operating in additional co-location facilities. However, we expect to continue to benefit from economies of scale as our customers increase the use of our global cloud platform. We intend to continue to invest additional resources in our global cloud platform and our customer support organizations as we grow our business. The level and timing of investment in these areas could affect our cost of revenue in the future.

Gross Profit and Gross Margin

Gross profit is revenue less cost of revenue and gross margin is gross profit as a percentage of revenue. Our gross profit and gross margin have and are expected to continue to fluctuate from period to period due to the timing of acquisition of new customers and our renewals with existing customers, expenses related to operating in co-location facilities and network and bandwidth costs to operate and expand our global cloud platform, and amortization of costs associated with capitalized internal-use software. We expect our gross profit to increase in absolute dollars and our gross margin to remain consistent over the long term, although our gross margin could fluctuate from period to period depending on the interplay of all of these factors.

Operating Expenses

Sales and Marketing

Sales and marketing expenses consist primarily of employee-related costs, including salaries, benefits, and stock-based compensation expense, sales commissions that are recognized as expenses over the period of benefit, marketing programs, certificate authority services costs for free customers, travel-related expenses, bandwidth and co-location costs for free customers, and allocated overhead costs. Sales commissions earned by our sales force and the associated payroll taxes that are direct and incremental to the acquisition of channel partner and direct customer contracts are deferred and amortized over an estimated period of benefit of three years for the initial acquisition of a contract and over the contractual term of the renewals for renewal contracts. We plan to continue to invest in sales and marketing to grow our customer base and increase our brand awareness, including marketing efforts to continue to drive our self-serve business model. As a result, we expect our sales and marketing expenses to increase in absolute dollars for the foreseeable future. We also anticipate a significant increase in sales and marketing expenses from the stock-based compensation expense related to RSUs that have both service-based and performance vesting conditions. However, we expect our sales and marketing expenses to decrease as a percentage of our revenue over the long term, although our sales and marketing expenses may fluctuate as a percentage of our revenue from period to period due to the timing and extent of these expenses.

Research and Development

Research and development costs consist primarily of employee-related costs, including salaries, bonuses, benefits, and stock-based compensation expense, consulting costs, depreciation of equipment used in research and development, and allocated overhead costs. Research and development costs support our efforts to add new features to our existing offerings and to ensure the security, performance, and reliability of our global cloud platform. We expect our research and development expenses to increase in absolute dollars for the foreseeable future as we continue to invest in research and development efforts to enhance the functionality of our global cloud platform. We also anticipate a significant increase in research and development expenses from the stock-based compensation expense related to RSUs that have both service-based and performance vesting conditions. However, we expect our research and development expenses to decrease as a percentage of our revenue over the long term, although our research and development expenses may fluctuate as a percentage of our revenue from period to period due to the timing and extent of these expenses.

General and Administrative

General and administrative expenses consist primarily of employee-related costs, including salaries, bonuses, benefits, and stock-based compensation expense for our finance, legal, human resources, and other administrative personnel, professional fees for external legal services, accounting, and other consulting services, bad debt expense, and allocated overhead costs. We expect our general and administrative expenses to continue to increase in absolute dollars for the foreseeable future to support our growth as well as due to additional costs associated with legal, accounting, compliance, insurance, investor relations, and other costs as we become a public company. We also anticipate a significant increase in general and administrative expenses from the stock-based compensation expense related to RSUs that have both service-based and performance vesting conditions. However, we expect our general and administrative expenses to decrease as a percentage of our revenue over the long term, although our general and administrative expenses may fluctuate as a percentage of our revenue from period to period due to the timing and extent of these expenses.

Non-Operating Income (Expense)

Interest Income

Interest income consists primarily of interest earned on our cash, cash equivalents, and marketable securities.

Interest Expense

Interest expense consists primarily of interest related to interest on our built-to-suit lease financing obligation and interest on our outstanding notes payable.

Other Income (Expense), Net

Other income (expense), net consists primarily of expenses resulting from the revaluation of our redeemable convertible preferred stock warrant liability and foreign currency transaction gains and losses.

Provision for Income Taxes

Provision for income taxes consists primarily of income taxes in certain foreign jurisdictions in which we conduct business, as well as state income taxes in the United States. We maintain a full valuation allowance on our federal and state deferred tax assets as we have concluded that it is more likely than not that the deferred tax assets will not be realized.

Results of Operations

The following tables set forth our consolidated results of operations for the periods presented in dollars and as a percentage of our revenue for those periods:

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
	(dollars in thousands)				
Revenue	$84,791	$134,915	$192,674	$87,105	$129,151
Cost of revenue[(1)]	23,962	28,788	43,537	19,372	29,192
Gross profit	60,829	106,127	149,137	67,733	99,959
Operating expenses:					
Sales and marketing[(1)]	40,122	61,899	94,394	41,744	66,653
Research and development[(1)]	23,663	33,650	54,463	24,286	36,517
General and administrative[(1)]	14,073	20,308	85,179	33,041	33,707
Total operating expenses	77,858	115,857	234,036	99,071	136,877
Loss from operations	(17,029)	(9,730)	(84,899)	(31,338)	(36,918)
Non-operating income (expense):					
Interest income	626	762	1,895	460	1,743
Interest expense	(654)	(862)	(992)	(475)	(563)
Other income (expense), net	(208)	115	(2,091)	(663)	(379)
Total non-operating income (expense), net	(236)	15	(1,188)	(678)	801
Loss before income taxes	(17,265)	(9,715)	(86,087)	(32,016)	(36,117)
Provision for income taxes	69	1,033	1,077	472	703
Net loss	$(17,334)	$(10,748)	$(87,164)	$(32,488)	$(36,820)

(1) Includes stock-based compensation expense as follows:

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
	(dollars in thousands)				
Cost of revenue	$64	$47	$119	$50	$66
Sales and marketing	381	488	979	388	554
Research and development	1,043	969	1,532	617	823
General and administrative	4,212	1,251	24,717	794	658
Total stock-based compensation expense	$5,700	$2,755	$27,347	$1,849	$2,101

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
Percentage of Revenue Data:					
Revenue	100%	100%	100%	100%	100%

Cost of revenue	28	21	23	22	23
Gross margin	72	79	77	78	77
Operating expenses:					
Sales and marketing	47	46	49	48	52
Research and development	28	25	28	28	28
General and administrative	17	15	44	38	26
Total operating expenses	92	86	121	114	106
Loss from operations	(20)	(7)	(44)	(36)	(29)
Non-operating income (expense):					
Interest income	1	1	1	1	1
Interest expense	(1)	(1)	(1)	(1)	—
Other income (expense), net	—	—	(1)	(1)	—
Total non-operating income (expense), net	—	—	(1)	(1)	1
Loss before income taxes	(20)	(7)	(45)	(37)	(28)
Provision for income taxes	—	1	1	—	1
Net loss	(20%)	(8%)	(46%)	(37%)	(29%)

Comparison of Six Months Ended June 30, 2018 and 2019

Revenue

	Six Months Ended June 30,		Change	
	2018	2019		$%
	(dollars in thousands)			
Revenue	$87,105	$129,151	$42,046	48%

Revenue increased by $42.0 million, or 48%, for the six months ended June 30, 2019 compared to the six months ended June 30, 2018. Of this increase, 56% was due to sales to new customers, and the remaining increase was due to increased sales to existing customers.

Cost of Revenue and Gross Margin

	Six Months Ended June 30,		Change	
	2018	2019		$%
	(dollars in thousands)			
Cost of revenue	$19,372	$29,192	$9,820	51%
Gross margin	78%	77%		

Cost of revenue increased by $9.8 million, or 51%, for the six months ended June 30, 2019 compared to the six months ended June 30, 2018. The increase in cost of revenue was primarily due to an increase of $3.7 million in expenses related to operating in co-location facilities and network and bandwidth costs for operating our global cloud platform for our expanded customer base as well as increased capacity to support our growth, and an increase of $1.7 million related to the amortization of capitalized internal-use software costs. The remainder of the increase was primarily attributable to an increase of $1.6 million in depreciation expense related to purchases of equipment located in co-location facilities, an increase of $1.3 million in employee-related costs due to a 55% increase in headcount in our customer support and technical operations organizations, and an increase of $0.5 million related to third-party technology services and payment processing fees.

Gross margin decreased from 78% during the six months ended June 30, 2018 to 77% during the six months ended June 30, 2019. The decrease in gross margin was driven by higher network and bandwidth costs and expenses related to operating in co-location facilities, as we invested in additional co-location facilities and additional equipment within existing co-location facilities to support our global cloud platform. Our gross margin may fluctuate or decline in the near-term as we seek further expansion of our global cloud platform.

Operating Expenses

Sales and Marketing

	Six Months Ended June 30,		Change	
	2018	2019		$%
	(dollars in thousands)			
Sales and marketing	$41,744	$66,653	$24,909	60%

Sales and marketing expenses increased by $24.9 million, or 60%, for the six months ended June 30, 2019 compared to the six months ended June 30, 2018. The increase was primarily driven by $14.7 million in increased employee-related costs due to a 57% increase in headcount in our sales and marketing organization from June 30, 2018 to June 30, 2019, including an increase of $2.6 million in sales commissions expense including the amortization of contract acquisition costs. The remainder of the increase was due primarily to increased expenses of $4.6 million in marketing programs due to investments in brand awareness advertising, third-party industry events, and digital performance marketing, aimed at driving overall revenue growth, $4.3 million related to increased travel-related costs, allocated overhead costs, and third-party technology services, and an increase of $1.5 million in co-location and bandwidth expenses for free customers.

Research and Development

	Six Months Ended June 30,		Change	
	2018	2019		$%
	(dollars in thousands)			
Research and development	$24,286	$36,517	$12,231	50%

Research and development expenses increased by $12.2 million, or 50%, for the six months ended June 30, 2019 compared to the six months ended June 30, 2018. The increase was primarily driven by $12.4 million in increased employee-related costs due to a 45% increase in headcount in our research and development organization from June 30, 2018 to June 30, 2019, $1.8 million of increased allocated overhead costs primarily related to rent and office-related expenses due to expansion of office space, and $1.3 million of increased travel-related costs and consulting expenses. These increases were partially offset by decreased expenses of $3.9 million as a result of increased capitalized internal-use software development costs.

General and Administrative

	Six Months Ended June 30,		Change	
	2018	2019		$%
	(dollars in thousands)			
General and administrative	$33,041	$33,707	$666	2%

General and administrative expenses increased by $0.7 million, or 2%, for the six months ended June 30, 2019 compared to the six months ended June 30, 2018. The increase was primarily driven by $4.6 million in increased employee-related costs. The increase in employee-related costs was driven by a 56% increase in headcount in our general and administrative organization from June 30, 2018 to June 30, 2019 as we prepared to operate as a public company. The remainder of the increase was primarily due to an increase of $1.9 million of increased travel and company-wide event costs, $1.4 million of increased depreciation expense, and $1.0 million of increased third-party technology services costs. These increases were partially offset by $5.4 million of decreased professional fees for third-party accounting, consulting, and legal services, $2.5 million of decreased allocated overhead costs, and $0.5 million of decreased bad debt expense.

Non-Operating Income (Expense)

Interest Income

	Six Months Ended June 30,		Change	
	2018	2019		$%
	(dollars in thousands)			
Interest income	$460	$1,743	$1,283	279%

Interest income increased by $1.3 million, or 279%, for the six months ended June 30, 2019 compared to the six months ended June 30, 2018. The increase was primarily driven by a higher invested balance in cash and cash equivalents and marketable securities.

Interest Expense

	Six Months Ended June 30,		Change	
	2018	2019		$%
	(dollars in thousands)			
Interest expense	$(475)	$(563)	$(88)	19%

Interest expense did not significantly fluctuate during the six months ended June 30, 2019 as compared to the six months ended June 30, 2018.

Other Income (Expense), Net

	Six Months Ended June 30,		Change	
	2018	2019		$%
	(dollars in thousands)			
Other income (expense), net	$(663)	$(379)	$(284)	(43%)

Other income (expense), net decreased by $0.3 million, or 43%, for the six months ended June 30, 2019 compared to the six months ended June 30, 2018. The decrease was primarily driven by an increase of $0.3 million in rental income from sublease activities and $0.3 million in decreased foreign currency transaction gains and losses. This decrease was partially offset by increased expense of $0.3 million as a result of the increased fair value of our redeemable convertible preferred stock warrant liability.

Provision for Income Taxes

	Six Months Ended June 30,		Change	
	2018	2019	$	%
	(dollars in thousands)			
Provision for income taxes	$472	$703	$231	49%

The provision for income taxes increased by $0.2 million, or 49%, for the six months ended June 30, 2019 compared to the six months ended June 30, 2018. The increase was primarily driven by changes in our jurisdictional mix of earnings.

Comparison of the Years Ended December 31, 2017 and 2018

Revenue

	Year Ended December 31,		Change	
	2017	2018	$	%
	(dollars in thousands)			
Revenue	$134,915	$192,674	$57,759	43%

Revenue increased by $57.8 million, or 43%, for the year ended December 31, 2018 compared to the year ended December 31, 2017. Of this increase, 42% was due to increased sales to existing customers, and the remaining increase was due to sales to new customers.

Cost of Revenue and Gross Margin

	Year Ended December 31,		Change	
	2017	2018	$	%
	(dollars in thousands)			
Cost of revenue	$28,788	$43,537	$14,749	51%
Gross margin	79%	77%		

Cost of revenue increased by $14.7 million, or 51%, for the year ended December 31, 2018 compared to the year ended December 31, 2017. The increase in cost of revenue was primarily due to an increase of $6.4 million in expenses related to operating in co-location facilities and network and bandwidth costs for operating our global cloud platform for our expanded customer base as well as increased capacity to support our growth, and an increase of $2.5 million in depreciation expense related to purchases of equipment located in co-location facilities. The remainder of the increase was primarily attributable to an increase of $2.3 million related to the amortization of capitalized internal-use software costs, an increase of $1.9 million in employee-related costs due to a 60% increase in headcount in our customer support and technical operations organizations, and an increase of $1.1 million related to third-party technology services and payment processing fees.

Gross margin decreased from 79% during the year ended December 31, 2017 to 77% during the year ended December 31, 2018. The decrease in gross margin was driven by higher network and bandwidth costs and expenses related to operating in additional co-location facilities, as we invested in additional co-location facilities and additional equipment within existing co-location facilities to support our global cloud platform. Our gross margin may fluctuate or decline in the near-term as we seek further expansion of our global cloud platform.

Operating Expenses

Sales and Marketing

	Year Ended December 31,		Change	
	2017	2018	$	%
	(dollars in thousands)			
Sales and marketing	$61,899	$94,394	$32,495	52%

Sales and marketing expenses increased by $32.5 million, or 52%, for the year ended December 31, 2018 compared to the year ended December 31, 2017. The increase was primarily driven by $24.6 million in increased employee-related costs due to a 61% increase in headcount in our sales and marketing organization from December 31, 2017 to December 31, 2018, including an increase of $5.4 million in sales commissions expense including the amortization of contract acquisition costs. The remainder of the increase was due primarily to increased costs of marketing programs of $4.6 million due to investments in brand awareness advertising, third-party industry events, and digital performance marketing, aimed at driving overall revenue growth, increased expenses of $3.1 million related to co-location and bandwidth expenses for free customers due to an increase in free customers, $2.2 million of increased allocated overhead costs primarily related to rent and office-related expenses due to expansion of office space, increased expenses of $2.1 million related to

third-party technology services, consulting services, and company-wide event costs, and $1.9 million of increased travel-related costs. These increases were partially offset by decreased expenses of $6.3 million as a result of decreased certificate authority services costs for free customers due to re-negotiating rates with vendors.

Research and Development

	Year Ended December 31,		Change	
	2017	2018		$%
	(dollars in thousands)			
Research and development	$33,650	$54,463	$20,813	62%

Research and development expenses increased by $20.8 million, or 62%, for the year ended December 31, 2018 compared to the year ended December 31, 2017. The increase was primarily driven by $20.9 million in increased employee-related costs due to a 58% increase in headcount in our research and development organization from December 31, 2017 to December 31, 2018, $2.9 million of increased allocated overhead costs primarily related to rent and office-related expenses due to expansion of office space, $1.0 million of increased travel-related costs, and $1.0 million of increased third-party services and technology costs. These increases were partially offset by decreased expenses of $5.4 million as a result of increased capitalized internal-use software development costs.

General and Administrative

	Year Ended December 31,		Change	
	2017	2018		$%
	(dollars in thousands)			
General and administrative	$20,308	$85,179	$64,871	319%

General and administrative expenses increased by $64.9 million, or 319%, for the year ended December 31, 2018 compared to the year ended December 31, 2017. The increase was primarily driven by $32.1 million in increased employee-related costs, inclusive of an increase of $23.3 million in non-cash stock-based compensation expense related to the secondary stock sales during the year ended December 31, 2018 described in Note 14 to our consolidated financial statements included elsewhere in this prospectus. The increase in employee-related costs was also driven by a 63% increase in headcount in our general and administrative organization from December 31, 2017 to December 31, 2018 as we prepared to operate as a public company. The remainder of the increase was primarily due to an increase of $22.8 million of professional fees for third-party accounting, consulting, and legal services as we invested in preparing to be a public company, $8.0 million of professional fees for information technology as we scaled our systems to operate as a public company, $1.9 million of increased recruiting, travel, and company-wide event costs, $1.1 million of bad debt expense, $1.0 million of increased third-party technology services costs, and $0.8 million of increased depreciation expense. These increases were partially offset by $3.0 million of decreased allocated overhead costs.

Non-Operating Income (Expense)

Interest Income

	Year Ended December 31,		Change	
	2017	2018		$%
	(dollars in thousands)			
Interest income	$762	$1,895	$1,133	149%

Interest income increased by $1.1 million, or 149%, for the year ended December 31, 2018 compared to the year ended December 31, 2017. The increase was primarily driven by a higher invested balance in cash and cash equivalents and marketable securities.

Interest Expense

	Year Ended December 31,		Change	
	2017	2018		$%
	(dollars in thousands)			
Interest expense	$(862)	$(992)	$(130)	15%

Interest expense did not significantly fluctuate during the year ended December 31, 2018 as compared to the year ended December 31, 2017.

Other Income (Expense), Net

	Year Ended December 31,		Change	
	2017	2018		$%
	(dollars in thousands)			
Other income (expense), net	$115	$(2,091)	$(2,206)	*

* not meaningful

Other income (expense), net decreased by $2.2 million, for the year ended December 31, 2018 compared to the year ended December 31, 2017. The decrease was primarily driven by increased expense of $1.2 million as a result of the increased fair value of our redeemable convertible preferred stock warrant liability. The remainder of the decrease was primarily driven by fluctuations in foreign currency transaction gains and losses.

Provision for Income Taxes

	Year Ended December 31,		Change	
	2017	2018		$%
	(dollars in thousands)			
Provision for income taxes	$1,033	$1,077	$44	4%

Provision for income taxes did not significantly fluctuate during the year ended December 31, 2018 as compared to the year ended December 31, 2017.

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (the Tax Act) was enacted. The Tax Act contains several key tax provisions that affect us, including, but not limited to, reducing the U.S. federal corporate tax rate from 34% to 21% for tax years beginning after December 31, 2017, imposing a one-time repatriation tax on deemed repatriated earnings and changing rules related to uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017. We have reflected the impact of the Tax Act in our consolidated financial statements in accordance with our understanding of the Tax Act and guidance available as of the date of this prospectus. The primary effect of the Tax Act on our financial results was a reduction of our deferred tax assets resulting from the reduction in the U.S. federal corporate income tax rate. Because we have established a full valuation allowance against our U.S. deferred tax assets the remeasurement of the deferred tax assets and related valuation allowance did not have a material impact on our consolidated financial statements. Refer to Note 12 to our consolidated financial statements included elsewhere in this prospectus for further information regarding income taxes.

While we believe our current valuation allowance is sufficient, we assess the need for an adjustment to the valuation allowance on a quarterly basis. The assessment is based on our estimates of future sources of taxable income for the jurisdictions in which we operate and the periods over which our deferred tax assets will be realizable. In the event we determine that we will be able to realize all or part of our net deferred tax assets in the future, the valuation allowance will be reversed in the period in which we make such determination. The release of a valuation allowance against deferred tax assets may cause greater volatility in the effective tax rate in the periods in which it is reversed.

Comparison of the Years Ended December 31, 2016 and 2017

Revenue

	Year Ended December 31,		Change	
	2016	2017		$%
	(dollars in thousands)			
Revenue	$84,791	$134,915	$50,124	59%

Revenue increased by $50.1 million, or 59%, for the year ended December 31, 2017 compared to the year ended December 31, 2016. Of this increase, 45% was due to increased sales to existing customers, and the remaining increase was due to sales to new customers.

Cost of Revenue and Gross Margin

	Year Ended December 31,		Change	
	2016	2017		$%
	(dollars in thousands)			
Cost of revenue	$23,962	$28,788	$4,826	20%
Gross margin	72%	79%		

Cost of revenue increased by $4.8 million, or 20%, for the year ended December 31, 2017 compared to the year ended December 31, 2016. The increase in cost of revenue was primarily due to an increase of $1.1 million in expenses related to operating in co-location facilities and network and bandwidth costs for operating our global cloud platform for our expanded customer base as well as increased capacity to support our growth, and an increase of $1.5 million in depreciation expense related to purchases of equipment located in co-location facilities. The remainder of the increase was primarily attributable to an increase of $0.8 million related to the amortization of capitalized internal-use software costs, an increase of $0.7 million in employee-related costs due to a 24% increase in headcount in our customer support and technical operations organizations, an increase of $0.4 million related to the amortization of acquired developed technology, and an increase of $0.3 million related to third-party technology services and payment processing fees.

Gross margin increased from 72% during the year ended December 31, 2016 to 79% during the year ended December 31, 2017. The increase in gross margin was driven by an increase in revenue as our customers expanded their use of our global cloud platform, as well as decreased costs of our technology and infrastructure.

Operating Expenses

Sales and Marketing

	Year Ended December 31,		Change	
	2016	2017		$%
	(dollars in thousands)			

Sales and marketing	$40,122	$61,899	$21,777	54%

Sales and marketing expenses increased by $21.8 million, or 54%, for the year ended December 31, 2017 compared to the year ended December 31, 2016. The increase was primarily driven by $14.2 million in increased employee-related costs due to a 58% increase in headcount in our sales and marketing organization from December 31, 2016 to December 31, 2017, including an increase of $2.5 million in sales commissions expense including the amortization of contract acquisition costs. The remainder of the increase was due primarily to increased costs of marketing programs of $3.9 million due to our commencement of digital performance marketing to drive growth and brand awareness advertising, increased expenses of $2.2 million related to increased certificate authority services costs for free customers, travel-related costs, and allocated overhead costs, and increased expenses of $1.3 million related to co-location and bandwidth expenses for free customers due to an increase in free customers.

Research and Development

	Year Ended December 31,		Change	
	2016	2017		$%
	(dollars in thousands)			
Research and development	$23,663	$33,650	$9,987	42%

Research and development expenses increased by $10.0 million, or 42%, for the year ended December 31, 2017 compared to the year ended December 31, 2016. The increase was primarily driven by $10.9 million in increased employee-related costs due to a 36% increase in headcount in our research and development organization from December 31, 2016 to December 31, 2017 and increased third-party technology services costs of $0.3 million. These increases were partially offset by decreased expenses of $1.1 million as a result of increased capitalized internal-use software development costs.

General and Administrative

	Year Ended December 31,		Change	
	2016	2017		$%
	(dollars in thousands)			
General and administrative	$14,073	$20,308	$6,235	44%

General and administrative expenses increased by $6.2 million, or 44%, for the year ended December 31, 2017 compared to the year ended December 31, 2016. The increase was primarily driven by $5.2 million in increased employee-related costs due to a 71% increase in headcount in our general and administrative organization from December 31, 2016 to December 31, 2017. The expense increases were partially offset by $3.0 million of decreased stock-based compensation expense related to the secondary stock sale during the year ended December 31, 2016 described in Note 14 to our consolidated financial statements included elsewhere in this prospectus. The remainder of the increase was primarily due to $1.7 million of professional fees for third-party accounting, consulting, and legal services, $1.3 million of third-party technology services costs, travel, company-wide event costs, and other expenses, and $0.7 million of increased allocated overhead costs primarily related to rent and office-related expenses due to expansion of office space.

Non-Operating Income (Expense)

Interest Income

	Year Ended December 31,		Change	
	2016	2017		$%
	(dollars in thousands)			
Interest income	$626	$762	$136	22%

Interest income did not significantly fluctuate during the year ended December 31, 2017 as compared to the year ended December 31, 2016.

Interest Expense

	Year Ended December 31,		Change	
	2016	2017		$%
	(dollars in thousands)			
Interest expense	$(654)	$(862)	$(208)	32%

Interest expense increased by $0.2 million, or 32%, for the year ended December 31, 2017 compared to the year ended December 31, 2016. The increase was primarily driven by an increase of interest expense from the build-to-lease financing obligation.

Other Income (Expense), Net

	Year Ended December 31,		Change	
	2016	2017		$%
	(dollars in thousands)			
Other income (expense), net	$(208)	$115	$323	155%

Other income (expense), net increased by $0.3 million, or 155%, for the year ended December 31, 2017 compared to the year ended December 31, 2016. The increase was primarily driven by fluctuations in foreign currency transaction gains and losses.

Provision for Income Taxes

	Year Ended December 31,		Change	
	2016	2017	$	%
	(dollars in thousands)			
Provision for income taxes	$69	$1,033	$964	*

* not meaningful

Our provision for income taxes increased by $1.0 million for the year ended December 31, 2017 compared to the year ended December 31, 2016. The increase was primarily driven by income taxes in foreign tax jurisdictions due to income from foreign operations.

Quarterly Results of Operations

The following tables set forth our unaudited quarterly statements of operations data for each of the quarters indicated, as well as the percentage that each line item represents of our revenue for each quarter presented. The unaudited quarterly statements of operations data set forth below have been prepared on the same basis as our audited consolidated financial statements, and in the opinion of management, include all adjustments, which consist only of normal recurring adjustments, that are necessary for the fair statement of such data. Our historical results are not necessarily indicative of our future results, and the results for any quarter are not necessarily indicative of the results to be expected for a full year or any other period. The following quarterly financial data should be read in conjunction with our consolidated financial statements and related notes thereto included elsewhere in this prospectus.

	Three Months Ended									
	March 31, 2017	June 30, 2017	September 30, 2017	December 31, 2017	March 31, 2018	June 30, 2018	September 30, 2018	December 31, 2018	March 31, 2019	Ju 20
	(in thousands)									
Revenue	$25,036	$28,804	$42,405	$38,670	$41,824	$45,281	$50,070	$55,499	$61,727	
Cost of revenue[(1)]	6,301	6,788	7,252	8,447	9,007	10,365	11,209	12,956	14,360	
Gross profit	18,735	22,016	35,153	30,223	32,817	34,916	38,861	42,543	47,367	
Operating expenses:										
Sales and marketing[(1)]	12,958	14,866	16,620	17,455	18,895	22,849	24,462	28,188	30,817	
Research and development[(1)]	7,472	8,326	8,380	9,472	11,263	13,023	14,827	15,350	17,649	
General and administrative[(1)]	3,679	4,233	5,184	7,212	13,512	19,529	36,040	16,098	16,048	
Total operating expenses	24,109	27,425	30,184	34,139	43,670	55,401	75,329	59,636	64,514	
Income (loss) from operations	(5,374)	(5,409)	4,969	(3,916)	(10,853)	(20,485)	(36,468)	(17,093)	(17,147)	
Non-operating income (expense):										
Interest income	166	174	214	208	234	226	387	1,048	913	
Interest expense	(181)	(224)	(226)	(231)	(232)	(243)	(251)	(266)	(273)	
Other income (expense), net	48	45	(22)	44	(446)	(217)	(1,240)	(188)	(293)	
Total non-operating income (expense), net	33	(5)	(34)	21	(444)	(234)	(1,104)	594	347	
Income (loss) before income taxes	(5,341)	(5,414)	4,935	(3,895)	(11,297)	(20,719)	(37,572)	(16,499)	(16,800)	
Provision for (benefit from) income taxes	569	577	(537)	424	171	301	417	188	314	
Net income (loss)	$(5,910)	$(5,991)	$5,472	$(4,319)	$(11,468)	$(21,020)	$(37,989)	$(16,687)	$(17,114)	

(1) Includes stock-based compensation expense as follows:

	Three Months Ended									
	March 31, 2017	June 30, 2017	September 30, 2017	December 31, 2017	March 31, 2018	June 30, 2018	September 30, 2018	December 31, 2018	March 31, 2019	June 30, 2019

	(in thousands)									
Cost of revenue	$12	$11	$11	$13	$17	$33	$37	$32	$32	$34
Sales and marketing	118	118	125	127	154	234	290	301	279	275
Research and development	242	262	225	240	239	378	461	454	417	406
General and administrative	263	256	362	370	379	415	23,648	275	329	329
Total stock-based compensation expense	$635	$647	$723	$750	$789	$1,060	$24,436	$1,062	$1,057	$1,044

Percentage of Revenue Data:

	Three Months Ended									
	March 31, 2017	June 30, 2017	September 30, 2017	December 31, 2017	March 31, 2018	June 30, 2018	September 30, 2018	December 31, 2018	March 31, 2019	June 30, 2019
Revenue	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Cost of revenue	25	24	17	22	22	23	22	23	23	22
Gross profit	75	76	83	78	78	77	78	77	77	78
Operating expenses:										
Sales and marketing	51	51	39	45	45	50	49	51	50	53
Research and development	30	29	20	24	27	29	30	28	29	28
General and administrative	15	15	12	19	32	43	72	29	26	26
Total operating expenses	96	95	71	88	104	122	151	108	105	107
Income (loss) from operations	(21)	(19)	12	(10)	(26)	(45)	(73)	(31)	(28)	(29)
Non-operating income (expense):										
Interest income	1	1	1	1	1	—	1	1	1	1
Interest expense	(1)	(1)	(1)	(1)	(1)	(1)	(1)	—	—	—
Other income (expense), net	—	—	—	—	(1)	—	(2)	—	—	—
Total non-operating income (expense), net	—	—	—	—	(1)	(1)	(2)	1	1	1
Income (loss) before income taxes	(21)	(19)	12	(10)	(27)	(46)	(75)	(30)	(27)	(28)
Provision for (benefit from) income taxes	2	2	(1)	1	—	—	1	—	1	1
Net income (loss)	(23%)	(21%)	13%	(11%)	(27%)	(46%)	(76%)	(30%)	(28%)	(29%)

Quarterly Revenue Trends

Our quarterly revenue generally increased sequentially in each of the quarters presented due primarily to increases in sales to new customers as well as increases in sales to existing customers. The sequential increase in revenue in the three months ended September 30, 2017 and corresponding decrease in revenue in the three months ended December 31, 2017 was due to the timing of the renewal of our strategic agreement with Baidu.

Quarterly Cost of Revenue Trends

Cost of revenue increased sequentially in each of the quarters presented, consistent with the growth in revenue and primarily driven by expenses related to operating in co-location facilities, network and bandwidth costs, and related overhead costs for operating our global cloud platform to support the expanded adoption of our global cloud platform by existing and new customers.

Quarterly Gross Profit Trends

The overall increase in gross profit during the quarters presented was primarily due to increases in revenue, and was due in part to the increased efficiency of our network infrastructure and co-location facilities. The sequential increase in gross profit in the three months ended September 30, 2017 and corresponding decrease in gross profit in the three months ended December 31, 2017 was primarily due to the increase in revenue in the three months ended September 30, 2017, as described above.

Quarterly Operating Expense Trends

Operating expenses generally have increased sequentially in every quarter presented primarily due to increases in headcount and other related expenses to support our growth. Sales and marketing expenses increased as we expanded our sales team to acquire new customers, and we intend to continue to make significant investments in our sales and marketing organization. We also intend to invest in research and development efforts to add new features and enhance the functionality of our existing global cloud platform, and to ensure the security, performance, and reliability of our global cloud platform. The increase in general and administrative expenses during the three months ended September 30, 2018 in absolute dollars and as a percentage of revenue is primarily due to a $23.3 million increase in stock-based compensation expense related to the secondary stock sale described in Note 14 to our consolidated financial statements included elsewhere in this prospectus. General and administrative expenses increased in recent quarters due to costs related to preparing to be a public company.

Liquidity and Capital Resources

Since our inception, we have financed our operations primarily through net proceeds from the sale of our equity securities as well as payments received from customers using our global cloud platform. As of June 30, 2019, we had cash and cash equivalents of $42.4 million, including $2.9 million held by our foreign subsidiaries. We do not expect to incur material taxes in the event we repatriate any of these amounts. Our cash and cash equivalents primarily consist of highly liquid money market funds, commercial paper, and corporate bonds. We also had marketable securities of $82.3 million consisting of U.S. treasury securities, U.S. government agency securities, commercial paper, and corporate bonds. We have generated significant operating losses from our operations as reflected in our accumulated deficit of $232.7 million as of June 30, 2019 and negative cash flows from operations. We expect to continue to incur operating losses and generate negative cash flows from operations for the foreseeable future due to the investments we intend to make in our business as described above, and as a result we may require additional capital resources to execute on our strategic initiatives to grow our business.

We believe that our existing cash, cash equivalents, and marketable securities will be sufficient to meet our working capital and capital expenditure needs for at least the next 12 months. Our assessment of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement and involves risks and uncertainties. Our actual results could vary as a result of, and our near- and long-term future capital requirements will depend on, many factors, including our growth rate, subscription renewal activity, the timing and extent of spending to support our infrastructure and research and development efforts, the expansion of sales and marketing activities, the timing of new introductions of products or features, and the continuing market adoption of our global cloud platform. We may in the future enter into arrangements to acquire or invest in complementary businesses, services and technologies, including intellectual property rights, although we currently have no agreements or commitments to complete any such transactions. We have based our estimates on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. We may be required to seek additional equity or debt financing. In the event that additional financing is required from outside sources, we may not be able to raise it on terms acceptable to us or at all. If we are unable to raise additional capital when desired, or if we cannot expand our operations or otherwise capitalize on our business opportunities because we lack sufficient capital, our business, operating results, and financial condition would be adversely affected.

In July 2015 and November 2015, we entered into three separate Installment Purchase Agreements (IPA) totaling $1.7 million for computer equipment and maintenance with one of our suppliers. The agreements are collateralized by the equipment purchased from the supplier and bear interest ranging from 2.9% to 5.0%. We had an aggregate of $0.3 million outstanding in principal and interest under the IPA note payable as of December 31, 2018 and $0.1 million as of June 30, 2019, due in 2019.

The following table summarizes our cash flows for the periods presented:

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
	(in thousands)				
Net cash provided by (used in) operating activities	$(13,318)	$3,167	$(43,281)	$(17,099)	$(12,557)
Net cash provided by (used in) investing activities	$(15,256)	$9,544	$(120,795)	$15,604	$27,847
Net cash provided by (used in) financing activities	$418	$(149)	$168,621	$3,163	$ 2,049

Operating Activities

Net cash used in operating activities during the six months ended June 30, 2019 was $12.6 million, which resulted from a net loss of $36.8 million, adjusted for non-cash charges of $20.1 million and net cash inflow of $4.1 million from changes in operating assets and liabilities. Non-cash charges primarily consisted of $13.2 million for depreciation and amortization expense, $4.9 million for amortization of deferred contract acquisition costs, and $2.1 million for stock-based compensation expense. The net cash inflow from changes in operating assets and liabilities was primarily the result of a $10.7 million increase in deferred revenue, and an $8.9 million increase in accounts payable, accrued expenses, and other liabilities, partially offset by an $8.4 million increase in deferred contract acquisition costs due to increased sales commissions from the addition of new customers, a $5.2 million increase in accounts receivable, net, which increased due to our growing customer base and timing of collections from our customers, and a $1.7 million increase in prepaid expenses and other assets.

Net cash used in operating activities during the six months ended June 30, 2018 was $17.1 million, which resulted from a net loss of $32.5 million, adjusted for non-cash charges of $14.3 million and net cash inflow of $1.1 million from changes in operating assets and liabilities. Non-cash charges primarily consisted of $8.3 million for depreciation and amortization expense, $3.1 million for amortization of deferred contract acquisition costs, and $1.8 million for stock-based compensation expense. The net cash inflow from changes in operating assets and liabilities was primarily the result of a $13.5 million increase in accounts payable, accrued expenses, and other liabilities, a $6.1 million increase in deferred revenue, and a $2.6 million decrease in contract

assets due to timing of invoicing, offset by a $13.9 million increase in accounts receivable, net, which increased due to our growing customer base and timing of collections from our customers, a $5.4 million increase in deferred contract acquisition costs due to increased sales commissions due to the addition of new customers, and a $1.9 million increase in prepaid expenses and other assets.

Net cash used in operating activities during the year ended December 31, 2018 was $43.3 million, which resulted from a net loss of $87.2 million, adjusted for non-cash charges of $55.5 million and net cash outflow of $11.6 million from changes in operating assets and liabilities. Non-cash charges primarily consisted of $27.3 million for stock-based compensation expense, $18.9 million for depreciation and amortization expense, and $7.1 million for amortization of deferred contract acquisition costs. The net cash outflow from changes in operating assets and liabilities was primarily the result of a $14.8 million increase in accounts receivable, net which increased due to our growing customer base and timing of collections from our customers, a $12.2 million increase in deferred contract acquisition costs due to increased sales commissions due to the addition of new customers, a $6.3 million increase in prepaid expenses and other assets, partially offset by an $14.6 million increase in accounts payable, accrued expenses, and other liabilities, a $4.9 million increase in deferred revenue, and a $2.2 million decrease in contract assets due to timing of invoicing.

Net cash provided by operating activities during the year ended December 31, 2017 was $3.2 million, which resulted from a net loss of $10.7 million, adjusted for non-cash charges of $19.1 million and net cash outflow of $5.2 million from changes in operating assets and liabilities. Non-cash charges primarily consisted of $12.2 million for depreciation and amortization expense, $4.0 million for amortization of deferred contract acquisition costs, and $2.8 million for stock-based compensation expense. The net cash outflow from changes in operating assets and liabilities was primarily the result of a $9.0 million increase in deferred contract acquisition costs due to increased sales commissions due to the addition of new customers and the expansion of existing customers, a $3.1 million increase in contract assets due to timing of invoicing, and a $2.1 million increase in accounts receivable, net due to our growing customer base and timing of collections from our customers, partially offset by a $5.5 million increase in deferred revenue and a $4.7 million increase in accrued expenses and other liabilities due to growth in our business and higher headcount.

Net cash used in operating activities during the year ended December 31, 2016 was $13.3 million, which resulted from a net loss of $17.3 million, adjusted for non-cash charges of $15.8 million and net cash outflow of $11.8 million from changes in operating assets and liabilities. Non-cash charges primarily consisted of $8.4 million for depreciation and amortization expense, $5.7 million for stock-based compensation expense and $1.6 million for amortization of deferred contract acquisition costs. The net cash outflow from changes in operating assets and liabilities was primarily the result of a $6.7 million increase in accounts receivable, net due to increased billings from our growing customer base, a $5.0 million increase in deferred contract acquisition costs, and a $3.0 million decrease in deferred revenue from timing of invoicing in accordance with our subscription contracts, partially offset by a net $4.6 million increase in accounts payable, accrued expenses, and other liabilities due to timing of payments.

Investing Activities

Net cash provided by investing activities during the six months ended June 30, 2019 of $27.8 million resulted primarily from proceeds from the sales and maturities of marketable securities of $99.4 million. This was offset by the purchases of marketable securities of $45.1 million, capital expenditures of $19.0 million, and the capitalization of internal-use software development costs of $7.5 million.

Net cash provided by investing activities during the six months ended June 30, 2018 of $15.6 million resulted primarily from proceeds from maturities of marketable securities of $30.7 million. This was offset by capital expenditures of $6.3 million, purchases of marketable securities of $5.2 million, and the capitalization of internal-use software development costs of $3.6 million.

Net cash used in investing activities during the year ended December 31, 2018 of $120.8 million resulted primarily from the purchase of marketable securities of $145.3 million, capital expenditures of $25.5 million, and the capitalization of internal-use software development costs of $9.4 million. These activities were partially offset by proceeds from maturities of marketable securities of $59.2 million.

Net cash provided by investing activities during the year ended December 31, 2017 of $9.5 million resulted primarily from proceeds from maturities of marketable securities of $79.8 million. This was partially offset by capital expenditures of $19.0 million, the capitalization of internal-use software development costs of $3.9 million, and purchases of marketable securities of $47.1 million.

Net cash used in investing activities during the year ended December 31, 2016 of $15.3 million resulted primarily from the purchase of marketable securities of $74.9 million, capital expenditures of $15.9 million, the capitalization of internal-use software development costs of $2.7 million, and cash paid for an acquisition, net of cash acquired, of $1.4 million. These activities were offset by proceeds from the sales and maturities of marketable securities of $79.6 million.

Financing Activities

Net cash provided by financing activities of $2.0 million during the six months ended June 30, 2019 was primarily due to $3.2 million of proceeds from the exercise of vested and unvested stock options, offset by $1.0 million of payments of deferred offering costs and $0.2 million of payments on the IPA note payable.

Net cash provided by financing activities of $3.2 million during the six months ended June 30, 2018 was primarily due to $3.3 million of proceeds from the exercise of vested and unvested stock options, partially offset by $0.2 million of payments on the IPA note payable.

Net cash provided by financing activities of $168.6 million during the year ended December 31, 2018 was primarily due to $150.0 million of proceeds from the issuance of Series D redeemable convertible preferred stock and $18.9 million of proceeds from the exercise of vested and unvested stock options.

Net cash used in financing activities of $0.1 million during the year ended December 31, 2017 was primarily due to $2.2 million of proceeds from the build-to-suit lease financing obligation drawdown and $2.8 million of proceeds from the exercise of vested and unvested stock options, partially offset by the use of $4.8 million to repay the related party promissory note payable.

Net cash provided by financing activities of $0.4 million during the year ended December 31, 2016 was primarily due to $0.9 million of proceeds from the exercise of vested and unvested stock options, offset by $0.5 million of payments on the IPA note payable.

Contractual Obligations and Commitments

The following table summarizes our contractual obligations as of December 31, 2018:

	Payments Due By Period				
	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
	(in thousands)				
Non-cancelable:					
Open purchase agreements[1]	$11,890	$1,051	$2,394	$2,778	$5,667
Bandwidth and co-location commitments[2]	40,280	22,664	16,169	1,447	—
Operating lease obligations[3]	53,096	9,067	18,672	11,689	13,668
Other commitments[4]	259	259	—	—	—
Total	$105,525	$33,041	$37,235	$15,914	$19,335

(1) Open purchase commitments are for the purchase of services under non-cancelable contracts. They were not recorded as liabilities on the consolidated balance sheet as of December 31, 2018 as we had not yet received the related services.

(2) Long-term commitments for bandwidth usage and co-location with various networks and Internet service providers. The costs for services not yet received were not recorded as liabilities on the consolidated balance sheet as of December 31, 2018.

(3) Office space and equipment under non-cancelable operating leases. Primarily due to our headquarters in San Francisco, California and for our offices in Austin, Texas; San Jose, California; London, United Kingdom; and Singapore. Total payments listed represent total minimum future lease payments.

(4) Consists of IPA note payable and amount includes accrued interest at the contractual rate.

The following table summarizes our contractual obligations as of June 30, 2019:

	Payments Due By Period				
	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
	(in thousands)				
Non-cancelable:					
Open purchase agreements[1]	$12,399	$ 502	$ 3,399	$ 2,831	$ 5,667
Bandwidth and co-location commitments[2]	38,893	11,620	23,746	3,159	368
Operating lease obligations[3]	51,844	5,190	21,120	11,866	13,668
Other commitments[4]	75	75	—	—	—
Total	$103,211	$17,387	$48,265	$17,856	$19,703

(1) Open purchase commitments are for the purchase of services under non-cancelable contracts. They were not recorded as liabilities on the consolidated balance sheet as of June 30, 2019 as we had not yet received the related services.

(2) Long-term commitments for bandwidth usage and co-location with various networks and Internet service providers. The costs for services not yet received were not recorded as liabilities on the consolidated balance sheet as of June 30, 2019.

(3) Office space and equipment under non-cancelable operating leases. Primarily due to our headquarters in San Francisco, California and for our offices in Austin, Texas; San Jose, California; London, United Kingdom; and Singapore. Total payments listed represent total minimum future lease payments.

(4) Consists of IPA note payable and amount includes accrued interest at the contractual rate.

The contractual commitment amounts in the tables above are associated with agreements that are enforceable and legally binding. Obligations under contracts that we can cancel without a significant penalty are not included in the tables above. Purchase orders issued in the ordinary course of business are not included in the tables above, as our purchase orders represent authorizations to purchase rather than binding agreements.

In addition to the contractual obligations set forth above, as of both December 31, 2018 and June 30, 2019, we had $6.4 million in letters of credit outstanding in favor of certain landlords for office space. These letters of credit renew annually and expire on various dates through 2028.

For additional discussion on our leases and other commitments, refer to Note 7 to our consolidated financial statements included elsewhere in this prospectus.

Off-Balance Sheet Arrangements

As of June 30, 2019, we did not have any relationships with unconsolidated organizations or financial partnerships, such as structured finance or special purpose entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Quantitative and Qualitative Disclosures about Market Risk

We have operations in the United States and internationally, and we are exposed to market risk in the ordinary course of our business.

Interest Rate Risk

As of June 30, 2019, we had cash and cash equivalents of $42.4 million and marketable securities of $82.3 million. The carrying amount of our cash equivalents approximates fair value, due to the short maturities of these instruments. The primary objectives of our investment activities are the preservation of capital, the fulfillment of liquidity needs and the fiduciary control of cash and investments. Our marketable securities are held for capital preservation purposes. We do not enter into investments for trading or speculative purposes.

Our cash equivalents and our investment portfolio are subject to market risk due to fluctuations in interest rates. Our future investment income may fall short of our expectations due to changes in interest rates or we may suffer losses in principal if we are forced to sell securities that decline in market value due to changes in interest rates. However, because we classify our marketable securities as “available for sale,” no gains or losses are recognized due to changes in interest rates unless such securities are sold prior to maturity or declines in fair value are determined to be other-than-temporary.

We do not believe a hypothetical 10% increase or decrease in interest rates during any of the periods presented would have a material impact on our consolidated financial statements.

Foreign Currency Risk

The functional currency of our foreign subsidiaries is the U.S. dollar and our results of operations and cash flows are subject to fluctuations due to changes in foreign currency exchange rates relative to the U.S. dollar. The majority of our revenue is denominated in U.S. dollars. Our expenses are generally denominated in the currencies of the countries in which our operations are located and are subject to fluctuations due to changes in foreign currency exchange rates, particularly changes in the British Pound and Singapore Dollar. As exchange rates may fluctuate significantly between periods, revenue and operating expenses, when converted into U.S. dollars, may also experience significant fluctuations between periods. During the years ended December 31, 2016, 2017, and 2018, and six months ended June 30, 2018 and 2019, a hypothetical 10% change in foreign currency exchange rates applicable to our business would not have had a material impact on our consolidated financial statements. For the years ended December 31, 2016, 2017, and 2018, we recorded a loss of $0.2 million, a gain of $0.2 million, and a loss of $0.3 million on foreign exchange transactions, respectively, and for the six months ended June 30, 2018 and 2019, losses of $0.3 million and $0.01 million, respectively. To date, we have not had a formal hedging program with respect to foreign currency, but we may do so in the future if our exposure to foreign currency should become more significant.

Critical Accounting Policies, Significant Judgments and Use of Estimates

Our consolidated financial statements are prepared in accordance with U.S. GAAP. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosures. Our estimates are based on historical experience and various other assumptions that we believe to be reasonable under the circumstances, and we evaluate our estimates and assumptions on an ongoing basis. Our actual results could differ from these estimates.

The critical accounting estimates, assumptions, and judgments that we believe have the most significant impact on our consolidated financial statements are described below.

Revenue Recognition

We elected to early adopt Accounting Standards Codification, (ASC) Topic 606, *Revenue From Contracts With Customers*, (ASC 606), effective as of January 1, 2017, retrospectively to the earliest year presented. Under this transition method, we are presenting the consolidated financial statements for the year ended December 31, 2016, as if ASC 606 had been effective for that period.

In accordance with ASC 606, revenue is recognized when a customer obtains control of promised services. The amount of revenue recognized reflects the consideration that we expect to be entitled to receive in exchange for these services. To achieve this standard, we apply the following five steps:

1) Identify the contract with a customer We consider the terms and conditions of the contracts and our customary business practices in identifying our contracts under ASC 606. We determine we have a contract with a customer when the contract is approved, we can identify each party’s rights regarding the services to be transferred, we can identify the payment terms, we have determined that collectibility is probable, and the contract has commercial substance. We apply judgment in determining that collectibility is probable, which is based on a variety of factors, including the customer’s historical payment experience or, in the case of a new customer, credit and financial information relevant to the customer.

2) Identify the performance obligations in the contract Performance obligations promised in a contract are identified based on the services that will be transferred to the customer that are both capable of being distinct, whereby the customer can benefit from the service either on its own or together with other resources that are readily available to us, and are distinct in the context of the contract, whereby the transfer of the services is separately identifiable from other promises in the contract. Our performance obligation primarily consists of subscription and support services, as they are provided over the same service period.

3) Determine the transaction price The transaction price is determined based on the consideration to which we expect to be entitled in exchange for transferring services to the customer. Usage based variable consideration is recognized in the period it is incurred. None of our contracts contain a significant financing component.

4) Allocate the transaction price to performance obligations in the contract The subscription and support services in our contracts are considered a single performance obligation, and thus the entire transaction price is allocated to the single performance obligation.

5) Recognize revenue when or as we satisfy a performance obligation Revenue is recognized at the time the related performance obligation is satisfied by transferring the service to a customer. Revenue is recognized when control of the services is transferred to our customers, in an amount that reflects the consideration that we expect to be entitled to receive in exchange for those services.

We generate sales directly through our sales team and through our channel partners. Revenue from sales to channel partners are recorded once all the revenue recognition criteria above are met. Channel partners generally receive an order from an end-customer prior to placing an order with our Company. Payment from channel partners is not contingent on the partner's collection from end-customers. We have determined that we are acting as an agent in these arrangements and record this revenue on a net basis.

Subscription and Support Revenue

We generate revenue primarily from sales to our customers of subscriptions to access our platform and products, together with related support services. Arrangements with customers generally do not provide the customer with the right to take possession of our software operating our global cloud platform at any time. Instead, customers are granted continuous access to our global cloud platform over the contractual period. Access to our platform and products is considered a monthly series comprising one performance obligation. A time-elapsed output method is used to measure progress because we transfer control evenly over the contractual period. Accordingly, the fixed consideration related to subscription and support revenue is generally recognized on a straight-line basis over the contract term beginning on the date that our service is made available to the customer. Usage-based consideration is primarily related to fees charged for our customer's use of excess bandwidth when accessing our platform in a given period and is recognized as revenue in the period in which the usage occurs.

The typical subscription and support term for our enterprise customers is one year and subscription and support term lengths range from one to three years. Most of our contracts with enterprise customers are non-cancelable over the contractual term. Customers typically have the right to terminate their contracts for cause if we fail to perform in accordance with the contractual terms. For our self-serve customers, subscription and support terms are typically monthly.

Costs to Obtain and Fulfill a Contract

We capitalize sales commission and associated payroll taxes paid to internal sales personnel that are incremental to the acquisition of channel partner and direct customer contracts. These costs are recorded as deferred contract acquisition costs on the consolidated balance sheets. We determine whether costs should be deferred based on our sales compensation plans, if the commissions are in fact incremental and would not have occurred absent the customer contract.

Sales commissions for renewal of a contract are not considered commensurate with the commissions paid for the acquisition of the initial contract. Commissions paid upon the initial acquisition of a contract are amortized over an estimated period of benefit of three years while commissions paid for renewal contracts are amortized over the contractual term of the renewals. Amortization of deferred contract acquisition costs is recognized on a straight-line basis commensurate with the pattern of revenue recognition and included in sales and marketing expense in the consolidated statements of operations. We use judgment to determine the period of benefit for commissions paid for the acquisition of the initial contract by taking into consideration the expected subscription term and expected renewals of our customer contracts, the duration of our relationships with our customers, customer retention data, our technology development lifecycle and other factors. We periodically review the carrying amount of deferred contract acquisition costs to determine whether events or changes in circumstances have occurred that could impact the period of benefit of these deferred costs. We did not recognize any impairment losses of deferred contract acquisition costs during the periods presented.

Stock-based Compensation

We recognize stock-based compensation expense based on the fair value of the awards granted. We estimate the fair value of each stock-based payment award on the grant date using the Black-Scholes option pricing model. Stock-based compensation expense for awards with service-based vesting only is recognized on a straight-line basis over the requisite service period of the awards, which is generally four years. We account for forfeitures as they occur.

The Black-Scholes option pricing model requires the use of highly subjective assumptions. The assumptions used to determine the fair value of the stock-based awards are management's best estimates and involve inherent uncertainties and the application of judgment. If any of the assumptions used in the Black-Scholes option pricing model change significantly, stock-based compensation expense for future awards may differ materially compared with the awards granted previously. These assumptions and estimates are as follows:

- Fair value of common stock—Because our common stock is not yet publicly traded, we must estimate the fair value of common stock, as discussed in "—Common Stock Valuations" below;
- Expected term—The expected term represents the period that our stock-based awards are expected to be outstanding. The expected term assumptions were determined based on the vesting terms, exercise terms and contractual lives of the awards. The expected term was estimated using the simplified method allowed under U.S. GAAP;
- Volatility—We determine the expected volatility based on historical volatilities of similar publicly traded companies corresponding to the expected term of the awards;
- Risk free interest rates—The risk-free interest rate is based on the implied yield currently available on U.S. treasury notes with terms approximately equal to the expected term of the award; and

- Dividend yield—Our expected dividend rate is zero as we currently have no history or expectation of declaring dividends on our common stock.

The following weighted-average assumptions were used for the periods presented:

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
Expected term (in years)	6.1	6.5	6.5	6.7	6.2
Expected volatility	49.2%	45.8%	43.5%	44.2%	40.3%
Risk-free interest rate	1.6%	2.1%	2.9%	2.9%	2.3%
Dividend yield	—	—	—	—	—

We have granted qualified event options (the QE Options) and qualified event RSUs (the QE RSUs) to employees and contractors which vest on the satisfaction of both a service-based condition and a performance condition. For QE Options, the performance condition will be satisfied upon the occurrence of a qualifying event as follows: (i) our equity securities are listed for sale on a public stock exchange, (ii) the closing of a change in control as defined in the 2010 Plan, or (iii) an event occurs that our Board of Directors in its sole discretion deems to be a qualifying event. For QE Options, the service-based condition is satisfied by rendering service from the date of grant through the qualified event, as well as a four year vesting period commencing with the qualified event. For QE RSUs, the performance condition will be satisfied upon the occurrence of a qualifying event as follows: (i) the closing of a change in control as defined in the 2010 Plan, or (ii) the effective date of the registration statement of which this prospectus forms a part. The QE RSUs have a service-based vesting condition typically satisfied over a four year vesting period. Awards which contain both service-based and performance conditions are recognized using the accelerated attribution method once the performance condition is probable of occurring. A change in control event, listing of equity securities event, and effectiveness of a registration statement event are not deemed probable until consummated. Accordingly, no expense is recorded related to these awards until the performance condition becomes probable of occurring. In connection with this offering, we expect to record stock-based compensation expense for the QE Options for the service period rendered from the date of grant through the equity securities listing date and for the QE RSUs that vest in connection with this offering. If this offering had occurred on June 30, 2019, we would have recognized $14.7 million of stock-based compensation expense for the QE Options service period rendered from the date of grant through June 30, 2019 and for the QE RSUs for which the service-based condition was satisfied as of June 30, 2019, and would have had $35.8 million of unrecognized compensation cost, which is expected to be recognized over a weighted-average period of 3.7 years.

Common Stock Valuations

The fair value of our common stock and underlying stock options has historically been determined by our Board of Directors, with assistance from management and contemporaneous third-party valuations. Given the absence of a public trading market for our common stock and in accordance with the American Institute of Certified Public Accountants Practice Aid, Valuation of Privately Held Company Equity Securities Issued as Compensation, our Board of Directors has exercised reasonable judgment and considered numerous objective and subjective factors to determine the best estimate of the fair value of our common stock at each grant date. These factors include:

- contemporaneous third-party valuations of our common stock;
- the prices, rights, preference and privileges of our redeemable convertible preferred stock relative to the common stock;
- the prices of common or redeemable convertible preferred stock sold to third-party investors by us and in secondary transactions or repurchased by us in arms-length transactions;
- our operating and financial performance;
- current business conditions and projections;
- the likelihood of achieving a liquidity event for the shares of common stock underlying these stock options, such as an initial public offering or sale of our company, given prevailing market conditions;
- the lack of marketability of our common stock;
- the market performance of comparable publicly-traded software and technology companies; and
- the U.S. and global economic and capital market conditions and outlook.

Following the closing of our initial public offering, the fair value per share of our common stock for purposes of determining stock-based compensation will be the last available closing price of our Class A common stock as reported on or before the applicable grant date.

In determining the fair value of our common stock, we estimated the enterprise value of our business using the market approach and the income approach. Under the income approach, forecast cash flows are discounted to the present value at a risk-adjusted discount rate. The valuation analyses determine discrete free cash flows over multiple years based on forecast financial information provided by our management and a terminal value for the residual period beyond the discrete forecast, which are discounted at our estimated weighted-average cost of capital to estimate our enterprise value. Under the market

approach, a group of guideline publicly-traded companies with similar financial and operating characteristics as us is selected, and valuation multiples based on the guideline public companies' financial information and market data are calculated. Based on the observed valuation multiples, an appropriate multiple was selected to apply to our historical and forecasted revenue results. The estimated enterprise value is then allocated to the common stock using the Option Pricing Method (OPM), and the Probability Weighted Expected Return Method (PWERM), or the hybrid method. The hybrid method applied the PWERM utilizing the probability of an initial public offering scenario, and the OPM was used in the remaining private scenario.

Prior to July 2017, the equity valuation was based on the market approach and the OPM was selected as the principal equity allocation method. For valuations starting in February 2018, the discounted cash flow model was included in addition to the market approach to value the equity, and a hybrid method was selected to determine the fair value of our common stock. Under the hybrid method, multiple valuation approaches were used to determine the equity value under two scenarios and then combined into a single probability weighted valuation using a PWERM. Our approach for valuations after February 2018 included the use of an initial public offering scenario, and a scenario assuming continued operation as a private entity. In addition, we also considered any recent rounds of financing of our preferred stock and secondary transactions involving our capital stock. In our evaluation of those transactions, we considered the facts and circumstances of each transaction to determine the extent to which they represented a fair value exchange. Factors considered included transaction volume, timing, whether the transactions occurred among willing and unrelated parties, and whether the transactions involved investors with access to our financial information.

Capitalized Internal-Use Software Development Costs

Certain development costs related to our global cloud platform during the application development stage are capitalized. Costs incurred in the preliminary stages of development are analogous to research and development activities and are expensed as incurred. The preliminary stage includes such activities as conceptual formulation of alternatives, evaluation of alternatives, determination of existence of needed technology, and final selection of alternatives. Once the application development stage is reached, internal and external costs are capitalized until the software is substantially complete and ready for its intended use. Capitalized costs are recorded as part of property and equipment, net. Capitalized internal-use software is amortized on a straight-line basis over its estimated useful life, which is generally three years, and is recorded as cost of revenue in the consolidated statements of operations. We exercise judgment in determining the point at which various projects may be capitalized, in assessing the ongoing value of the capitalized costs and in determining the estimated useful lives over which the costs are amortized.

JOBS Act Accounting Election

We meet the definition of an emerging growth company under the JOBS Act, which permits us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. We have elected to use this extended transition period until we are no longer an emerging growth company or until we affirmatively and irrevocably opt out of the extended transition period. As a result, our consolidated financial statements may not be comparable to companies that comply with new or revised accounting pronouncements applicable to public companies.

Recently Issued Accounting Pronouncements

Refer to Note 2 to our consolidated financial statements included elsewhere in this prospectus for more information regarding recently issued accounting pronouncements.

A Letter from Matthew Prince and Michelle Zatlyn

A LETTER FROM MATTHEW PRINCE AND MICHELLE ZATLYN To our potential shareholders:

Cloudflare launched on September 27, 2010. Many great startups pivot over time. We have not. We had a plan and have been purposeful in executing it since our earliest days. While we are still in its early innings, that plan remains clear: we are helping to build a better Internet. Understanding the path we've taken to date will help you understand how we plan to operate going forward, and to determine whether Cloudflare is the right investment for you.

Cloudflare was formed to take advantage of a paradigm shift: the world was moving from on-premise hardware and software that you buy to services in the cloud that you rent. Paradigm shifts in technology always create significant opportunities, and we built Cloudflare to take advantage of the opportunities that arose as the world shifted to the cloud.

As we watched packaged software turn into SaaS applications, and physical servers migrate to instances in the public cloud, it was clear that it was only a matter of time before the same happened to network appliances. Firewalls, network optimizers, load balancers, and the myriad of other hardware appliances that previously provided security, performance, and reliability would inevitably turn into cloud services.

Network Control as a Service We built Cloudflare to provide the suite of cloud services we anticipated customers would demand as they looked to replace their on-premise, hardware-based network appliances. That was an audacious goal and it shaped both business model and our technical architecture in ways that we believe differentiate us and provide us with a significant competitive advantage.

For example, since we were competing with hardware manufacturers, usage-based billing never made sense for our core products. In the on-premise hardware world, when you suffered more cyber attacks you didn't pay your firewall vendor more, and when you suffered fewer you didn't pay them less. If we were going to build a firewall-as-a-service — or any other network appliance replacement — we needed predictable, subscription-based pricing that reflected how companies wished they could pay for their hardware.

We also knew that more data gave us an advantage no hardware appliance could match. Like an Internet-wide immune system, we could learn from all the bits of traffic that flowed through our network. We could learn not only about bad actors and how to stop their attacks, but also about good actors and how to optimize their online experiences. Since more data helped us build better products for all our customers, we never wanted to do anything to discourage any potential customer from routing any amount of traffic, large or small, through our network.

Efficiency is in Our DNA This core tenet of serving the entire Internet forced us to obsess over costs. Efficiency is in the DNA of Cloudflare because it had to be. Being entrusted with investors' capital is a privilege and we make investments in our business always with a mind toward being good stewards of that capital. Moreover, while it was tempting to just pass along costs like bandwidth to our customers, we knew if we were going to provide a compelling value proposition against hardware we needed to be ruthlessly efficient.

To achieve the level of efficiency needed to compete with hardware appliances required us to invent a new type of platform. That platform needed to be built on commodity hardware. It needed to be architected so any server in any city that made up Cloudflare's network could run every one of our services. It also needed the flexibility to move traffic around to serve our highest paying customers from the most performant locations while serving customers who paid us less, or even nothing at all, from wherever there was excess capacity.

We built Cloudflare's platform from the ground up with a full understanding of our audacious plan: to literally help build a better Internet. We didn't run separate networks to provide our different products. We didn't use expensive, proprietary hardware. We didn't start with one product and then attempt to Frankenstein on others over time. Our platform was purpose-built to efficiently deliver security, performance, and reliability to customers of every size from day one. And our platform has allowed us a level of efficiency to achieve the gross margins of leading hardware appliance vendors – 77% in the first half of this year – but with the greater predictability of a SaaS business model.

Our Platform Approach For some it may be challenging to categorize our business because our platform includes an incredibly diverse set of capabilities. We provide security products like firewall and access management, performance products like intelligent routing, and reliability products like vendor-neutral load balancing – all as a service, without customers needing to install hardware or change their code.

We also have functions that play supporting roles to the products we sell. For example, we built one of the fastest, most reliable content delivery networks not because we were targeting the CDN market, but because we knew caching was a necessary function in order to efficiently deliver our core products. We built the world's fastest authoritative domain name services, not to sell DNS, but to deliver service levels we knew our customers needed.

We provide features like CDN and DNS for free to all of our customers. We will continue to implement this strategy; onboarding more customers onto our platform and capturing value from our highly differentiated products that, once using any part of Cloudflare's platform, are only a click away.

Potential investors who are new to Cloudflare sometimes ask questions like: "What will you do if CDN bandwidth prices continue to fall?" We remind them we've given CDN away for free since Cloudflare launched in 2010, not because we were trying to disrupt the CDN space, but because the much more valuable products we provide our customers need a highly optimized global caching network to perform up to our standards.

We Create More Value Than We Capture But there is another reason for taking the approach that we do. Cloudflare has always put our customers first and prioritized creating much more value than we capture. We work to get customers onto our platform because, once on board, we know we will be able to solve so many of their problems over time. We aim to make the combined value of the products on our platform significantly more than customers can get from any combination of point solutions.

In the past, to deliver Internet security, performance, and reliability not only required an organization to buy rooms full of expensive network appliances but also to hire IT teams to manage them. While there were some companies that could afford this, the cost was prohibitive for many. Instead of serving only those that could have paid the most, we intentionally made the decision to start by focusing on organizations and individual developers that had previously been underserved. We made our products not only affordable, but easy to use.

And we didn't stop there. We have continued to improve with every bit of traffic we have seen. In doing so, we have moved up market to the point that, today, approximately 10 percent of the Fortune 1,000 are paying Cloudflare customers. We think one of the best ways to measure the value we deliver is our Net Promoter Score of 68 among paying customers, rivaling some of the best consumer brands in the world. Not only are we obsessed with our customers, but our customers are obsessed with us.

We Are Focused on Consistent Growth Over the Long Term One of the characteristics of the world's greatest SaaS companies is that they typically enter a market in some small way and then use that toehold to expand their relationship and move up market. We learned from the great SaaS companies that came before us. This strategy has resulted in consistent, long-term – rather than explosive – growth. Contrast this with companies that only build a better mousetrap. They initially experience heady growth shifting defined spend from one product to another, but the challenge they then face is existential: what's their second, third, and fourth act? Cloudflare doesn't have this problem.

We have already begun authoring our next chapters. For example, Cloudflare Workers – the productized version of the serverless architecture we developed for ourselves – is today adopted by more than 20 percent of our new customers. Cloudflare Workers allows our developer customers to write code in the languages they know – C, C++, JavaScript, Rust, Go – and deploy it to the edge of our network, allowing anyone to create new applications with security, performance, and reliability previously reserved to the Internet giants. Cloudflare Workers, and other second-act products like it, continue to expand the types of problems we solve for our customers and the total addressable market we serve.

We will continue to invest in R&D so long as it demonstrates a significant return. Our investment philosophy is oriented around making many small, inexpensive bets – quickly killing the ones that don't work, and increasing investment in the ones that do. While we will consider M&A when opportunities present themselves, our bias is toward internal development tightly integrated into our efficient platform. We aim to build a massive business – slowly and consistently.

Project Holloway

Finally, there are two of us signing this letter today, but three people started Cloudflare. Lee Holloway is our third co-founder and the genius who architected our platform and recruited and led our early technical team. Tragically, Lee stepped down from Cloudflare in 2015, suffering the debilitating effects of Frontotemporal Dementia, a rare neurological disease.

As we began the confidential process to go public, one of the early decisions was to pick the code name for our IPO. We chose “Project Holloway” to honor Lee’s contribution. More importantly, on a daily basis, the technical decisions Lee made, and the engineering team he built, are fundamental to the business we have become.

It has indeed been an incredible journey to have built Cloudflare into what it is today. We are grateful to our customers for their business and trust, to our team members for their dedication to our mission, and to our shareholders, and potential shareholders, for their support and encouragement.

And we’re just getting started.

Matthew Prince	Michelle Zatlyn
Co-founder & CEO	Co-founder & COO

Business

BUSINESS

Overview

Cloudflare’s mission is to help build a better Internet.

Today, the Internet is the lifeblood of business and the primary vehicle of commerce and communication for people around the world. While it was brilliantly architected to deliver fault tolerance and robust connectivity, it was not designed to deliver the security, millisecond performance, and reliability required for businesses today.

For decades, a number of vendors have looked to address the core limitations and vulnerabilities of the Internet for businesses that operate online. These vendors built a range of standalone hardware boxes to address the emerging requirements for security, performance, and reliability. These boxes could be deployed in on-premise data centers to deliver functions such as virtual private network (VPN), firewall, routing, traffic optimization, load balancing, and other network services. While they created massive complexity, cost, technical debt, and a tangled web of dependencies for the organizations that deployed them, the approach generally worked and these on-premise “band-aid boxes” were able to alleviate some of the Internet’s fundamental security, performance, and reliability problems.

And then the cloud happened.

In recent years, the technology industry has undergone a massive transition from on-premise hardware and software that customers buy, to services in the cloud that they rent. This transition has swept through the application, compute, and storage layers of enterprise computing architectures, led by companies such as Salesforce, Workday, and Amazon through Amazon Web Services.

Organizations find themselves at different points in this transition to the cloud. Companies that were established before the Internet emerged are likely to have a hybrid of on-premise and cloud solutions. Younger companies are more likely to be cloud native, with a combination of public and private deployments across many cloud vendors. But regardless of where a company falls on this spectrum, they all face a common set of challenges: they exist in a complex, heterogeneous infrastructure environment which exacerbates the fundamental problems of the Internet more than ever, and the on-premise band-aid boxes that they once relied upon to solve these problems were never designed to work in such an environment. As more workloads move to the cloud, there is no point in installing additional band-aid boxes on premise. An on-premise box will not solve the problems organizations now face. Nor can a business ship a band-aid box to a cloud vendor. Even if they wanted to, there is literally no place to install such a box in the cloud.

The result is that a major architectural shift at the network layer is now underway. Cloudflare is leading this transition.

We have built a global cloud platform that delivers a broad range of network services to businesses of all sizes and in all geographies—making them more secure, enhancing the performance of their business-critical applications, and eliminating the cost and complexity of managing individual network hardware. Our platform serves as a scalable, easy-to-use, unified control plane to deliver security, performance, and reliability across on-premise, hybrid, cloud, and software-as-a-service (SaaS) applications. Today, approximately 10% of the Fortune 1,000 are paying Cloudflare customers. Additionally, across the broader Internet, approximately 10% of the top million, 17% of the top 100,000, and 18% of the top 10,000 websites use at least one product on our platform on a paid or free basis.[(1)]

(1) These percentages are derived from Datanyze, *Market Share*, from January 2019 based on the average percentage market share for website optimization, DNS, security and content delivery network solutions for websites in the Alexa top million, top 100,000 and top 10,000. Refer to the section titled “Industry and Market Data.”

We started by building an efficient, scalable network. This network forms the basis of our platform on which we can rapidly develop and deploy our products for our customers. Together, the development of our network and products create the interconnected flywheels that drive our business and have allowed us to achieve our market position.

- **Network Flywheel:** We have created a network architecture that is flexible, scalable, and gets more and more efficient as it expands. We designed and built our network to be able to grow capacity quickly and inexpensively; to allow for every server, in every city, to run every Cloudflare service; and to allow us to shift customers and traffic across our network efficiently. We refer to this architecture as “serverless” because it means we can deploy standard, commodity hardware, and our product developers and customers do not need to worry about the underlying servers. Our software automatically manages the deployment and execution of our product developers’ code and our customers’ code across our network. Because we manage the execution and prioritization of code running across our network, it means that we are both able to optimize the performance of our highest paying customers, and also effectively leverage idle capacity across our network. We have chosen to utilize this idle capacity to create a free tier of service—which has generated substantial global scale for us. In turn, this scale makes us attractive partners for Internet Service Providers (ISPs) globally, which reduces our co-location and bandwidth costs. As our network grows, these dynamics become even more powerful.

Today, our network spans 193 cities in over 90 countries and interconnects with over 8,000 networks globally, including major ISPs, cloud services, and enterprises. We estimate that we operate within 100 milliseconds of 98% of the Internet-connected population in the developed world, and 93% of the Internet-connected population globally (for context, the blink of an eye is 300-400 milliseconds).[2] And, we have built this powerful network, while achieving U.S. GAAP gross margin of 77% in the year ended December 31, 2018 and the six months ended June 30, 2019, demonstrating the cost and capital efficiency of our model.

- **Product Flywheel:** We began with the idea of serving the broadest possible market. To do this, we made our products easy to use and affordable, and were able to provide our entry level plan for free in part because of the cost advantage of our network. We leverage the resulting customer scale and diversity to continuously make our products better. Our machine learning systems improve our products with every customer's request, optimizing our security, performance, and reliability globally. The over 20 million Internet properties (e.g., domains, websites, application programming interface (API), and mobile applications) that use our platform comprise a global sensor network, which functions like an immune system for the Internet—routing around congestion, optimizing for traffic conditions, and using data on cyber attacks against any one of our customers to better protect them all. We leverage these insights to block cyber threats every day, which in the three months ended June 30, 2019 averaged approximately 44 billion per day.

Feedback from our diverse, global customer base helps us expand into new, adjacent product areas. Since our customers' traffic is already passing through our network, our serverless architecture means we can add products on our platform to solve new network challenges without significantly increasing our incremental costs. This allows us to provide new products at competitive prices and further expand the overall market.

(2) These percentages are derived from our observed round-trip time for all unique IP addresses sending or receiving traffic through our network in the Organisation for Economic Co-operation and Development countries and in all countries, respectively.

We have built our global cloud platform to deliver our network services to businesses of all sizes and in numerous geographies. We believe we have a number of structural, product, and go-to-market advantages in meeting the needs of these customers:

- First, our disruptive business model—particularly the network and product flywheels we have built—create a virtuous cycle which drives down our unit costs while increasing the diversity and quality of our products. Between the three months ended March 31, 2016 and the three months ended June 30, 2019, our revenue increased by 247% with only a 146% increase in cost of revenue. Our network's efficiency as well as our aligned interests with our ISP partners, provide us with a cost advantage in the market. At the same time, our network architecture allows us to add new products and features across our platform without significant additional operating costs. This efficient economic model enables us to continue to compete effectively both on price as well as with the breadth and quality of our products.

- Second, we believe that there is power in our commitment to serving everyone, not just the few. It causes us to prioritize making our products easy to use. It also gives us a free and "long tail" customer base. These customers provide us with critical data that allow us, aided by machine learning, to provide better security, performance, and reliability for all of our customers. By volunteering to test our new features, these customers act as a virtual quality assurance team. The globally distributed nature of this free customer base makes us relevant and valuable to ISPs all over the globe, improving our economics. Finally, free access to our services attracts developers, providing us with a rich talent pipeline and often seeding us in larger enterprises as enterprise developers become acquainted with our platform and products through their "hobby projects." This lowers both our cost of customer acquisition and employee recruiting.

- Third, we have an integrated and independent offering. When a customer puts an Internet property on Cloudflare, we do not just make it safer, faster, or stronger—we make it all three. Our independence and neutrality offers us a range of advantages against the traditional cloud vendors. It means that when we sit in front of a customer's infrastructure, it can set policies once and know that they will apply to all its clouds and on-premise infrastructure, regardless of where that property rests in the world. It also attenuates growing customer concerns about "lock-in" relative to any one large public cloud vendor. And our business model aligns with the interests of our customers. We do not sell user data. Nor do we aim to compete with our customers. We are firmly committed to these principles, and given the privileged position we sit in for our customers, we believe this creates a strong competitive advantage.

We have experienced significant growth, with our revenue increasing from $84.8 million in the year ended December 31, 2016 to $134.9 million in the year ended December 31, 2017 and to $192.7 million in the year ended December 31, 2018, increases of 59% and 43%, respectively. Our revenue increased from $87.1 million in the six months ended June 30, 2018 to $129.2 million in the six months ended June 30, 2019, an increase of 48%. As we continue to invest in our business, we have incurred net losses of $17.3 million, $10.7 million, and $87.2 million for the years ended December 31, 2016, 2017, and 2018, respectively, and $32.5 million and $36.8 million for the six months ended June 30, 2018 and 2019, respectively.

Our Industry

The Internet was not built for what it has become.

Originally conceived as a decentralized, wired network to interconnect academic institutions, the Internet has evolved into a global platform for business and communications, hosting a wide variety of often mission-critical applications. While the Internet was brilliantly architected to deliver fault tolerance and robust connectivity, it was not designed to deliver the security, millisecond performance, and reliability required now that it has become the lifeblood for business and the primary vehicle of commerce and communication for humanity.

Despite the Internet's limitations, businesses relying on it must meet customer expectations for always-on access to their services, low latency, total reliability, and high levels of security and privacy. Furthermore, businesses are accountable for the delivery of these requirements end-to-end, to every customer and employee's desktop or mobile device, forcing them to address security, performance, and reliability globally and well beyond what they once thought of as the perimeter of their own infrastructure.

Band-Aid Boxes

To meet evolving expectations and navigate the limitations of the Internet, businesses have traditionally relied on a broad array of hardware devices deployed in on-premise data centers to deliver functions such as VPN, firewall, routing, traffic optimization, load balancing, and other network services. These band-aid boxes were meant to patch the Internet and address its core limitations. While the band-aid boxes added some security, performance, and reliability benefits, they contributed to massive complexity, cost, technical debt, and a tangled web of dependencies.

Enterprises must purchase, integrate, manage, update, and maintain a fleet of these costly solutions, provided by diverse vendors, predicated on different standards, and spanning several generations. The very boxes once installed to provide security, performance, and reliability often create a level of complexity that endangers these very goals. As a result, enterprises often have large IT teams responsible for designing, operating, maintaining, updating, and remediating this complex network infrastructure. The complexity can be overwhelming for all but the largest enterprises, driving up the cost of the band-aid boxes and inherently limiting their market.

In spite of the drawbacks, the band-aid boxes were sufficient to ensure the safety, functionality, and resilience required by businesses that could afford them in the on-premise paradigm.

But these band-aid boxes were never designed to work in the cloud.

Shift to the Cloud

In recent years, the technology industry has been undergoing a transition from on-premise hardware and software that customers buy, to services in the cloud that they rent. Application vendors led this transition as companies like Salesforce, Workday, and NetSuite provided cloud-based, multi-tenant solutions that disrupted legacy, on-premise software from companies like SAP, Oracle, and Microsoft. Compute and storage followed, with public cloud vendors such as Amazon Web Services, Microsoft Azure, Google Cloud Platform, and Alibaba Cloud disrupting server and storage vendors like HP, Dell, Lenovo, and Sun Microsystems.

The shift to the cloud has followed a predictable pattern. Cloud providers first opened the market to underserved businesses that could not previously afford the cost and complexity of on-premise solutions. Feedback from these early customers allowed the cloud providers to build better, easier to use, more flexible products that can scale. The cloud providers then moved up market, displacing the legacy, on-premise solutions in even the largest, most sophisticated enterprises.

Yesterday Cisco F5 Networks Juniper Check Point Palo Alto Networks Riverbed FireEye SAP Microsoft Oracle HP Dell IBM Sun Microsystems EMC2 Lenovo Hardware / Software (Buy) Network Application Store/Compute Cloudflare Workday Zendesk Adobe NetSuite Salesforce ServiceNow Dropbox Box Shopify Google Microsoft Amazon Alibaba Services / Cloud (Rent) Evolution of the Enterprise Stack Tomorrow Compaq

The Network Layer Transitions to the Cloud

The rise of cloud computing architectures, alongside the massive increase in mobile devices, vastly complicates the already difficult task of securing and optimizing applications. Organizations exist in a complex, heterogeneous infrastructure environment of public cloud, on-premise, and hybrid deployments. The threat landscape, functional requirements, and scale of business applications are evolving faster than ever before, and the volume and sophistication of network attacks can strain the defensive capabilities of even the most advanced enterprises.

The hardware-based, inflexible, on-premise band-aid boxes that organizations once relied upon to meet these challenges were never designed to work in an environment like this. And even if the band-aid boxes could scale to meet the challenges of the modern enterprise, a business cannot simply ship a band-aid box to a cloud vendor. There is literally no place to install such a box in the cloud.

This is forcing a major architectural shift in how enterprises address security, performance, and reliability at the network layer. The functionality provided by companies such as Cisco Systems, Juniper Networks, F5 Networks, Check Point Software, Palo Alto Networks, FireEye, Riverbed Technology, and others is being elevated, abstracted, and unified into the cloud. This transition has created a vast opportunity both in expanding the market to address under-served businesses and replacing band-aid box vendors, and the budget spent on their increasingly obsolete devices, in the enterprise.

Cloudflare is leading this transition.

Our Platform

We have built a global cloud platform that delivers a broad range of network services to businesses of all sizes around the world—making them more secure, enhancing the performance of their business-critical applications, and eliminating the cost and complexity of managing and integrating individual network hardware. We provide businesses a scalable, easy-to-use, unified control plane to deliver security, performance, and reliability across their on-premise, hybrid, cloud, and SaaS applications. We are disrupting the market created by the band-aid box vendors and, in the process, directly addressing the core limitations of the Internet. Today, approximately 10% of the Fortune 1,000 are paying Cloudflare customers. Additionally, across the broader Internet, approximately 10% of the top million, 17% of the top 100,000, and 18% of the top 10,000 websites use at least one product on our platform on a paid or free basis.

Previously, enterprises would often string together a diverse set of on-premise band-aid boxes from different vendors to solve their network challenges. As these solutions move to the cloud, the network latency, support complexity, and cost of overhead makes stringing together multiple point-cloud solutions that only address a specific network need untenable. Customers are therefore looking to consolidate behind a single platform. We offer this unified control plane. Customers who join our platform using one product can adopt our other seamlessly integrated products with a single click. We serve comprehensive customer needs across security, performance, and reliability. Our platform and business model are designed to make rolling out new products fast and efficient. We believe that platforms with the broadest catalogue of products will ultimately beat point-cloud solutions.

To achieve what we have, we started by building an efficient, scalable network. This network forms the basis of our platform on which we can develop and deploy our products for our customers. Together the development of our network and products create the interconnected flywheels that drive our business and have allowed us to achieve our market position.

- **Network Flywheel:** We have created a network architecture that is flexible, scalable, and becomes more efficient as it expands.
- **Product Flywheel:** We have leveraged this network to deploy products that are easy to use, continuously improved, and can be delivered without adding significant incremental cost.

Serve Everyone Better Products Increased Efficiency Cloudflare Helping Build a Better Internet Global Scale Network Serverless Architecture Product Ease of Use

Network Flywheel

Our network was designed from day one to be able to scale to serve the entire Internet. To achieve this in a cost-effective way, we needed to invent a new type of architecture. Rather than deploying different hardware and software for each product we sell, we built our network to allow for every server, in every city, to run every Cloudflare service. We refer to this architecture as “serverless” because it means we can deploy standard, commodity hardware, and our product developers and customers do not need to worry about the underlying servers. Our software automatically manages the deployment and execution of our product developers’ code and our customers’ code across our network.

While this serverless architecture has advantages for both our product developers and our customers in terms of driving development velocity, it is also incredibly advantageous for our network flywheel. Our architecture allows us to dynamically manage the execution and prioritization of code running across our network. This means that we are able to optimize the performance of our highest paying customers. It also means we are able to effectively leverage idle capacity across our network. We have chosen to utilize this idle capacity to create a free tier of service—which has generated substantial global scale for us.

Given our scale, we are an attractive partner to ISPs globally. Deploying our equipment directly inside their networks can drive down their bandwidth costs and increase their performance. This allows us to negotiate better co-location and bandwidth costs from ISPs. So, as our network grows, we offer a greater benefit to ISPs and reap more favorable terms. This is a main reason why we have been able to grow our global network while achieving a U.S. GAAP gross margin of 77% in the year ended December 31, 2018 and the six months ended June 30, 2019.

Cloudflare's Global Network Coverage Cloudflare city Approximate area inside which cloudflare's networks is reachable within 100ms via the internet Today, our network spans 193 cities in over 90 countries and interconnects with over 8,000 networks globally, including major ISPs, public cloud providers, SaaS services, and enterprises. We estimate that we operate within 100 milliseconds of 98% of the Internet-connected population in the developed world, and 93% of the Internet-connected population globally (for context, the blink of an eye is 300-400 milliseconds). We intend to continue expanding our network to better serve our customers globally and enable new types of applications, while relentlessly driving down our unit costs.

Product Flywheel

Our efficient network allows us to build products designed to help solve the Internet’s core limitations. For our customers, this means providing them a cloud-based, unified control plane to deliver security, performance, and reliability across their on-premise, hybrid, cloud, and SaaS applications. We provide services such as VPN, firewall, routing, traffic optimization, load balancing, and other network services by replacing on-premise, band-aid boxes with a scalable, global platform.

We followed the path of other successful SaaS companies and began with the idea of serving the broadest possible market, starting with businesses and organizations that were previously underserved. To do this, we sought to make our platform easy to use and affordable. A new customer can begin using our platform in only a few minutes with minimal technical skill and no professional services. Our entry-level plan is provided for free, which we can offer cost-effectively given the efficiency of our network. Because all our products run on the same serverless platform, once customers have adopted any one of our products, they can add others usually with a single click.

The use of our products helps to continuously make them better. We learn from all the traffic that passes through our platform in order to optimize our security, performance, and reliability globally. The over 20 million Internet properties (e.g., domains, websites, APIs, and mobile applications) that use our platform act like a global sensor network. We use this network to function as an immune system for the Internet—routing around congestion, optimizing for traffic conditions, and using data on cyber attacks against any one of our customers to better protect all of our customers. We leverage these insights to block cyber threats every day, which in the three months ended June 30, 2019 averaged approximately 44 billion per day.

Feedback from our diverse, global customer base helps us expand into new, adjacent product areas. Since our customers’ traffic is already passing through our network, our serverless architecture enables us to add products to solve new network challenges without significantly increasing our incremental costs. Cloudflare customers often join our platform using one or a few products. As they turn on additional products, our cost to deliver our platform does not materially change. This position allows us to provide any individual product at extremely competitive prices and further expand the overall addressable market. As our product set has improved continuously from the use across a broad array of customers, this has enabled us to build an enterprise-grade solution that addresses the complex needs of larger organizations.

Our products are seamlessly integrated to perform better together, meaning customers do not need to choose between security, performance, or reliability. Our global cloud platform delivers all three.

We are always in search of ways to catalyze these flywheel effects. For instance, we launched a consumer DNS resolver (1.1.1.1) and announced the launch of a consumer VPN product (Warp). These products were quick to develop and are relatively inexpensive to operate because they run atop the same serverless platform that powers our business-to-business products. By serving both consumers and business customers, we have created a network effect as we optimize connectivity between both groups. Every consumer who uses 1.1.1.1 or installs Warp makes our business products better, and every business that signs up for Cloudflare makes our consumer products better.

Increasingly, developers outside of Cloudflare seek the same flexibility and performance afforded by our serverless architecture. In response, we opened our platform to outside developers with a product called Cloudflare Workers. With Cloudflare Workers, our developer customers can write their own code and deploy it in seconds directly onto our global cloud platform and have it run close to their users.

This is not merely a configuration language, but rich, complex code written in the language of choice by our customers to power sophisticated applications. The efficiency of our platform allows us to offer Cloudflare Workers at prices that are significantly below traditional public cloud computing providers while still maintaining an attractive gross margin. Moreover, applications utilizing Cloudflare Workers exhibit global scalability and strong performance relative to other cloud computing vendors. We expect the use of Cloudflare Workers to grow and to empower an entirely new class of applications.

The Power of Serving Everyone

Our mission is to help build a better Internet. Inherently this means we aim to serve everyone on the Internet from individual developers, to small businesses, to the largest enterprises. This is not merely a go-to-market strategy. Our focus on serving everyone accelerates our network and product development flywheels in six different ways:

1. **Security, performance, and reliability data**. Our free customers make up a vast sensor network, capturing data about the operation, functionality, and performance of the Internet. Our machine learning systems automatically aggregate all data across our network that we then use to provide better solutions for our customers. For instance, hackers often test a new attack against smaller sites before they launch an attack on a major enterprise. We will often see these attacks in their nascent stages and, like an immune system, our machine learning algorithms learn to stop them before they can target others. The breadth of our customers gives us a unique perspective that we would not see if we only serviced the largest enterprises.

2. **Quality assurance**. A typical development cycle for software companies is often measured in months or years. Our free customers have helped us reduce our development time and cost, as they regularly test new features that we develop. This gives us a virtual quality assurance team and ensures that by the time we roll a feature out to our paying customers it has been rigorously tested under real Internet conditions.

3. **Global ISP relationships**. We have a strong presence in many developing geographies. These geographies often have expensive bandwidth fees and Internet users often have lower ability to pay. We estimate that we power, on average, more than 50% of sites that use performance optimization technology in countries across Africa, the Middle East, and Asia.[3] Our market penetration in these geographies makes us appealing to ISPs who install our equipment directly into their networks at attractive economic terms. Traffic served locally in these areas saves us the cost of having to haul it back to more traditional data center locations. Our presence in these geographies also affords us the opportunity to service some of the fastest growing Internet markets.

4. **Brand building for large customers**. Developers at large companies often have hobby projects that they explore in their free time. By making our free service available for these hobby projects, we expand our brand with developers who, in turn, take Cloudflare to work with them. This brand building can, in turn, reduce our cost of customer acquisition.

5. **Employee recruiting advantage.** We compete for the most talented engineering, sales, marketing, and other professionals. Much of our team came to know us because of our compelling mission and the accessibility of the free version of our service. This helps us drive down hiring costs and increase the talent pool we are able to draw from. In the three months ended June 30, 2019, we made offers to less than 1% of applicants and we had an offer acceptance rate of 90%.

(3) This percentage is derived from weighted average market share data from Datanyze, *Market Share*, 2019 based on a sample of 41 countries across Asia, Africa, and the Middle East. Refer to the section titled "Industry and Market Data."

6. **Many end up paying us.** We are able to convert many free customers into paying customers.

Market Opportunity

We have built our global cloud platform to deliver our network services to businesses of all sizes and in numerous geographies. We believe our platform disrupts several large and well-established IT markets. The key markets that are addressed by our platform include VPN, internal and external firewalls, web security (including web application firewalls and content filtering), distributed denial of service (DDoS) prevention, intrusion detection and prevention, application delivery controls, content delivery networks, advanced threat prevention (ATP), and wide area network (WAN) technology. From our analysis based on IDC data, $31.6 billion was spent on those products in 2018, which is expected to grow to $47.1 billion in 2022 representing a compound annual growth rate of 10.5%. We also are actively developing new products to address adjacent markets including compute, storage, 5G, and Internet of Things (IoT) that are not included in the estimate of our addressable market.

Why We Win

We have six distinct advantages that uniquely position us to win:

1. **Disruptive Business Model**. Our business model is designed for efficiency. Our network and product flywheels create a virtuous cycle that has driven down our unit costs over time while we increase the diversity and quality of our products. Between the three months ended March 31, 2016 and the three months ended June 30, 2019, our revenue increased by 247% with only a 146% increase in cost of revenue. We believe that our serverless platform's flexibility, as well as our aligned interests with our ISP partners, allows us to continue to become more efficient as we expand our network. At the same time, this architecture allows us to add new products and features across our platform without significant additional operating costs. We believe that this efficient economic model enables us to continue to compete effectively both on price as well as with the breadth and quality of our products.

2. **Ease of Use**. A new customer can sign up in minutes regardless of its technical ability or budget. The ease of use of our products significantly increases our total addressable market beyond just the large enterprises that band-aid box vendors previously served. As we have moved up market, our products' ease of use has also allowed our enterprise customers, which consist of customers that sign up for our Enterprise plan, to simplify and streamline their network operations, saving them money and reducing complexity. In the fourth quarter of 2018, we achieved an average Net Promoter Score (NPS) of 68 across our paying customers, rivaling some of the best consumer brands in the world. An NPS can range from a low of −100 to a high of +100. NPS measures the willingness of customers to recommend a company's products or services to other potential customers, and is viewed as a proxy for measuring customers' brand loyalty and satisfaction with a company's product or service. We believe our ease of use will continue to differentiate us from legacy vendors.

3. **Efficient Go-to-Market Model**. Our go-to-market strategy is designed to efficiently address the broad market we serve. Our self-serve offering, coupled with our attractive pricing, allows customers to easily adopt our products. Substantially all of our revenue is billed on a recurring subscription basis. We monitor the usage patterns of our customers and can suggest other products our customers should try next. This has generated dollar-based net retention rates above 110% in each of the trailing eight quarters for the period ended

June 30, 2019. We augment our self-serve offering with a highly productive sales force to serve larger customers. Over the last four quarters, our average sales cycle for customers on annual contracts was less than one quarter. This throughput allows us to efficiently and quickly ramp our sales team, which, when coupled with our net expansion rates, has driven a high return on our go-to-market investments.

4. **Product Innovation and Velocity**. We drive product innovation by continuously improving our platform through machine learning and diverse customer feedback. Our systems learn from every request that passes through our network. This allows us to automatically mitigate new attacks, optimize protocols for the best performance, and reroute traffic to avoid network outages. Our platform makes thousands of updates per second to optimize the experience for all our customers. Our diverse customer base provides both ideas as well as a testing ground for new products. Many of our free customers volunteer to test new features early in the development cycle. This testing ground allows us to quickly validate new products and ensure product excellence before deploying to our paying customers.

5. **Integrated, Global Offering**. Our network spans 193 cities in over 90 countries, and this flexible, serverless platform offers the same set of core features in every city and country. This has a number of advantages for our customers. First, it gives them a unified control plane—whether they are running on-premise, with SaaS vendors, in hybrid environments, or solely in the public cloud. It also delivers a consistent experience to end users, whether they are in China, the Middle East, Latin America, Africa, or other regions where a number of our competitors cannot provide consistent service. Finally, and unlike many of our competitors, because we offer an integrated solution, we do not force our customers to choose between safer, faster, or stronger—our solution offers security, performance, and reliability integrated by design.

6. **Trust and Neutrality**. As businesses move to the cloud, there are increasing concerns over interoperability and avoiding being locked into any one public cloud vendor. We empower customers to overcome these concerns through our independence and neutrality. We directly connect with and support customers across all major public cloud providers. We provide a control plane that allows our customers to steer their business to whichever provider, or mix of providers, is offering the best service or lowest cost. Moreover, unlike some public cloud providers, our business model aligns with the interests of our customers. We do not sell user data. Nor do we aim to compete with our customers. We are firmly committed to these principles and, given the trusted position we sit in with our customers, we believe this builds a durable competitive advantage.

Growth Strategy

Key elements of our growth strategy include:

- **Acquire New Customers:** We believe that any person or business that relies on the Internet to deliver products, services, or content can be a Cloudflare customer. We will continue to grow our customer base across all of our subscription plan offerings—free, self-serve, and enterprise.

- **Free:** We will continue to invest in awareness and functionality of our products to drive overall customer growth beyond the over 20 million Internet properties using Cloudflare today.

- **Self-Serve and Enterprise:** We believe we have an opportunity to continue to grow our paying customer base, from small customers through to large enterprise customers. In order to do this, we will continue to focus on growth in our self-serve channels by improving targeting and conversion as well as expanding our product offering. In addition,

we intend to leverage our proven enterprise sales force to sell our products to larger and larger customers.

- **Expand Our Relationships with Existing Customers:** Today, approximately 10% of the Fortune 1,000 are paying Cloudflare customers. Additionally, across the broader Internet, approximately 10% of the top million, 17% of the top 100,000, and 18% of the top 10,000 websites use at least one product on our platform on a paid or free basis. Customers expand their relationships with us by upgrading to premium plans, increasing their usage of our platform, or adding products. Once a customer has adopted one product on our platform, it can easily add additional products with a single click. Over 70% of our enterprise customers already leverage four or more of our products.

- **Develop New Products:** We continue to invest in new product development, and as we onboard more customers and more traffic on our network, our ability to identify promising new avenues for innovation improves. We have proven our ability to launch new products, having successfully brought many new products and product families to market.

- **Extend Our Serverless Platform Strategy:** We have seen a growing number of customers that have chosen to bring applications to market using Cloudflare Workers. This opens up an entirely new market for us: storage and compute. Our Cloudflare Workers offering is attractive in the market for reasons of our architecture and the power of our network, and we believe adoption of Cloudflare Workers will continue to grow as we further invest in it.

Our Products



Our Products SECURITY Firewall Iot Security Bot Management SSL/TLS DDos Protection Secure Origin Connection Zero Trust Security Rate Limiting PERFORMANCE Cache Mobile Optimization Intelligent Routing Image Optimization Content Optimization Mobile SDK RELIABILITY LOAD Balancing Domain Name System (DNS) Anycast Network DNS Resolver Virtual Backbone Always Online PLATFORM Serverless Compute Cloudfare Apps Analytics We deliver a platform of deeply integrated products that serve as a unified control plane for our customers. Customers can quickly and easily join Cloudflare by using just one of our products on our platform and expand over time by adding most products with a single click.

ARE Home pwnedpasswords.com Add Site Support Overview Analytics DNS Spectrum Crypto Firewall Access Speed Caching Workers Page Rules Network Traffic Stream Custom & Apps Scrape S& 24 Hours 7 Days 30 Days 19 APRIL 19 MAY Unique Visitors 2,244,386 Total Requests 242,105,305 Percent Cached 99.29% Total Data Served 35 TB Data Cached 35 TB View more analytics Notifications Billing update We are upgrading our billing system. Review answers to common questions. Dismiss Quick Actions Purge Cache DNS Settings Under Attack Mode Show visitors a JavaScript challenge when visiting your site. Development Mode Temporarily bypass our cache. See changes to your origin server in realtime. Domain Registration Status: Cannot transfer an enterprise zone Off Off

Figure 1: Dashboard of a Cloudflare customer Our integrated suite of products includes solutions for security, performance, and reliability, as well as our platform and consumer offerings.

Security

We provide an integrated cloud-based security solution designed to secure any combination of platforms, including public cloud, private cloud, on-premise, SaaS applications, and IoT devices. Our key security product offerings include:

- **Cloud Firewall:** Protects a customer's Internet properties from common vulnerabilities like SQL injection attacks, cross-site scripting, and cross-site forgery requests, with no changes to its existing infrastructure.

- **Bot Management:** Blocks undesired or malicious Internet traffic created by malicious software algorithms called bots, while still allowing useful bots to access Internet properties through machine learning and behavioral analytics.
- **Distributed Denial of Service (DDoS):** Protects a customer's Internet properties from a Distributed Denial of Service attack. Our platform's unique architecture has been able to withstand some of the biggest attacks on the Internet (product known as "*Unmetered Mitigation*").
- **Infrastructure Protection:** Extends the benefits of our network to customers' on-premise and data center networks (product known as "*Magic Transit*"). Magic Transit is deployed in front of an enterprise network and protects it at the IP layer from DDoS attacks and enables provisioning of a full suite of virtual network functions, including IP packet filtering and firewalling, load balancing, and traffic management tools.
- **Zero Trust Security:** Offers identity and access management to secure application access without a VPN. Applies application-level user access permissions using existing single sign-on providers, and ensures compliance using real-time access logs available in the dashboard, application programming interface (API), or using a Security Incident Event Management (product known as "*Cloudflare Access*").
- **IoT:** Protects IoT devices through the specialized application of our cloud-based security products (product known as "*Cloudflare Orbit*").
- **SSL / TLS:** Manages encrypted web traffic to prevent data theft and tampering to improve security as well as application and website productivity (products known as "*SSL for SaaS,*" "*Dedicated & Custom Certs,*" "*Universal SSL,*" "*Keyless SSL,*" and "*GeoKey Manager*").
- **Secure Origin Connection:** Creates an encrypted tunnel between a customer's origin web server and the closest servers on our network without risking opening any public inbound ports (product known as "*Cloudflare Argo Tunnel*").
- **Rate Limiting:** Provides the ability to configure thresholds, define responses, and gain valuable insights into specific URLs of websites, applications, or API endpoints.

Performance

Our performance solutions improve conversions, reduce churn, and improve visitor experiences by accelerating web and mobile performance, while keeping applications available. Our key performance product offerings include:

- **Content Delivery:** Accelerates content delivery time by automatically serving our customers most popular content from our network locations close to our customers' users.
- **Intelligent Routing:** Improves Internet performance by intelligently routing end users through the least congested and most reliable paths over the Internet using our network (product known as "*Cloudflare Argo*").
- **Content Optimization:** Automatically adjusts the way content is delivered based on the particular device accessing the site to maximize speed without affecting the customer's Internet property look or features.
- **Mobile Optimization:** Provides mobile-specific optimization and caching of content for fast delivery to mobile end users.
- **Image Optimization:** Automatically adjusts the size and quality of the image to the device and network connection for best end-user experience.
- **Mobile Software Development Kit (SDK):** Offers developers cutting-edge network diagnostic tools for any application without dependencies on infrastructure, enabling them to more easily create high performing and engaging applications.

Reliability

Our reliability solutions improve the overall operational experience of the Internet and allow our customers to run their digital operations much more efficiently. Our key reliability product offerings include:

- **Load Balancing:** Enhances performance and reliability for single, hybrid-cloud, and multi-cloud environments. Our cloud-based products provide local and global load balancing to reduce latency by distributing traffic across multiple servers or by routing traffic to the closest geolocation region.
- **Anycast Network:** Enhances performance and reliability by globally and automatically load balancing Internet-scale traffic across our network based on proximity of request and other factors.
- **Virtual Backbone:** Connects our global network, and by extension, our customer's Internet properties, into a virtual network that is always encrypted, optimized for performance, and highly redundant.
- **DNS:** Keeps Internet properties online and always available to anyone in the world. Our DNS is one of the largest authoritative DNS networks in the world serving customers including major ecommerce websites, government agencies, and enterprises (products known as "*Cloudflare DNS*" and "*Cloudflare Secondary DNS*").
- **DNS Resolver:** Returns the IP addresses of servers when a user enters a domain name. We are the world's fastest public DNS Resolver, which benefits our DNS customers.
- **Always Online:** Serves a limited copy of a cached website, to keep it online for a customer's visitors should the customer's origin server go down.

Platform

By using our platform, developers can build serverless applications that scale without needing to spend time and effort on infrastructure or operations. This enables them to deliver more performant applications that have instant global scale, all while improving their productivity. Our key serverless products include:

- **Serverless Computing/Programmable Network:** Allows developers to augment existing applications or create entirely new ones through a lightweight execution environment without configuring or maintaining infrastructure (product known as "*Cloudflare Workers*").
- **Cloudflare Apps:** Offers an open platform of tools which can be installed instantly with just a few clicks. We have further expanded our offering through Cloudflare Apps with Workers, which allows developers to package Cloudflare Workers, delivering new Cloudflare Workers-powered experiences to our customers.
- **Analytics:** Provides insights into the traffic of our customers' Internet properties that are unique and proprietary to our platform. We help our customers monitor threats, search for specific search engine crawlers, understand DNS query traffic, and analyze real time data traffic.

Consumer Offerings

Our consumer products make it easy for individuals to have a performant and secure Internet experience. Building consumer products allows us to be on both sides of the network, accelerating our flywheel. Adoption of our consumer offerings make our business offerings more powerful and adoption of our business offerings improves our consumer offerings. Our consumer offerings have proven to be an effective and differentiated marketing channel to increase the awareness of our brand. Our key consumer product offerings include:

- **1.1.1.1:** A fast and private way to browse the Internet. 1.1.1.1 is a public DNS resolver, but unlike most DNS resolvers, we do not sell user data to advertisers. Our implementation of 1.1.1.1 makes it the fastest resolver available, and we support DNS over HTTPS (DoH) which encrypts and secures consumers' DNS requests.
- **Warp:** Announced product for release in 2019 that will provide a VPN for consumers. The basic version of Warp will be included as an option with the 1.1.1.1 App for free with a premium version to be available for purchase.

Representative Views of Cloudflare Products

Home + Add site Support CLOUDFLARE Overview Analytics DNS Spectrum Crypto Firewall Access Speed Caching Workers Page Rules Network Traffic Stream Custom... Apps Scrape S... Overview Managed Rules Firewall Rules Tools Settings Firewall Events + Add filter Last 72 hours Events by action Total Block Allow Challenge JS Challenge Log/Simulate 6,493,567 5,583,851 441,707 274,931 193,034 44 186454 160000 140000 120000 100000 80000 60000 40000 20000 0 01 PM Sat 18 12 PM May 19 12 PM Mon 20 01 PM Number of Events Time (local) Events by service Firewall rules Rate limiting Access rules: ASN User agent blocking Access rules: Country Security level 4,898,821 1,283,226 172,713 96,938 20,321 18,521 Browser integrity check WAF 2,231 796 Firewall rules Rate limiting 75% 20% Figure 2: Dashboard of a Cloudflare customer showing blocked and rate limited attack traffic Home CLOUDFLARE Overview Analytics DNS Spectrum Crypto Firewall Access Speed Caching Workers Page Rules Network Traffic Stream Custom ... Apps Scrape S... +Add site Support Traffic Security Performance DNS Origin Performance (Argo) Origin Response Time Geography Response Time (Origin Cloudflare) Average Response Average ResponsePercent Improvement Percent Smart Routed Time with Argo Time without Argo Last 48 hours Last 48 hours Last 48 hours Last 48 hours 61.20% 87.6% 220ms 567ms 12% 11% 10% 9% 8% 7% 6% 5% 4% 3% 2% 1% 0% 0 275 550 825 1100 1375 1650 1925 2200 2475 Response Time (Milliseconds) With Argo Without Argo Percentage of Requests Figure 3: Dashboard of a Cloudflare customer showing Argo technology more than halving response time CLOUDFLARENew Try the new Speed page to see how your site performs. Activate.Speed Manage performance settings for your website Image Resizing NewYou can resize, adjust quality, and convert images to WebP format, on demand. We cache every derived images at the edge, so you store only the original image. This allows you to adapt images to you sites layout and your visitors screen sizes, quickly and easily, without maintaining a server-side image processing pipeline. Enhanced HTTP/2 Prioritization NewOptimizes the order of resource delivery, independent of the browser. Greatest improvements will be experienced by visitors using Safari and Edge browsers. TCP Turbo NewAccelerate latency and throughout with custom-tuned TCP Optimizations. Enabled automatically for Pro, Business, and Enterprise customers.Auto MinifyReduce the file size of source cod on you website.Note: Purge cache to have you change take effect immediately.This setting was last changed 8 days agoPolish Improve image load time by optimizing images hosted on you domain. Optionally, the WebP image codec can be used with supported clients for additional performance benefits. Note: Purge cache to have you change take effect immediately.This setting was last changed 8 months agoAMP Real URL NewDisplay you sites actual URL on your AMP pages, instead of the traditional Google AMP cache URL.This feature is being rolled out in stages. Enable now and you will be notified when it is activated on you site. CLOUDFLARENew Try the new Speed page to see how your site performs. Activate.Speed Manage performance settings for your website Image Resizing New You can resize, adjust quality, and convert images to WebP format, on demand. We cache every derived image at the edge, so you store only the original image. This allows you to adapt images to your sites layout and your visitors screen sizes, quickly and easily, without maintaining a server-side image processing pipeline. Enhanced HTTP/2 Prioritization NewOptimizes the order of resource delivery, independent of the browser. Greatest improvements will be experienced by visitors using Safari and Edge browsers. TCP Turbo NewAccelerate latency and throughout with custom-tuned TCP optimizations. Enabled automatically for Pro, Business, and Enterprise customers.Auto Minify Reduce the file size of source code on your website. Note: Purge cache to have your change take effect immediately. This setting was last changed 8 days agoPolish Improve image load time by optimizing images hosted on your domain. Optionally, the WebP image codec can be used with supported clients for additional performance benefits. Note: Purge cache to have your change take effect immediately. This setting was last changed 8 months ago AMP Real URL New Display your sites actual URL on your AMP pages, instead of the traditional Google AMP cache URL. This feature is being rolled out in stages. Enable now and you will be notified when it is activated on your site.

Figure 4: Dashboard of a Cloudflare customer showing performance products and configuration options Add site support health hostname available pools ttl proxied enabled static 1 of 1 pools 30 off help load balancing logs apr 21, 2019 may 21, 2019 filter by: pool health pool origin health origin select pool health select pool select origin health select affected origin date (utc) triggering origin event pool status Apr 29, 2019 06:27:12 sjcserver healthy sjc Apr 29,

2019 06:26:44 sjcserver critical sjc Apr 22, 2019 13:34:22 sjcserver healthy sjc Apr 22, 2019 13:32:07 sjcserver critical sjc Figure 5: Cloudflare Load Balancing configuration and events in the Dashboard Workers org menu add site support Will be available at http:// documentation Preview tasks make to-do list call mom go to gym promote kari revel in successes email rob new task update preview save and deploy help Figure 6: Source code written and deployed on Cloudflare Workers 22:15 Search Youre #164725 on the Warp waitlist 1.1.1.1 CONNECTED Your DNS queries are now private and faster Figure 7: Screenshot of 1.1.1.1 App

Birthday Week

We celebrate Cloudflare's birthday every year in September by announcing new offerings and capabilities that benefit our customers and the global Internet community. Our mission is to help build a better Internet, and launching new products, features, and initiatives that benefit not only our customers, but also the broader Internet overall, is the best way to fulfill our mission. We expect to continue this annual tradition during September 2019.

Our Customers

We view our two million free and paying customers, which manage over 20 million Internet properties on our platform, as part of a broad, global community. In addition to our business customers, we estimate we have over 50 million users of our 1.1.1.1 consumer DNS service, 2.5 million users of our 1.1.1.1 mobile app, and over 1.6 million users of our 1.1.1.1 mobile app on the waitlist for our Warp mobile VPN.

We are focused on building the best global cloud platform to serve anyone and anything connected to the Internet. We designed our platform to be both easy to use and highly configurable, which enables us to serve everyone from individual developers and small businesses to large governments and Fortune 1,000 companies that require enterprise-grade solutions. As our customers grow, the scalability of our platform allows us to grow with them. By offering our products through a cloud subscription, we are able to expand the market and seamlessly offer different levels of service at different price points to meet the needs of each part of our global community.

As of December 31, 2018, we had over 67,000 paying customers and as of June 30, 2019 we had over 74,000 paying customers across more than 160 countries. We define a paying customer at the end of any period as a person or entity who has been billed for our services in the last month of the period. An entity is defined as a company, a government institution, a non-profit organization, or a distinct business unit of a large company that has an active contract with us or one of our partners. Our paying customer base is highly diversified across organizations of all sizes in every major industry vertical including technology, healthcare, financial services, consumer and retail, industrial, non-profit, and government. We define large customers as paying customers with Annualized Billings greater than $100,000 at the end of the reported period. Our large customer count has increased from 95 as of December 31, 2016 to 313 as of December 31, 2018, and to 408 as of June 30, 2019. No single customer accounted for more than 10% of our revenue in the year ended December 31, 2018 or the six months ended June 30, 2019.

We are grateful to support customers across a wide array of industries. The following is a representative sampling of our customers in certain of these industry verticals:

Consumer / Retail	Healthcare / Life Sciences	Software
Brown-Forman	23andMe	Adobe
L'Oreal	Compu Group Medical	Cadence
Nestlé Purina	Gilead Sciences	Hubspot
PUMA	Labcorp	Okta
Starbucks	Medline Industries	SAP
Walmart	NHS London Ambulance Transport	Shopify

Industrial / Transportation	
Genuine Parts	
Mahindra	
Norwegian Air	
Reliance Steel & Aluminum United Technologies Watsco	

Education / Non-Profit	Media / Entertainment
Baylor University	The Daily Beast
Cambridge University Press Ford Foundation Mozilla Udacity Yale University	HarperCollins Publishers Nielson Riot Games Direct RTÉ Sky News

Finance / Real Estate		Government
Coinbase		FBI
First American Bank	Hardware	Library of Congress
LendingTree	Avaya	Singapore Post
Redfin	Broadcom	State of Florida
S&P Global	Dyson Technology	U.S. Department of State U.S. Department of the Interior
SoFi	National Instruments Peloton Ring	

Customer Case Studies

The examples below illustrate how businesses from different industries and use cases benefit from our platform and products.

Zendesk

The best customer experiences are built with Zendesk. Zendesk's customer service and engagement products are powerful and flexible, and scale to meet the needs of any business. Zendesk serves businesses across hundreds of industries, with more than 145,000 paid customer accounts offering service and support in over 30 languages.

Situation

- Zendesk operated across a hybrid infrastructure comprised of on-premise and multiple legacy point-cloud vendors. This setup proved expensive and difficult to maintain while providing suboptimal edge network performance.
- As Zendesk customers enhanced their customer experience by embedding Zendesk mobile SDKs and Web Widgets into their mobile apps and websites, Zendesk needed a performant and scalable edge network infrastructure with a high degree of control and configurability.

Cloudflare Solution

- Zendesk initially migrated to Cloudflare in 2013 to enhance its security protection and control, via Cloudflare's self-serve plan. Zendesk signed its first enterprise contract with Cloudflare in 2014, and has since expanded its usage to leverage a broad portfolio of Cloudflare products including Argo Smart Routing, Load Balancing, and Cloudflare Workers.
- In 2017, Zendesk opted to consolidate its edge network infrastructure behind Cloudflare. This not only allowed Zendesk to improve the performance of its software, but also provided Zendesk with a single unified control plane — dramatically reducing total cost of ownership while improving efficiency and ease-of-use.
- By using Cloudflare's platform in front of each of Zendesk's cloud storage and compute vendors, Zendesk is insulated from vendor lock-in. This independent layer of abstraction provides Zendesk leverage in pricing, performance, and functionality between vendors.
- Zendesk has leveraged Argo Smart Routing to accelerate its web traffic by up to 50%, with particularly dramatic improvements in regions with inconsistent Internet coverage including Southeast Asia, Africa, and Australia. These performance gains reduce Zendesk's need to manage and pay for additional public cloud services from other vendors.

"Before Cloudflare, we leveraged multiple vendors to protect our infrastructure and distribute our content globally — it was expensive and complex to operate and resulted in questionable performance improvement. Consolidating on Cloudflare has given us enterprise-grade defense mechanisms, incredible performance, and impressive reliability all from a single control plane. Better yet, Cloudflare provides a layer of abstraction between our customers and public cloud vendors giving us further flexibility to rapidly evolve our infrastructure in the future."

Jason Smale

Vice President of Engineering, Zendesk

Thomson Reuters

Thomson Reuters is a global brand that operates at the intersection of information and technology, empowering professionals worldwide to better manage their businesses.

Situation

- FindLaw, a Thomson Reuters subsidiary, provides a wealth of legal information and online marketing services to law firms.
- FindLaw is responsible for managing the security and performance of thousands of law firms' websites. FindLaw sought a way to manage these properties from a unified interface, and to rapidly administer security certificates and high performance to these sites.

Cloudflare Solution

- FindLaw initially began using Cloudflare's DNS service in May 2017. After a positive experience, in January 2018. FindLaw expanded its usage to include Firewall, SSL for SaaS, Rate Limiting, Load Balancing, and Argo Smart Routing.
- FindLaw leveraged Cloudflare's SSL for SaaS product to swiftly deploy modern security certificates to 8,500 of its customers.
- In addition to these products, FindLaw began using Cloudflare Workers in January 2019. As it transitioned its customers' sites from HTTP to the more secure HTTPS protocol, FindLaw utilized Cloudflare Workers to automatically secure any assets that otherwise would have been unprotected. FindLaw now views Workers as a first-line tool in its network architecture.

"Cloudflare is an immensely valuable partner for us, helping us ensure our customers' sites are secure and high-performing. The Cloudflare Workers platform opens up a new world of flexibility, allowing us to fix issues at the network edge, lightning fast — instead of having to wait hours, days, or weeks for server deploys."

Jesse Haraldson

Principal Software Architect, Thomson Reuters

Optimizely

Optimizely is a leading online testing and experimentation platform, used by many global, marquee brands to ensure their digital experiences are performing to their full potential.

Situation

- Optimizely's core product has historically used a Javascript-based implementation, which runs in the user's browser. While highly successful in the market, it comes with an inherent tradeoff: the more experiments one of Optimizely's customers runs, the more Optimizely must consider the potential impact on user browser performance.

Cloudflare Solution

- In the summer of 2018, Optimizely began collaborating with Cloudflare to identify ways it could leverage Cloudflare Workers and, by March 2019, Optimizely was actively developing using this product.
- Optimizely has been able to overhaul the implementation of its core product for its users by deploying Cloudflare Workers.
- Rather than execute test logic in the user's browser, Optimizely is able to perform these complex operations with Cloudflare Workers on the network edge.
- Optimizely's revamped implementation allows its customers to run orders-of-magnitude more tests concurrently, without the decrease in performance this would otherwise entail.
- This additional flexibility empowers Optimizely's customers with deeper insights into their properties, while expanding Optimizely's own business opportunity.

"Workers has allowed us to accelerate our product velocity around performance innovation, which I'm very excited about. But that's just the beginning – there's a lot that Cloudflare is doing from a technology perspective that we're very excited to partner on, so that we can bring our innovation to market faster."

Claire Vo

SVP of Product, Optimizely

Ericsson

Ericsson is one of the leading global networking and telecommunications companies, whose investments in innovation have delivered the benefits of telephony and mobile broadband to billions of people around the world.

Situation

- As with many enterprises, Ericsson relied on VPN to secure access for customer projects to central tools. Members of its engineering team routinely encountered issues with the VPN, leading to challenges working remotely and a myriad of support tickets (which consumed additional cycles of engineering resources to resolve).

Cloudflare Solution

- In September 2018, a small number of Ericsson engineers began using Cloudflare Access, our Zero Trust Security solution, in lieu of the existing VPN. Initial usage began via members of an internal Ericsson team empowered to explore new products, who signed up for our self-serve plan.
- Soon, hundreds of engineers were using Cloudflare Access, leading Ericsson to upgrade to an Enterprise Subscription Plan in December 2018. Today, over 1,000 members of its engineering team and associated technical staff rely on Access for secure authentication.
- By migrating secure user authentication from its VPN to Cloudflare Access, Ericsson has mitigated the friction and frustration its engineers were experiencing, while simultaneously reducing the associated support overhead.

"Cloudflare has helped us improve our continuous delivery capabilities by increasing uptime and reducing the costs of managing connectivity between project delivery teams and our delivery platform tools. Cloudflare enables our delivery teams to focus on delivering business value and spend less time managing delivery infrastructure. Cloudflare provides a very secure and scalable solution that integrates with the enterprise to achieve a seamless user experience for delivery teams."

Steve Carter

Head of DevOps Tools & Methodology, Ericsson

Ibm

IBM is a pioneer and leader in helping businesses leverage technology to maximize productivity, with products and services including high-value cloud capabilities, deep analytics, and artificial intelligence.

- In November 2017, IBM chose Cloudflare as its strategic partner to power IBM Cloud Internet Services, a set of edge network services easily accessed through IBM Cloud and designed to protect and secure websites, applications, and APIs against denial-of-service attacks, customer data compromise, and abusive bots while enhancing application performance and availability.
- Through its partnership with Cloudflare, IBM has become a one-stop shop for security and performance capabilities designed to protect public-facing web content and applications.

Discord

Discord is a leading communication platform for gamers, with over 250 million users and 315 million messages sent per day. Discord's client application provides high-fidelity Voice over Internet Protocol (VoIP) and chat functionality that makes it a hit with gamers around the world.

Situation

- Discord needed an affordable way to quickly scale beyond its existing infrastructure to support millions of new users each month.
- Because Discord is a gaming service, latency and performance are critical to the user experience.
- Each time Discord releases an update to its client, it must ensure its users can download the client immediately upon release at massive scale, without impacting performance of those using its service for gaming.
- Discord needed to protect its websockets-based traffic from frequent DDoS attacks aimed at disrupting the chat service during live gaming sessions.

Cloudflare Solution

- Discord migrated to Cloudflare's global cloud platform in August 2015. Cloudflare handles Discord's client releases seamlessly, while providing integrated enterprise-grade DDoS protection — meaning Discord does not have to choose between performance and security.
- By moving to Cloudflare, Discord achieved significant additional cost savings compared to traditional cloud hosting.
- After its initial positive experience, Discord looked to leverage other aspects of Cloudflare's platform. Beginning in March 2018, Discord began using Cloudflare Access, our Zero Trust Security solution that provides highly secure identity and access management for internal applications, without a VPN.
- Discord uses Cloudflare Workers for a number of critical use-cases, including serving all of the assets that power Discord's desktop applications.

"Cloudflare Workers has quickly proven to be a key part of providing a best-in-class user experience. Discord uses it extensively for core application delivery, download authentication, spam and abuse mitigation, and more. Our engineers now reach for Workers first to solve many kinds of challenges."

Mark Smith

Director of Infrastructure, Discord

Our Technology

Our distributed and proprietary network is the core of our technology, and enables us to move data seamlessly from nearly any point on earth in a fast, efficient, and reliable manner. Our network has been built from the ground up as a single software stack we developed that runs our products in 193 cities and over 90 countries worldwide. This allows us to scale quickly while offering a wide range of products and simultaneously lowering operating expenses.

Efficient Serverless Network Design

We have developed a single software stack that is responsible for all of our products. We have been able to efficiently scale our network by building it with inexpensive, commodity hardware components that are powered by our proprietary software. This integrated stack has made scaling, debugging, optimizing, and operating our platform easier and cheaper than competing services. It also allows us to deploy changes across our entire worldwide network in a matter of seconds. In addition, we embed encryption chips into the motherboards of our servers that are designed to preclude anyone else from running unauthorized software on our equipment. This allows us to securely, quickly, and inexpensively expand our infrastructure far and wide in order to offer the best service and drive down operating costs.

Our serverless network design allows each individual machine in our global network to run the complete suite of our software and provide all of our products. We have built coordination software that ties together these thousands of machines into a single global network that allows us to efficiently route traffic to different physical locations and to individual machines. This enables us to maximize utilization of our commodity hardware and provide different service levels to different customers. It also allows our network to get more efficient and powerful as we add each incremental server, regardless of where it is located. Every time we add a server or add a new city, our entire network improves.

Network Flexibility

Our platform is API-driven and designed for developers. We have an API-first mentality which means that anything that a customer can do via our web interface can also be performed by our API. This allows our customers to easily embed our service in their own workflows. For example, a customer can use our web interface or API to change its custom configuration and that will be rolled out globally by our configuration software in seconds. This contrasts with many vendors' solutions where configuration changes can take hours and require professional services.

Our software dynamically spreads loads across our entire distributed network depending on current network conditions and traffic priority. This enables us to deliver different quality of service depending on what customers pay us, ensuring our highest paying customers get the best performance and permitting us to serve our lower paying and free customers from excess capacity.

Given the distributed and highly efficient nature of our network, we can easily develop new features and products on our platform and deploy them without significant incremental costs. The flexibility of our serverless platform now allows us to open it to third parties to write code directly on our network through our Cloudflare Workers product.

Research and Development

Our research and development organization is responsible for the design, development, testing, and delivery of our global platform and products. We have a proven team that constantly works to expand our market, customer and user reach and impact with new, innovative products.

Our R&D team has a unique structure that has allowed us to build a broad swathe of products while continuing to innovate. One group works closely with our product management organization to improve, refine and expand our existing products. A second independent group builds greenfield opportunities that can expand our market and reach new markets. In addition, we have a leading cryptography research team which ensures our platform and customers are secured with the latest cryptography.

We prioritize investment in research and development. Those investments have continued to result in the launch of innovative products that have helped us attract new customers and sell more to our existing customers. Our research and development organization currently is distributed globally across three principal cities: London, United Kingdom, San Francisco, California, and Austin, Texas.

We have built a culture motivated by the mission of helping to build a better Internet. As a result, our engineer turn-over rate is approximately half the industry average, and employees are able to move between teams cross-pollinating them with experience and insight. We have a very strong inflow of R&D job applications reflecting our strong engineering heritage and are able to pick and choose the best engineering talent worldwide.

Sales

We have a multi-pronged go to market approach that allows us to efficiently serve the needs of very small to very large customers. By using a combination of self-serve web sales, direct sales, and indirect sales, we are able to serve the greatest diversity of customers across all sizes.

We sell our self-serve plans through our website and hosting partners where a customer can either start on a free or paid plan and, as we demonstrate value, upgrade over time. Our paying self-serve customers are able to sign up for our Pro or Business plans that are payable monthly. Self-serve customers are able to onboard and customize our products through our website and pay for their subscription using a credit card. Our automated and easy to use process enables us to efficiently onboard thousands of new customers per day without requiring any interaction with our sales team. As self-serve customers evolve their usage of our products, some upgrade to an Enterprise plan for greater control, higher service levels, or productivity-related tools.

We sell our Enterprise plan directly through our technically-oriented inside and field sales teams, and also indirectly through our ecosystem of partners. Our Enterprise plan customers typically are replacing on-premise hardware with cloud network services, or consolidating multiple existing cloud services onto one platform with Cloudflare. For large enterprise customers, our relationships often start with a portion of the customer's overall network needs and expand over time as they consolidate other vendors' services and increase their adoption of our platform.

Our scalable sales model combined with our fast and easy setup allows our customers to quickly realize the value of our platform and products. This fast time-to-value system is the basis upon which we have built a high-velocity enterprise sales model with industry leading sales cycles. Over the last four quarters, our average sales cycle for customers on annual contracts is less than one quarter. This throughput allows us to efficiently ramp our sales team to world-class productivity levels, that, when coupled with our net expansion rates, drive high return on our sales investments.

Marketing

Our marketing aims to clearly communicate the value of our offerings to a large and diverse set of global customers at scale. We drive organic awareness and adoption of our platform by providing a free self-serve offering that enables millions of users to experience the benefits of our global cloud platform before they adopt our paid self-serve or paid enterprise offerings. Our free service also has the benefit of helping developers understand the power of our platform. These developers often take Cloudflare to work with them, and their enterprises become paying Cloudflare customers. We also share our progress across blogs, social media, and other channels to help build our brand and visibility among technical communities. In addition, our consumer products, including 1.1.1.1 and Warp, provide an effective and differentiated marketing channel to expand the awareness of our brand.

We invest in a variety of targeted digital and non-digital marketing activities and programs to build awareness, engage with prospects, and build pipeline for our global enterprise sales teams. We also share stories of how large enterprises are rapidly adopting our services across use cases, industry verticals, and geographies, to communicate customer trust and our market momentum.

We drive retention and expansion of existing customers by creating rich how-to content and intelligently promoting new product and feature announcements to targeted customers.

Competition

We compete in the market for network services primarily across three categories:

- *On-premise network hardware vendors* such as Cisco Systems, Inc., F5 Networks, Inc., Check Point Software Technologies Ltd., FireEye, Inc., Imperva, Inc., Palo Alto Networks, Inc., Juniper Networks, Inc., and Riverbed Technology, Inc. We compete with these companies to provide security, performance, and reliability services. Today, they represent our primary competition.

We believe we are positioned favorably against these vendors with our cloud-based, multitenant approach that is better suited to an increasingly cloud-based world and that allows customers to treat our services as operational as opposed to capital costs.

- *Point-cloud solution vendors* in various categories including cloud security vendors (such as Zscaler, Inc. and Cisco Systems, Inc. through Umbrella (formerly known as OpenDNS)), CDN vendors (such as Akamai Technologies, Inc., Limelight Networks, Inc., Fastly, Inc., and Verizon Communications Inc. through Edgecast), DNS services vendors (such as Oracle Corporation through DYN, Neustar, Inc., and UltraDNS Corporation), and cloud SD-WAN vendors.

These providers are all focused on delivering point-cloud solutions. However, customers are increasingly looking for an integrated platform offering security, performance, and reliability through a single vendor.

- *A subset of services provided by traditional public cloud vendors* such as Amazon.com, Inc. through Amazon Web Services, Alphabet Inc. through Google Cloud Platform, Microsoft Corporation through Azure, and Alibaba Group Holding Limited through Alibaba Cloud. Today, we work closely with these companies, some of whom are both partners and investors. In the long term, we may increasingly compete with them.

We believe customers want the ability to set a consistent policy across their on-premise, cloud, hybrid, and SaaS vendors, and be able to enforce that policy through an independent platform. Customers are concerned about being locked in to any one public cloud provider. Our ability to efficiently and inexpensively move data between multiple clouds allows our customers to pick and choose the best from any cloud provider without fearing lock-in. Furthermore, unlike some public cloud providers, our business model aligns fully with the interests of our customers. We do not sell user data. We do not aim to compete with our customers.

As we open our serverless platform to third-party developers, we believe we will increasingly compete with public cloud vendors for storage and compute workloads. Because of the efficiency of our Cloudflare Workers product, we are able to offer it at prices that are highly competitive with public cloud vendors, and because it is distributed across our entire network, it enables the development of applications that were not previously possible on the traditional public cloud.

The principal competitive factors in the markets in which we operate include:

- breadth of platform features and continued innovation;
- integrated solutions across security, performance, and reliability;
- unified control plane across on-premise, cloud, hybrid, and SaaS infrastructure;
- performance, availability, and effectiveness;
- platform scalability;
- total cost of ownership;
- ease of adoption and use;
- global network coverage;
- quality of customer support;
- programmability and extensibility of platform; and
- independence, reputation, and trust.

We believe that we are positioned favorably against our competitors based on these principal competitive factors.

Core Values, Initiatives We Support, and Employees

Core Values

Cloudflare's mission is to help build a better Internet. Our core values are at the heart of how we live up to our mission. We have three core values: we are principled, we are curious, and we are transparent. By principled, we mean thoughtful, consistent, and long-term oriented about what the right course of action is. By curious, we mean taking on big challenges and understanding the why and how behind things. Finally, by transparent, we mean being clear in the why and the how we decide to do things both internally and externally. These core values are embodied in everything we do. They guide our actions on a day to day basis. They highlight to customers and potential prospects what we stand for, and we look for them in all the employees we hire.

Initiatives we support

We have launched various initiatives to help build a better Internet, including:

- **Project Galileo**: For over five years, we have equipped at-risk public interest groups with a set of our products at no cost to defend themselves against attacks that would otherwise censor their work. The nearly 600 recipients of services under Project Galileo include independent journalists reporting on repressive regimes, minority rights and arts groups in closed societies, and civil society organizations supporting democratic movements.
- **Athenian Project**: We created Athenian Project to ensure that state and local governments' election websites have the highest level of protection and reliability for free. During the 2018 elections we provided our products to state and local election officials in nearly half of U.S. states.

Our Employees

As of June 30, 2019, we had 1,069 full-time employees, including 347 employees located outside of the United States. We also engage contractors and consultants. None of our employees are represented by a labor union. We have not experienced any work stoppages and we believe that our employee relations are strong.

Intellectual Property

Our success depends in part upon our ability to protect and use our core technology and intellectual property rights. We rely on a combination of patents, copyrights, trademarks, trade secrets, know-how, contractual provisions and confidentiality procedures to protect our intellectual property rights. As of June 30, 2019, we had over 100 issued patents and 60 pending patent applications in the United States and abroad. These patents and patent applications seek to protect our proprietary inventions relevant to our business. Our issued patents are scheduled to expire between 2030 and 2038, and cover various aspects of our platform and products. In addition, we have registered "Cloudflare" as a trademark in the United States and other jurisdictions and we have filed other trademark applications in the United States. We are also the registered holder of a variety of domestic and international domain names that include "Cloudflare"–including, most importantly, "Cloudflare.com"–and also many variations.

In addition to the protection provided by our intellectual property rights, we enter into proprietary information and invention assignment agreements or similar agreements with our employees, consultants, and contractors. We further control the use of our proprietary technology and intellectual property rights through provisions in our subscription agreements.

Our Facilities

Our corporate headquarters is located in San Francisco, California, pursuant to operating leases that expire at various times between 2022 and 2027. We lease additional offices in the United States and around the world, including in Singapore and London, United Kingdom. We believe that our facilities are suitable to meet our current needs. We intend to expand our current facilities or add new facilities as we add employees and enter new geographic markets, and we believe that suitable additional or alternative space will be available as needed to accommodate any such growth. In addition, we house our network equipment in co-location facilities and ISP-partner facilities located in 193 cities and over 90 countries around the world.

Legal Proceedings

We are not a party to any material legal proceedings. From time to time we may be subject to legal proceedings and claims arising in the ordinary course of business, and an unfavorable resolution of any of these matters could materially affect our future business, results of operations, or financial condition.

Future litigation may be necessary, among other things, to defend ourselves or our customers by determining the scope, enforceability, and validity of third-party proprietary rights or to establish our proprietary rights. The results of any litigation cannot be predicted with certainty and, regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources, and other factors.

Management

MANAGEMENT

Executive Officers and Directors

The following table provides information regarding our executive officers and directors as of August 15, 2019:

Name	Age	Position(s)
Executive officers:		
Matthew Prince	44	Chief Executive Officer and Chair of the Board of Directors
Michelle Zatlyn	40	Chief Operating Officer and Director
Thomas Seifert	55	Chief Financial Officer
Douglas Kramer	48	General Counsel
Non-employee directors:		
Maria Eitel[(2)]	57	Director
Carl Ledbetter[(1)]	70	Director
Stanley Meresman[(1)]	72	Director
Scott Sandell[(2)]	54	Lead Independent Director

(1) Member of audit committee

(2) Member of compensation committee

(3) Member of nominating and corporate governance committee

Executive officers

Matthew Prince. Mr. Prince is one of our co-founders and has served as our Chief Executive Officer and Chair of our Board of Directors since July 2009. He also co-founded Unspam Technologies, Inc., a software and services company, and has served as its chair since December 2001. Mr. Prince holds a B.A. in English and a minor in Computer Science from Trinity College-Hartford, an M.B.A. from Harvard Business School, and a J.D. from the University of Chicago Law School.

Mr. Prince was selected to serve on our Board of Directors because of the perspective and experience he brings as our Chief Executive Officer and as one of our co-founders.

Michelle Zatlyn. Ms. Zatlyn is one of our co-founders and served as our Head of User Experience from 2009 until she was appointed as our Chief Operating Officer in 2016. She has served as a member of our Board of Directors since November 2009. Ms. Zatlyn holds a B.Sc. in Chemistry and Business from McGill University, and an M.B.A. from Harvard Business School.

Ms. Zatlyn was selected to serve on our Board of Directors because of the perspective and experience she brings as our Chief Operating Officer and as one of our co-founders.

Thomas Seifert. Mr. Seifert has served as our Chief Financial Officer since June 2017. Prior to joining us, he served as Executive Vice President and Chief Financial Officer of Symantec Corporation, a provider of cybersecurity software and services, from March 2014 to November 2016 and served in an advisory capacity to Symantec from December 2016 to March 2017. From December 2012 to March 2014, Mr. Seifert served as Executive Vice President and Chief Financial Officer of Brightstar Corp., a wireless distribution and services company. From October 2009 to September 2012, he served as Senior Vice President and Chief Financial Officer at Advanced Micro Devices Inc., a semiconductor company, where he additionally served as Interim Chief Executive Officer from January 2011 to August 2011. Mr. Seifert currently serves as a member of the board of directors of IPG Photonics Corporation, a manufacturer of fiber lasers, and CompuGroup Medical SE, an eHealth provider. Mr. Seifert holds a B.A. in Business Administration and an M.B.A. from Friedrich Alexander University in Germany, and an M.A. in Mathematics and Economics from Wayne State University.

Douglas Kramer. Mr. Kramer has served as our General Counsel since August 2016. Prior to joining us, he served as Deputy Administrator of the U.S. Small Business Administration from April 2015 to July 2016. From November 2013 to March 2015, Mr. Kramer served as General Counsel of the United States Agency for International Development. He served in the White House as Staff Secretary and Deputy Assistant to the President from March 2012 to November 2013, and Associate Counsel and Special Assistant to the President of the United States from September 2010 to March 2012. From July 2009 to September 2010, Mr. Kramer served as Counsel to the Assistant Attorney General for the Antitrust Division of the United States Department of Justice. From July 2006 to June 2009, he served as a Partner with the law firm of Polsinelli PC. From 2001 to 2006, Mr. Kramer was an Associate at the law firm of Covington & Burling LLP. Mr. Kramer holds a B.A. in Philosophy and English from Georgetown University, and a J.D. from the University of Chicago Law School.

Non-employee directors

Maria Eitel. Ms. Eitel has served on our Board of Directors since December 2018 and as Chair of our compensation committee since February 2019. Since September 2015, Ms. Eitel has served as the Co-Chair of the Nike Foundation, a non-profit organization funded by NIKE, Inc., and Chair of Girl Effect, an independent non-profit organization she founded with the goal of transforming the lives of adolescent girls. She served as the Founder, CEO and President of the Nike Foundation from March 2005 to September 2015. From January 1998 to March 2005, Ms. Eitel was the first Vice President, Corporate Responsibility of NIKE, a designer, developer, and seller of athletic footwear, apparel, equipment, accessories and services. Ms. Eitel holds a B.A. in Humanistic Studies from McGill University, an M.S. in Foreign Service from Georgetown University and an Honorary Doctorate of Humane Letters from Babson College.

Ms. Eitel was selected to serve on our Board of Directors because of the perspective and experience she brings from her role as an executive in a publicly traded company and from her background in corporate social responsibility.

Carl Ledbetter. Dr. Ledbetter has served as a member of our Board of Directors since November 2009 and as a member of our audit committee since December 2018. He served as a Managing Director of Pelion Venture Partners, a venture capital firm, from June 2003 through June 2019 and currently serves as a Partner. Dr. Ledbetter currently serves on the board of directors of several privately held companies. Dr. Ledbetter holds a B.S. in Mathematics from the University of Redlands, an M.S. in Mathematics from Brandeis University, and a Ph.D. in Mathematics from Clark University.

Dr. Ledbetter was selected to serve on our Board of Directors because of his understanding of networking technology and his experience in the venture capital industry and as a director of several technology companies.

Stanley Meresman. Mr. Meresman has served on our Board of Directors since December 2018 and as Chair of our audit committee since December 2018. During the last 10 years, he has served on the board of directors of various public and private companies, including service as chair of the audit committee for certain of these companies. Mr. Meresman previously served as a Venture Partner with Technology Crossover Ventures, a private equity firm, from January 2004 through December 2004, and as its General Partner and Chief Operating Officer from November 2001 to December 2003. He currently serves on the boards of directors, and as chair of the audit committees, of Guardant Health, Inc., a precision oncology company, Medallia, Inc., a customer experience management company, and Snap Inc., a technology and camera company, and previously served as a member of the boards of directors, and chair of the audit committees, of LinkedIn Corporation, a career-focused social networking site acquired by Microsoft Corporation, Meru Networks, Inc., a supplier of wireless local area networks acquired by Fortinet, Inc., Palo Alto Networks, Inc., a cybersecurity company, Riverbed Technology, Inc., an IT company acquired by Thoma Bravo, LLC, and Zynga Inc., a social gaming company. He is also a board member of several private companies. Mr. Meresman holds a B.S. in Industrial Engineering and Operations Research from the University of California, Berkeley and an M.B.A. from the Stanford Graduate School of Business.

Mr. Meresman was selected to serve as a member of our Board of Directors because of his experience with networking technologies, financial expertise, and years of strategic and management experience in the technology industry.

Scott Sandell. Mr. Sandell has served as a member of our Board of Directors since November 2009 and as a member of our audit committee since December 2018. He has served as Managing General Partner of New Enterprise Associates, Inc. (NEA), a venture capital firm, since April 2017, Co-Managing General Partner from March 2015 to April 2017, and as a General Partner since September 2000. Mr. Sandell joined NEA in January 1996 and served as head of the firm's technology investing practice for 10 years. He currently serves on the board of directors of Bloom Energy Corporation, a provider of solid-oxide fuel cell systems, and previously served on the board of directors of Fusion-io, Inc., a computer hardware and software systems company acquired by SanDisk Corporation, Tableau Software, Inc., a software company, and Workday, Inc., a provider of on-demand financial management and human capital management software. Mr. Sandell holds an A.B. in Engineering from Dartmouth College and an M.B.A. from Stanford University.

Mr. Sandell was selected to serve on our Board of Directors because of his experience in the venture capital industry and as a director of both publicly and privately held technology companies.

Code of Business Conduct and Ethics

Our Board of Directors intends to adopt a code of business conduct and ethics that applies to all of our employees, officers, and directors, including our Chief Executive Officer, Chief Operating Officer, Chief Financial Officer, and other executive and senior financial officers. The full text of our code of business conduct and ethics will be posted on the investor relations page on our website. We intend to disclose any amendments to our code of business conduct and ethics, or waivers of its requirements, on our website, or in filings under the Exchange Act.

Board of Directors

Our business and affairs are managed under the direction of our Board of Directors. Our Board of Directors consists of six directors, four of whom qualify as "independent" under the listing standards of the New York Stock Exchange (the NYSE). Pursuant to our current certificate of incorporation and amended and restated voting agreement, our current directors were elected as follows:

- Mr. Prince and Ms. Zatlyn were elected as the designees nominated by certain key holders of our outstanding common stock;
- Mr. Sandell was elected as the redeemable convertible preferred stock designee nominated by entities affiliated with NEA;
- Dr. Ledbetter was elected as the redeemable convertible preferred stock designee nominated by entities affiliated with Pelion Ventures; and
- Ms. Eitel, Mr. Meresman, and were elected as the independent directors, with being the independent director designated by entities affiliated with Venrock.

Our amended and restated voting agreement will terminate and the provisions of our current certificate of incorporation by which our directors were elected will be amended and restated in connection with this offering. After this offering, the number of directors will be fixed by our Board of Directors, subject to the terms of our amended and restated certificate of incorporation and amended and restated bylaws that will become effective immediately prior to the completion of this offering. Each of our current directors will continue to serve as a director until the election and qualification of his or her successor, or until his or her earlier death, resignation, or removal.

Classified Board of Directors

We intend to adopt an amended and restated certificate of incorporation that will become effective immediately prior to the completion of this offering. Our amended and restated certificate of incorporation will provide that, immediately after the completion of this offering, our Board of Directors will be divided into three classes with staggered three-year terms. Only one class of directors will be elected at each annual meeting of stockholders, with the other classes continuing for the remainder of their respective three-year terms. Our current directors will be divided among the three classes as follows:

- the Class I directors will be Scott Sandell and Michelle Zatlyn, and their terms will expire at the annual meeting of stockholders to be held in 2020;
- the Class II directors will be Maria Eitel and Matthew Prince, and their terms will expire at the annual meeting of stockholders to be held in 2021; and
- the Class III directors will be Carl Ledbetter and Stanley Meresman, and their terms will expire at the annual meeting of stockholders to be held in 2022.

Each director's term will continue until the election and qualification of his or her successor, or until his or her earlier death, resignation, or removal. Any increase or decrease in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the total number of our directors.

This classification of our Board of Directors may have the effect of delaying or preventing changes in control of our company. See the section titled "Description of Capital Stock—Anti-Takeover Provisions—Amended and Restated Certificate of Incorporation and Amended and Restated Bylaw Provisions" for additional information.

Director Independence

Our Board of Directors has undertaken a review of the independence of each director. Based on information provided by each director concerning his or her background, employment and affiliations, our Board of Directors has determined that each of our directors, other than Mr. Prince and Ms. Zatlyn, do not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is "independent" as that term is defined under the listing standards of the NYSE. In making these determinations, our Board of Directors considered the current and prior relationships that each non-employee director has with our company and all other facts and circumstances our Board of Directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director, and the transactions involving them described in the section titled "Certain Relationships and Related Party Transactions."

Lead Independent Director

Our Board of Directors has adopted corporate governance guidelines that provide that one of our independent directors should serve as our Lead Independent Director if the Chair is not independent. Our Board of Directors has appointed Scott Sandell to serve as our Lead Independent Director. As Lead Independent Director, Mr. Sandell will preside over periodic meetings of our independent directors, serve as a liaison between our Chair and our independent directors and perform such additional duties as our Board of Directors may otherwise determine and delegate.

Committees of the Board of Directors

Our Board of Directors has established an audit committee, a compensation committee, and a nominating and corporate governance committee. The composition and responsibilities of each of the committees of our Board of Directors is described below. Members will serve on these committees until their resignation or until as otherwise determined by our Board of Directors.

Audit Committee

Following the completion of this offering, our audit committee will consist of Mr. Meresman and Dr. Ledbetter with Mr. Meresman serving as Chair. Mr. Meresman meets the requirements for independence under the listing standards of the NYSE and SEC rules and regulations. We intend to rely on the phase-in provisions of Rule 10A-3 of the Exchange Act and the NYSE transition rules applicable to companies completing an initial public offering, and we plan to have an audit committee comprised entirely of at least three directors that are independent for purposes of serving on an audit committee within one year after our listing date. Each member of our audit committee also meets the financial literacy and sophistication requirements of the listing standards of the NYSE. In addition, our Board of Directors has determined that Mr. Meresman is an audit committee financial expert within the meaning of Item 407(d) of Regulation S-K under the Securities Act. Following the completion of this offering, our audit committee will be responsible for, among other things:

- selecting a qualified firm to serve as the independent registered public accounting firm to audit our financial statements;
- helping to ensure the independence and overseeing performance of the independent registered public accounting firm;
- reviewing and discussing the scope and results of the audit with the independent registered public accounting firm, and reviewing, with management and the independent registered public accounting firm, our interim and year-end operating results;
- reviewing our financial statements and our critical accounting policies and estimates;
- reviewing the adequacy and effectiveness of our internal controls;
- developing procedures for employees to submit concerns anonymously about questionable accounting, internal accounting controls, or audit matters;
- overseeing our policies on risk assessment and risk management;
- overseeing compliance with our code of business conduct and ethics;
- reviewing related party transactions;
- pre-approving all audit and all permissible non-audit services to be performed by the independent registered public accounting firm; and
- overseeing the adoption of new accounting standards.

Our audit committee will operate under a written charter, to be effective prior to the completion of this offering, that satisfies the applicable rules and regulations of the SEC and the listing standards of the NYSE.

Compensation Committee

Following the completion of this offering, our compensation committee will consist of Ms. Eitel and Mr. Sandell, with Ms. Eitel serving as Chair, each of whom will meet the requirements for independence under the listing standards of the NYSE and SEC rules and regulations. Each member of our compensation committee will also be a non-employee director, as defined pursuant to Rule 16b-3 promulgated under the Exchange Act. Following the completion of this offering, our compensation committee will be responsible for, among other things:

- reviewing, approving, and determining, or making recommendations to our Board of Directors regarding, the compensation of our executive officers, including our Chief Executive Officer;
- administering our equity compensation plans;
- reviewing, approving, and administering incentive compensation and equity compensation plans;
- reviewing and approving our overall compensation philosophy; and
- making recommendations regarding non-employee director compensation to our full Board of Directors.

Our compensation committee will operate under a written charter, to be effective prior to the completion of this offering, that satisfies the applicable rules and regulations of the SEC and the listing standards of the NYSE.

Nominating and Corporate Governance Committee

Following the completion of this offering, our nominating and corporate governance committee will consist of and , with serving as Chair, each of whom will meet the requirements for independence under the listing standards of the NYSE and SEC rules and regulations. Following the completion of this offering, our nominating and corporate governance committee will be responsible for, among other things:

- identifying, evaluating, and selecting, or making recommendations to our Board of Directors regarding, nominees for election to our Board of Directors and its committees;
- overseeing the evaluation of the performance of our Board of Directors and of individual directors;
- considering and making recommendations to our Board of Directors regarding the composition of our Board of Directors and its committees;
- overseeing our corporate governance practices;
- contributing to succession planning; and
- developing and making recommendations to our Board of Directors regarding corporate governance guidelines and matters.

Our nominating and corporate governance committee will operate under a written charter, to be effective prior to the completion of this offering, that satisfies the applicable listing standards of the NYSE.

Compensation Committee Interlocks and Insider Participation

None of the members of our compensation committee is or has been an officer or employee of our company. None of our executive officers currently serves, or in the past year has served, as a member of the board of directors or compensation committee (or other board committee performing equivalent functions) of any entity that has one or more of its executive officers serving on our Board of Directors or compensation committee.

Non-Employee Director Compensation

Our employee directors, Mr. Prince and Ms. Zatlyn, have not received any compensation for their services as directors for 2018. For the compensation received by Mr. Prince, see the section titled "Executive Compensation—2018 Summary Compensation Table."

The following table provides information regarding compensation of our non-employee directors for service as directors for the year ended December 31, 2018. In 2018, we did not pay any compensation to any person who served as a non-employee member of our Board of Directors who is affiliated with our greater than 5% stockholders.

Name	Option awards ($)[1]	Total ($)
Maria Eitel[2]	420,046	420,046
Stanley Meresman[3]	672,074	672,074

(1) The amounts reported represent the aggregate grant date fair value of the stock option granted under our 2010 Plan, calculated in accordance with ASC Topic 718. The assumptions used in calculating the grant-date fair value of the stock options reported in this column are set forth in Note 10 to our consolidated financial statements included elsewhere in this prospectus. These amounts do not reflect the actual economic value that may be realized by the director.

(2) Ms. Eitel became a member of our Board of Directors in December 2018. As of December 31, 2018, Ms. Eitel held a stock option to purchase 110,000 shares of our Class B common stock. The shares subject to the option are immediately exercisable and vest in 16 equal quarterly installments beginning on December 12, 2018, subject to Ms. Eitel's continuous service to us through each such date. The shares subject to the option shall accelerate and vest in full upon the completion of a change in control.

(3) Mr. Meresman became a member of our Board of Directors in December 2018. As of December 31, 2018, Mr. Meresman held a stock option to purchase 176,000 shares of our Class B common stock. The shares subject to the option are immediately exercisable and vest in 16 equal quarterly installments beginning on December 12, 2018, subject to Mr. Meresman's continuous service to us through each such date. The shares subject to the option shall accelerate and vest in full upon the completion of a change in control.

In July 2019, our Board of Directors approved new awards of RSUs for 20,000 shares of Class B common stock to Ms. Eitel. The shares vest upon the satisfaction of both a service-based vesting condition and a performance vesting condition. The performance vesting condition will be satisfied upon the first to occur of the following events: (i) a change in control; or (ii) the effective date of our registration statement filed under the Securities Act for the first underwritten public sale of our common stock. The service-based vesting condition is satisfied in 16 equal quarterly installments beginning on February 5, 2019, subject to continued service to us through each such date.

Prior to this offering, we did not have a formal policy with respect to compensation payable to our non-employee directors for service as directors. From time to time, we have granted equity awards to certain non-employee directors to entice them to join our Board of Directors and for their continued service on our Board of Directors. We also have reimbursed our directors for expenses associated with attending meetings of our Board of Directors and committees of our Board of Directors.

In June 2019, our Board of Directors adopted a new compensation policy for our non-employee directors that will be effective as of the date of the effectiveness of the registration statement of which this prospectus forms a part, subject to the approval of our stockholders prior to such time. This policy was developed with input from our compensation committee's independent compensation consultant, Compensia, Inc., regarding practices and compensation levels at comparable companies. It is designed to attract, retain, and reward non-employee directors.

Under this director compensation policy, each non-employee director will receive cash and equity compensation for his or her service as a member of our Board of Directors, as described below. We also will continue to reimburse our non-employee directors for reasonable, customary, and documented travel expenses to meetings of our Board of Directors or its committees.

The director compensation policy includes a maximum annual limit of $750,000 of cash compensation and equity awards that may be paid, issued, or granted to a non-employee director in any fiscal year. For purposes of this limitation, the value of an equity award is based on its grant date fair value (determined in accordance with U.S. GAAP). Any cash compensation paid or equity awards granted to a person for his or her services as an employee, or for his or her services as a consultant (other than as a non-employee director), will not count for purposes of the limitation. The maximum limit does not reflect the intended size of any potential compensation or equity awards to our non-employee directors.

Cash Compensation

Following the completion of this offering, each non-employee director will be paid an annual cash retainer of $30,000. In addition, each non-employee director will receive the following additional cash compensation under the policy for his or her services:

- $20,000 per year for service as audit committee chair;
- $10,000 per year for service as a member of the audit committee;
- $12,000 per year for service as compensation committee chair;
- $6,000 per year for service as a member of the compensation committee;
- $7,500 per year for service as nominating and corporate governance committee chair; and
- $4,000 per year for service as a member of the nominating and corporate governance committee.

Each non-employee director who serves as a committee chair will receive only the additional annual cash fee as the chair of the committee, and not the additional annual fee as a member of the committee. All cash payments to non-employee directors are paid quarterly in arrears on a prorated basis.

Equity Compensation

Initial Award

Each person who first becomes a non-employee director after the effective date of the director compensation policy will receive, on the first trading date on or after the date on which the person first becomes a non-employee director, an initial award of RSUs (the Initial Award) covering a number of shares of our common stock having a grant date fair value (determined in accordance with U.S. GAAP) equal to $400,000, rounded to the nearest whole share. The Initial Award will vest in three equal, annual installments on each anniversary of the date of becoming a non-employee director, subject to continuing to provide services to us through each applicable vesting date. If the person was a member of our Board of Directors and also an employee, becoming a non-employee director due to termination of employment will not entitle the person to an Initial Award.

Annual Award

Each non-employee director who has completed at least six months of continuous service as a non-employee director automatically will receive, on the date of each annual meeting of our stockholders following the effective date of the director compensation policy, an annual award of RSUs (the Annual Award) covering a number of shares of our common stock having a grant date fair value (determined in accordance with U.S. GAAP) equal to $200,000, rounded to the nearest whole share. Each Annual Award will vest on the earlier of (i) the one-year anniversary of the date the Annual Award is granted or (ii) the day prior to the date of the annual meeting of our stockholders that next follows the grant date of the Annual Award, subject to continuing to provide service to us through the applicable vesting date.

Change in Control

In the event of a "change in control" (as defined in our 2019 Equity Incentive Plan (2019 Plan)), each non-employee director will fully vest in his or her outstanding company equity awards, provided that the non-employee director continues to be a non-employee director through the date of our change in control.

Executive Compensation

EXECUTIVE COMPENSATION Our named executive officers, consisting of our principal executive officer and the three most highly compensated executive officers (other than our principal executive officer), as of December 31, 2018, were:

- Matthew Prince, our Chief Executive Officer;

- Michelle Zatlyn, our Chief Operating Officer;
- Thomas Seifert, our Chief Financial Officer; and
- Douglas Kramer, our General Counsel.

The amounts below represent the compensation paid to our named executive officers for 2018.

2018 Summary Compensation Table

Name and principal position	Year	Salary ($)	All other compensation($)[1]	Total ($)
Matthew Prince	2018	400,000	—	400,000
Chief Executive Officer				
Michelle Zatlyn	2018	400,000	—	400,000
Chief Operating Officer				
Thomas Seifert	2018	650,000	40,000	690,000
Chief Financial Officer				
Douglas Kramer	2018	537,708	—	537,708
General Counsel				

(1) The amount disclosed consists of $40,000 related to relocation assistance costs paid in 2018 related to Mr. Seifert's joining us and relocating to San Francisco, California.

Outstanding Equity Awards at 2018 Year-End

The following table sets forth information regarding outstanding equity awards held by our named executive officers as of December 31, 2018.

	Option Awards				
Name	Grant Date[1]	Number of SecuritiesUnderlyingUnexercisedOptions (#)Exercisable		Number of SecuritiesUnderlyingUnexercisedOptions (#)Unexercisable	Equity IncentivePlanAwards:Number ofSecuritiesUnderlyingUnexercisedUnearnedOpt #
Matthew Prince	08/08/2017	—		—	—
Michelle Zatlyn	08/08/2017	—		—	4,000,000
Thomas Seifert	06/30/2017	934,058	(5) (6)	—	—
	07/26/2017	—		—	1,446,283
Douglas Kramer	09/30/2016	—		—	—
	07/26/2017	—		—	175,000

(1) Each of the outstanding equity awards was granted pursuant to our 2010 Plan.

(2) This amount reflects the fair market value of our Class B common stock of $8.56 as of December 31, 2018 (the determination of the fair market value by our Board of Directors as of the most proximate date) multiplied by the amount shown in the column for the number of shares or units that have not vested.

(3) The shares were acquired pursuant to an early exercise provision and remain subject to our repurchase right in accordance with the vesting schedule of the stock option. This award is subject to vesting acceleration under certain circumstances.

(4) The shares vest upon the satisfaction of both a time-based condition and a performance-based condition. The performance-based condition will be satisfied upon the occurrence of a qualifying event as follows: (i) our equity securities are listed for sale on a public stock exchange; (ii) the closing of a change of control as defined in the 2010 Plan; or (iii) an event occurs that our Board of Directors in its sole discretion deems to be a qualifying event. The shares vest in 48 equal monthly installments beginning on the qualifying event date, subject to continued service to us through each such date. This award is subject to vesting acceleration under certain circumstances.

(5) The shares are subject to an early exercise provision and are immediately exercisable.

(6) The shares underlying this stock option vested as to 1/4th of the total shares on June 1, 2018 and the remaining shares vest in 36 equal monthly installments thereafter, subject to Mr. Seifert's continued service to us through each such date. This award is subject to vesting acceleration under certain circumstances.

(7) The shares vest in 20 equal monthly installments beginning on January 22, 2019, subject to Mr. Kramer's continued service to us through each such date. This award is subject to vesting acceleration under certain circumstances.

Executive Employment Arrangements

Matthew Prince

Prior to the completion of this offering, we intend to enter into a confirmatory employment agreement with Matthew Prince, our Chief Executive Officer. The confirmatory employment agreement is not expected to have a specific term and will provide that Mr. Prince is an at-will employee. The agreement will supersede all existing agreements and understandings that Mr. Prince may have concerning his employment relationship with us. The confirmatory employment agreement also is expected to provide Mr. Prince with severance and change in control benefits. Mr. Prince's current annual base salary is $400,000. Mr. Prince is not currently eligible for an annual target cash incentive payment.

Michelle Zatlyn

Prior to the completion of this offering, we intend to enter into a confirmatory employment agreement with Michelle Zatlyn, our Chief Operating Officer. The confirmatory employment agreement is not expected to have a specific term and will provide that Ms. Zatlyn is an at-will employee. The agreement will supersede all existing agreements and understandings that Ms. Zatlyn may have concerning her employment relationship with us. The confirmatory employment agreement also is expected to provide Ms. Zatlyn with severance and change in control benefits. Ms. Zatlyn's current annual base salary is $400,000. Ms. Zatlyn is not currently eligible for an annual target cash incentive payment.

Thomas Seifert

Prior to the completion of this offering, we intend to enter into a confirmatory employment agreement with Thomas Seifert, our Chief Financial Officer. The confirmatory employment agreement is not expected to have a specific term and will provide that Mr. Seifert is an at-will employee. The agreement will supersede all existing agreements and understandings that Mr. Seifert may have concerning his employment relationship with us. The confirmatory employment agreement also is expected to provide Mr. Seifert with severance and change in control benefits. Mr. Seifert's current annual base salary is $650,000. Mr. Seifert is not currently eligible for an annual target cash incentive payment.

Douglas Kramer

Prior to the completion of this offering, we intend to enter into a confirmatory employment agreement with Douglas Kramer, our General Counsel. The confirmatory employment agreement is not expected to have a specific term and will provide that Mr. Kramer is an at-will employee. The agreement will supersede all existing agreements and understandings that Mr. Kramer may have concerning his employment relationship with us. The confirmatory employment agreement also is expected to provide Mr. Kramer with severance and change in control benefits. Mr. Kramer's current annual base salary is $545,000. Mr. Kramer is not currently eligible for an annual target cash incentive payment.

Potential Payments upon Termination or Change of Control

Prior to the completion of this offering, we anticipate adopting arrangements for our executive officers, including our named executive officers, that provide for payments and benefits on termination of employment or upon a termination in connection with a change of control.

Employee Benefits and Stock Plans

2019 Equity Incentive Plan

Prior to the completion of this offering, our Board of Directors intends to adopt, and we expect our stockholders will approve, our 2019 Plan. We expect that our 2019 Plan will be effective on the business day immediately prior to the effective date of our registration statement related to this offering. Our 2019 Plan will provide for the grant of incentive stock options, within the meaning of Section 422 of the Internal Revenue Code (the Code) to our employees, and for the grant of nonstatutory stock options, restricted stock, RSUs, stock appreciation rights, performance shares, performance stock units, and performance awards to our employees, directors, and consultants.

Authorized Shares. A total of shares of our Class A common stock will be reserved for issuance pursuant to our 2019 Plan. In addition, the number of shares of Class A common stock reserved for issuance under our 2019 Plan also will include the number of shares of Class A or Class B common stock subject to outstanding awards granted under our 2010 Plan that, after the date of the termination of the 2010 Plan, are cancelled, expire, or otherwise terminate without having been exercised in full and the number of shares of Class B common stock that, after the date the 2010 Plan is terminated, are forfeited, tendered to, or withheld by us for payment of an exercise price or for tax withholding, or repurchased by us due to failure to vest (provided that the maximum number of shares of our Class A common stock that may be added to our 2019 Plan pursuant to this provision is shares). The number of shares of our Class A common stock available for issuance under our 2019 Plan also will include an annual increase on the first day of each fiscal year beginning with our 2021 fiscal year, equal to the lowest of:

- shares of our Class A common stock;
- five percent (5%) of the outstanding shares of all classes of our common stock as of the last day of the immediately preceding fiscal year; or
- such lesser number of shares the administrator of our 2019 Plan may determine.

If an option or stock appreciation right award expires or becomes unexercisable without having been exercised in full, is surrendered pursuant to an exchange program, or, with respect to restricted stock, RSUs, performance shares, performance stock units, or stock-settled performance awards, is forfeited to us, or reacquired by us due to failure to vest, the unpurchased shares (or for awards other than stock options or stock appreciation rights, the forfeited or reacquired shares) will become available for future issuance under the 2019 Plan. With respect to stock appreciation rights, only the net shares actually issued will cease to be available under the 2019 Plan and all remaining shares under stock appreciation rights will remain available for future grant or sale under the 2019 Plan. Shares that have actually been issued under the 2019 Plan under any award will not be returned to the 2019 Plan; provided, however, that if shares issued pursuant to awards of restricted stock, RSUs, performance shares, performance stock units, or stock-settled performance awards are forfeited or reacquired, such shares will become available for future grant under the 2019 Plan. Shares used to pay the exercise price of an award or satisfy the tax withholding obligations related to an award (which withholding amounts may be in amounts greater than the minimum amount required to be withheld, as determined by the administrator of our 2019 Plan) will become available for future issuance under the 2019 Plan. To the extent an award is paid out in cash rather than shares, such cash payment will not reduce the number of shares available for issuance under the 2019 Plan. If awards are granted in substitution for awards outstanding under a plan maintained by an entity acquired by or consolidated with us, such substitute awards will not reduce the number of shares available for issuance under the 2019 Plan.

Plan administration. Our Board of Directors or one or more committees appointed by our Board of Directors will administer our 2019 Plan. Our compensation committee is expected to administer our 2019 Plan. Subject to the provisions of our 2019 Plan, the administrator has the power to administer our 2019 Plan and make all determinations deemed necessary or advisable for administering the 2019 Plan, including but not limited to, the power to determine the fair market value of our Class A common stock, approve forms of award agreements for use under the 2019 Plan, select the service providers to whom awards may be granted, determine the number of shares covered by each award, determine the terms and conditions of awards (including, but not limited to, the exercise price, the times or times at which the awards may be exercised, any vesting acceleration or waiver or forfeiture restrictions, and any restriction or limitation regarding any award or the shares relating thereto); interpret the terms of our 2019 Plan and awards granted under it; establish, amend, and rescind rules relating to our 2019 Plan, including creating sub-plans for jurisdictions outside the United States to satisfy the laws of such jurisdictions or to qualify awards for special tax treatment under the laws of such jurisdictions; and modify or amend each award, including but not limited to the discretionary authority to extend the post-termination exercisability period of awards (provided that no option or stock appreciation right will be extended past its original maximum term), delegate ministerial duties to any of our employees, authorize any person to take any steps, and execute, on our behalf, any documents required for an award previously granted by the administrator to be effective, and to allow a participant to defer the receipt of payment of cash or the delivery of shares that would otherwise be due to such participant under an award. The administrator also has the authority to allow participants the opportunity to transfer outstanding awards to a financial institution or other person or entity selected by the administrator and to institute an exchange program by which outstanding awards may be surrendered or cancelled in exchange for awards of the same type that may have a higher or lower exercise price and/or different terms, awards of a different type and/or cash, or by which the exercise price of an outstanding award is increased or reduced. The administrator's decisions, determinations, and interpretations are final and binding on all participants to the full extent permitted by law.

Stock options. Stock options may be granted under our 2019 Plan and will be designated in the award agreement as either an incentive stock option or a nonstatutory stock option. The exercise price of options granted under our 2019 Plan will be determined by the administrator, provided that each option intended to be an incentive stock option must have an exercise price no less than the fair market value of our Class A common stock on the date of grant. The term of an option intended to be an incentive stock option may not exceed 10 years. However, with respect to any participant who owns more than 10% of the voting power of all classes of our outstanding stock, the term of an incentive stock option must not exceed five years and the exercise price must equal at least 110% of the fair market value of our Class A common stock on the grant date. The administrator will determine the methods of payment of the exercise price of an option, which may include cash, check, or wire transfer, consideration received by us under a cashless exercise arrangement, shares, or other property acceptable to the administrator, as well as other types of consideration permitted by applicable law. After the termination of service of a participant, he or she may exercise his or her option (to the extent vested) for the period of time stated in his or her option agreement. However, in no event may an option be exercised later than the expiration of its term. If exercising an option prior to its expiration is not permitted by applicable law, other than the rules of any stock exchange or quotation system on which our Class A common stock is listed or quoted, the option will remain exercisable until 30 days after the first date on which exercise would be permitted by applicable law, or if earlier, its expiration date.

Stock appreciation rights. Stock appreciation rights may be granted under our 2019 Plan. The award agreement evidencing the award will set forth the number of shares subject to the award, its exercise price, its expiration date, and such other terms determined by the administrator. Stock appreciation rights allow the recipient to receive a payment equal to the excess, if any, of the fair market value of our Class A common stock between the exercise date and the date of grant multiplied by the number of shares with respect to which the stock appreciation right is exercised. The administrator will determine whether to pay any increased appreciation in cash or with shares of our Class A common stock, or a combination thereof. If exercising a stock appreciation right prior to its expiration is not permitted by applicable law, other than the rules of any stock exchange or quotation system on which our Class A common stock is listed or quoted, the stock appreciation right will remain exercisable until 30 days after the first date on which exercise would be permitted by applicable law, or if earlier, its expiration date.

Restricted stock. Restricted stock may be granted under our 2019 Plan. Restricted stock awards are grants of shares of our Class A common stock that vest in accordance with terms and conditions established by the administrator, and may generally not be sold, transferred, pledged, assigned, or otherwise alienated until the end of the applicable period of restriction. The administrator will determine the number of shares of restricted stock subject to an award and, subject to the provisions of our 2019 Plan, will determine the terms and conditions of such awards, including the period of restriction (if any). Restricted stock awards also may be granted without any period of restriction (e.g., vested stock bonuses). The administrator may impose whatever period of restriction it determines to be appropriate (e.g., the administrator may set restrictions based on the achievement of specific performance goals or continued service to us); provided, however, that the administrator, in its sole discretion, may accelerate the time at which any restrictions will lapse or be removed. Shares of restricted stock will generally be held in escrow until when practicable after the last day of any applicable period of restriction. Recipients of restricted stock awards generally will have voting rights with respect to such shares upon grant without regard to vesting, but shall not have rights to dividends or other distributions, unless otherwise provided by the administrator. Shares of restricted stock that do not vest are subject to our right of repurchase or forfeiture.

RSUs. RSUs may be granted under our 2019 Plan. Each RSU represents an amount equal to the fair market value of one share of our Class A common stock. Subject to the provisions of our 2019 Plan, the administrator determines the terms and conditions of RSUs, including the vesting criteria and the form and timing of payment. The administrator may set vesting criteria based upon the achievement of company-wide, divisional, business unit, or individual goals (including, but not limited to, continued employment or service), or any other basis determined by the administrator in its discretion. Unless otherwise provided in the award agreement, the administrator may settle earned RSUs in the form of cash, in shares, or in some combination of both. Notwithstanding the foregoing, the administrator, in its sole discretion, may reduce or waive any vesting criteria to earn the RSUs.

Performance stock units and performance shares. Performance stock units and performance shares may be granted under our 2019 Plan. Performance stock units and performance shares are awards that will result in a payment to a participant only if performance goals established by the administrator are achieved or the awards otherwise vest. The administrator will establish performance objectives or other vesting provisions in its discretion, which, depending on the extent to which they are met, will determine the number and/or the value of performance units and performance shares to be paid out to participants. The administrator may set performance objectives based on the achievement of company-wide, divisional, business unit, or individual goals (including, but not limited to, continued employment or service), or any other basis determined by the administrator in its discretion. After the grant of a performance stock unit or performance share, the administrator, in its sole discretion, may reduce or waive any performance criteria or other vesting provisions for such performance stock units or performance shares. Performance units shall have an initial dollar value established by the administrator on or prior to the grant date. Performance shares shall have an initial value equal to the fair market value of our Class A common stock on the grant date. Payment of earned performance stock units and performance shares will be made at the time or times set forth in the award agreement. The administrator, in its sole discretion, may pay earned performance stock units or performance shares in the form of cash, in shares, or in some combination thereof.

Performance awards. Performance awards may be granted under our 2019 Plan. Each award agreement evidencing a performance award will set forth the applicable performance period and contain performance objectives based on the achievement of company-wide, divisional, business unit, or individual goals (including, but not limited to, continued employment or service), or any other basis determined by the administrator in its discretion, which will determine the value of the payout for the performance award. Each performance award's threshold, target, and maximum payout values will be established by the administrator on or before the date of grant. After an applicable performance period, earned performance awards will be paid at the time or times set forth in the award agreement. The administrator, in its sole discretion, may pay earned performance stock units or performance shares in the form of cash, in shares, or in some combination thereof.

Non-transferability of awards. Unless the administrator provides otherwise, our 2019 Plan generally does not allow for the transfer of awards and only the recipient of an award may exercise an award during his or her lifetime. If the administrator makes an award transferable, such award will contain such additional terms and conditions as the administrator deems appropriate. Any unauthorized transfer of an award will be void.

Certain adjustments. In the event of certain changes in our capitalization, such as an extraordinary dividend or distribution, recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, repurchase, exchange of our shares or other securities, issuance of warrants or other rights to acquire our securities, other change in our corporate structure, or any similar equity restructuring transaction, to prevent diminution or enlargement of the benefits or potential benefits intended to be provided under our 2019 Plan, the administrator will adjust the number and class of shares that may be delivered under our 2019 Plan and/or the number, class, and price of shares covered by each outstanding award, and the numerical share limits set forth in our 2019 Plan in a manner it deems equitable.

Dissolution or liquidation. In the event of a proposed dissolution or liquidation, the administrator will notify participants at such time prior to the effective date of such proposed transaction as the administrator determines. To the extent it has not been previously exercised, all awards will terminate immediately prior to the consummation of such proposed transaction.

Merger or change in control. Our 2019 Plan provides that in the event of a merger or change in control, as defined under our 2019 Plan, each outstanding award will be treated as the administrator determines, without a requirement to obtain a participant's consent, including, without limitation, that such award will be continued by the successor corporation or a parent or subsidiary of the successor corporation or that the vesting of any such award may automatically accelerate upon consummation of such transaction. The administrator is not required to treat all awards, all awards held by a participant, or all awards of the same type, similarly. An award will be considered continued if following the transaction (i) the award gives the right to purchase or receive the consideration received in the transaction by holders of a majority of our outstanding Class A common stock with the award otherwise continued in accordance with its terms (including vesting criteria) or (ii) the award is terminated in exchange for an amount of cash and/or property, if any, equal to the amount that would have been attained upon the exercise or realization of the award, which payment may be subject to any escrow applicable to holders of our Class A common stock in connection with the transaction. Awards that vest, are earned, or are to be paid out upon the satisfaction of performance goals will generally not be considered assumed if we or any successor corporation modify any such performance goal without participant consent.

The administrator has the authority to modify awards in connection with a change in control or merger (i) in a manner that causes awards to lose tax-preferred status, (ii) to terminate any right of an option to be early exercised, (iii) to proportionately reduce an award's exercise price in a manner compliant with Treasury regulations issued under Section 409A of the Code, and (iv) to suspend a participant's right to exercise an option during a limited time period before of following the closing of such transaction without participant consent if administratively necessary or advisable.

In the event that a successor corporation does not continue an outstanding award (or some portion of such award), then such award will fully vest in 100% of all then-unvested stock options and stock appreciation rights, all restrictions on restricted stock and RSUs will lapse, all performance goals or other vesting criteria applicable to such award will be deemed achieved at 100% of target levels, and all other terms and conditions met. If an option or stock appreciation right is not assumed or substituted, the administrator will notify the participant in writing or electronically that such option or stock appreciation right (after considering any applicable vesting acceleration) will be exercisable for a period of time determined by the administrator in its sole discretion and the option or stock appreciation right will terminate upon the expiration of such period.

If an outside director's awards are assumed or substituted for in a merger or change in control and the service of such outside director is terminated on or following a change in control, other than pursuant to a voluntary resignation, his or her options and stock appreciation rights, if any, will vest fully and become immediately exercisable, all restrictions on his or her restricted stock and RSUs will lapse and all performance goals or other vesting requirements for his or her performance shares and units will be deemed achieved at 100% of target levels, and all other terms and conditions met.

Forfeiture; Clawback. All awards granted under our 2019 Plan are subject to recoupment under any clawback policy that we are required to adopt under applicable law. In addition, the administrator may provide in an award agreement that the recipient's rights, payments, and benefits with respect to such award shall be subject to reduction, cancellation, forfeiture, or recoupment upon the occurrence of specified events. In the event of any accounting restatement, the recipient of an award will be required to repay a portion of the proceeds received in connection with the settlement of an award earned or accrued under certain circumstances.

Amendment; termination. Our Board of Directors or our compensation committee has the authority to amend, alter, suspend, or terminate our 2019 Plan provided such action does not materially impair the rights of any participant, subject to certain exceptions in accordance with the terms of our 2019 Plan. Our ability to grant incentive stock options under the 2019 Plan and the automatic increase in shares under the 2019 Plan will expire in 2029. The 2019 Plan will not expire until terminated by our Board of Directors or our compensation committee.

2019 Employee Stock Purchase Plan

Prior to the completion of this offering, our Board of Directors intends to adopt, and we expect our stockholders will approve, our 2019 Employee Stock Purchase Plan, or the ESPP. Our ESPP will be effective on the business day immediately prior to the effective date of the registration statement of which this prospectus forms a part. However, no offering period or purchase period under the ESPP will begin unless and until determined by our Board of Directors. The ESPP is intended to have two components: a component intended to qualify as an "employee stock purchase plan" under Section 423 of the Code (the 423 Component) and a component that is not intended to so qualify (the Non-423 Component). Except as otherwise provided, the Non-423 Component will operate and be administered in the same manner as the 423 Component.

Authorized shares. A total of shares of our Class A common stock will be available for sale under our ESPP. The number of shares of our Class A common stock that will be available for sale under our ESPP also includes an annual increase on the first day of each fiscal year beginning with our 2021 fiscal year, equal to the lowest of:

- shares of our Class A common stock;
- one percent (1%) of the outstanding shares of all classes of our common stock as of the last day of the immediately preceding fiscal year; or
- such lesser amount as the administrator of our ESPP may determine no later than the last day of the preceding fiscal year.

Plan administration. Our Board of Directors, or a committee appointed by our Board of Directors will administer our ESPP, and have full but non-exclusive authority to interpret the terms of our ESPP and determine eligibility to participate, subject to the conditions of our ESPP, as described below. We expect our compensation committee to administer our ESPP. The administrator will have full and exclusive discretionary authority to construe, interpret, and apply the terms of the ESPP; delegate ministerial duties to any of our employees; designate separate offerings under the ESPP; designate our subsidiaries and affiliates as participating in the 423 Component or Non-423 Component of our ESPP; determine eligibility; adjudicate all disputed claims filed under the ESPP; and establish procedures that it deems necessary or advisable for the administration of the ESPP, including, but not limited to, adopting such procedures, sub-plans, and appendices to the enrollment agreement as are necessary or appropriate to permit participation in the ESPP by employees who are foreign nationals or employed outside the United States. Unless otherwise determined, employees eligible to participate in each sub-plan will participate in a separate offering or in the Non-423 Component. The administrator's findings, decisions, and determinations are final and binding on all participants to the full extent permitted by law.

Eligibility. Unless otherwise determined by the administrator with respect to a sub-plan or the Non-423 Component if required by applicable laws, all of our employees will be eligible to participate if they are employed by us, or any participating subsidiary, for at least 20 hours per week and five months in any calendar year. The administrator, in its discretion, prior to an enrollment date for all purchase rights granted on such enrollment date in an offering, may determine that an employee who (i) has not completed at least two years of service (or a lesser period of time determined by the administrator) since his or her last hire date, (ii) works not more than 20 hours per week (or a lesser period of time determined by the administrator), (iii) works not more than five months per calendar year (or a lesser period of time determined by the administrator), (iv) is a highly compensated employee within the meaning of Section 414(q) of the Code, and (v) is a highly compensated employee within the meaning of Section 414(q) of the Code with compensation above a certain level or is an officer or subject to disclosure requirements under Section 16(a) of the Exchange Act, is or is not eligible to participate in such offering period. Any eligible employee immediately prior to the first offering period will be automatically enrolled in the first offering period, subject to the timely submission of a subscription agreement in a form approved by the administrator.

However, an employee may not be granted rights to purchase shares of our Class A common stock under our ESPP if such employee:

- immediately after the grant would own capital stock possessing 5% or more of the total combined voting power or value of all classes of our capital stock; or
- holds rights to purchase shares of our Class A common stock under all of our employee stock purchase plans that accrue at a rate that exceeds $25,000 worth of shares of our Class A common stock for each calendar year.

Offering periods; purchase periods. Our ESPP includes a component that allows us to make offerings intended to qualify under Section 423 of the Code and a component that allows us to make offerings not intended to qualify under Section 423 of the Code to designated companies, as described in our ESPP. Our ESPP provides for consecutive-month offering periods. The ESPP initially will have purchase periods approximately six (6) months in duration commencing with one exercise date and ending with the next exercise date. The offering periods are scheduled to start on the first trading day on or after and of each year, except for the first offering period, which will commence on the first trading day on or after completion of this offering and will end on the first trading day on or after . The second offering period will commence on the first trading day on or after . The administrator has the power to change the duration and commencement date of offering periods under the ESPP, provided that no offering period may have a duration exceeding 27 months.

Contributions. Our ESPP permits participants to purchase shares of our Class A common stock through contributions (in the form of payroll deductions or otherwise to the extent permitted by the administrator) of up to % of their eligible compensation. A participant may purchase a maximum of shares of our Class A common stock during a purchase period.

Exercise of purchase right. If our Board of Directors authorizes an offering and purchase period under the ESPP, amounts contributed and accumulated by the participant during any offering period will be used to purchase shares of our Class A common stock at the end of each purchase period established by our Board of Directors. The purchase price of the shares will be 85% of the lower of the fair market value of our Class A common stock on the first trading day of each offering period or on the exercise date. Participants may end their participation at any time during an offering period and will be paid their accrued contributions that have not yet been used to purchase shares of our Class A common stock. Participation ends automatically upon termination of employment with us.

Non-transferability. A participant may not transfer rights granted under our ESPP. If our compensation committee permits the transfer of rights, it may only be done by will, the laws of descent and distribution, or as otherwise provided under our ESPP.

Certain adjustments. In the event of certain changes in our capitalization as set forth in our ESPP, to prevent diminution or enlargement of the benefits or potential benefits available under our ESPP, the administrator will adjust the number and class of shares that may be delivered under our ESPP and/or the number, class, and price of shares covered by each outstanding award, and the numerical share limits set forth in our ESPP.

Dissolution or liquidation. In the event of a proposed liquidation or dissolution, the offering period then in progress will be shortened, and a new exercise date occurring before the date of the proposed dissolution or liquidation, unless otherwise provided by the administrator. The administrator will notify each participant that the exercise date has been changed and that the participant's option will be exercised automatically on the new exercise date unless prior to such date the participant has withdrawn from the offering period.

Merger or change in control. Our ESPP provides that in the event of a merger or change in control, as defined under our ESPP, a successor corporation may assume or substitute each outstanding purchase right. If the successor corporation refuses to assume or substitute for the outstanding purchase right, the offering period then in progress will be shortened, and a new exercise date will be set that will be before the date of the proposed merger or change in control. The administrator will notify each participant that the exercise date has been changed and that the participant's purchase right will be exercised automatically on the new exercise date unless prior to such date the participant has withdrawn from the offering period.

Amendment; termination. The administrator will have the authority to amend, suspend, or terminate our ESPP, subject to certain exceptions described in our ESPP. Our ESPP automatically will terminate in 2039, unless we terminate it sooner.

2010 Equity Incentive Plan

Our Board of Directors adopted our 2010 Plan in March 2010 and our stockholders approved our 2010 Plan in November 2010. Our 2010 Plan was amended most recently in August 2018 and such amendment was approved by our stockholders in September 2018. Our 2010 Plan provides for the discretionary grant of incentive stock options, nonstatutory stock options, stock appreciation rights, restricted stock awards and RSUs to our employees and consultants, or employees and consultants of our subsidiaries, and our directors. Incentive stock options may be granted only to our employees or employees of our subsidiaries. We have granted options, restricted stock and RSUs under the 2010 Plan and we do not expect to grant any other types of awards under the 2010 Plan prior to its termination.

Authorized shares. Our 2010 Plan will be terminated in connection with this offering, and no awards will be granted under our 2010 Plan after our 2010 Plan is terminated. Our 2010 Plan will continue to govern outstanding awards granted thereunder. As of June 30, 2019, options to purchase an aggregate of 23,558,731 shares of our Class B common stock remained outstanding under our 2010 Plan and an aggregate of 6,684,754 shares of our Class B common stock remained restricted stock subject to future vesting requirements.

Plan administration. Our Board of Directors or a duly authorized committee of our Board of Directors administers our 2010 Plan and the awards granted under it. Our Board of Directors also may delegate to one or more of our officers the authority to (i) designate certain participants to receive specified awards and (ii) determine the number of shares subject to such awards. Subject to the terms of our 2010 Plan, the administrator has the authority to determine and amend the terms of awards, including recipients, type of award, the exercise, purchase or strike price of awards, if any, the number of shares subject to each award, the fair market value of a share of our Class B common stock, the vesting schedule applicable to the awards, together with any vesting acceleration, and the form of consideration, if any, payable upon exercise or settlement of the award. The administrator also may construe and interpret our 2010 Plan and awards granted under it, establish, amend, and revoke rules and regulations for the administration of our 2010 Plan, settle all controversies regarding our 2010 Plan and any awards granted under it, approve forms of award agreement for use under our 2010 Plan, adopt procedures and sub-plans for non-U.S. participants, and exercise powers and perform acts as the administrator deems necessary or expedient to promote our interests that are not in conflict with the terms of our 2010 Plan or awards granted under it. The administrator's determinations, interpretations and constructions made by the administrator in good faith will be final, binding and conclusive on all persons to the maximum extent permitted by law.

The administrator has the power to modify outstanding awards under our 2010 Plan. The plan administrator has the authority, with the consent of any adversely affected option holder, to reduce the exercise price of any outstanding options granted under our 2010 Plan or cancel any outstanding option in exchange for new awards, cash or other consideration, or take any other action that is treated as a repricing under generally accepted accounting principles,

with the consent of any adversely affected participant.

Awards. The administrator, in its sole discretion, establishes the terms of all awards granted under our 2010 Plan, consistent with the terms of our 2010 Plan. All awards are subject to the terms and conditions provided in the award agreement and our 2010 Plan.

Stock options. Stock options may be granted under our 2010 Plan. Options granted under our 2010 Plan generally must have an exercise price per share at least equal to the fair market value of a share of our Class B common stock as of the date of grant. The term of an incentive stock option may not exceed 10 years, except that with respect to any participant who owns more than 10% of the combined voting power of all classes of our outstanding stock or any subsidiary, the term must not exceed five years and the exercise price per share must equal at least 110% of the fair market value of a share of our Class B common stock on the grant date. The administrator will determine the methods of payment of the exercise price of an option. After termination of service of an employee, director, or consultant, he or she may exercise his or her option for the period of time as specified in the applicable option agreement. Unless otherwise provided in the applicable award agreement, options generally will remain exercisable (to the extent vested) for eighteen months following service termination, if due to death or in the event of death during a specified period following service termination that occurred other than due to cause, or 12 months following service termination due to disability (or a shorter period not to be less than six months). Unless otherwise provided in the applicable award agreement, in all other cases other than a termination for cause, the option generally will remain exercisable (to the extent vested) for three months following service termination (which period shall not be less than thirty days), or in the case of a termination for cause, the option generally will terminate on the date that the participant's service terminates. However, in no event may an option be exercised later than its maximum term.

Stock appreciation rights. Stock appreciation rights are granted pursuant to stock appreciation right agreements adopted by the administrator. The administrator determines the per share purchase price or strike price for a stock appreciation right, which generally cannot be less than 100% of the fair market value of a share of our Class B common stock on the date of grant. A stock appreciation right granted under our 2010 Plan vests at the rate specified in the stock appreciation right agreement and shall be paid in the form of consideration determined by the administrator.

Restricted stock awards. Restricted stock awards are granted pursuant to restricted stock award agreements adopted by the administrator. A restricted stock award may be awarded in consideration for cash, check, bank draft, or money order, past services to us, or any other form of legal consideration that may be acceptable to the administrator and permissible under applicable law. The administrator determines the terms and conditions of restricted stock awards, including vesting and forfeiture terms. If a participant's service relationship with us ceases for any reason, we may receive through a forfeiture condition or a repurchase right any or all of the shares of Class B common stock held by the participant that have not vested as of the date the participant terminates service with us.

RSUs. RSUs are granted pursuant to RSU award agreements adopted by the administrator. Upon vesting, which may be tied to achievement of a performance condition or other requirements, an RSU may be settled by cash, shares, or in some combination of both as deemed appropriate by the administrator or in any other form of consideration set forth in the RSU award agreement. Additionally, dividend equivalents may be credited in respect of shares covered by a RSU award. Except as otherwise provided in the applicable award agreement, RSUs that have not vested will be forfeited upon the participant's cessation of continuous service for any reason.

Non-transferability of awards. Unless determined otherwise by the administrator, stock options and RSUs granted under our 2010 Plan may not be transferred other than by will, the laws of descent and distribution or as otherwise provided under our 2010 Plan and, are exercisable during the option holder's lifetime only by the option holder. A restricted stock award may only be transferred as permitted in the restricted stock award agreement.

Certain adjustments. In the event of any change made in, or other events that occur with respect to our stock subject to our 2010 Plan or subject to an award granted under our 2010 Plan without the receipt of consideration by us, through a merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, stock split, liquidating dividend, combination or exchange of shares, change in corporate structure, or other transaction not involving the receipt of consideration by us, the administrator will make appropriate adjustments to the class and maximum number of shares reserved for issuance under our 2010 Plan, the class and maximum number of shares that may be issued upon the exercise of incentive stock options and the class and number of shares and exercise price, strike price, or purchase price, if applicable, of all outstanding stock awards.

Dissolution or liquidation. Unless provided otherwise in an award agreement, in the event of our dissolution or liquidation, all outstanding awards (other than awards consisting of vested and outstanding shares of our common stock not subject to our right of repurchase) will terminate immediately before the completion of the dissolution or liquidation, and shares of our common stock subject to our repurchase option may be repurchased by us without regard to whether the holder of the award is providing continuing services. The administrator may permit awards to become vested, exercisable, or no longer subject to repurchase or forfeiture before the completion of the dissolution or liquidation but subject to the completion of such transaction.

Corporate transactions. Our 2010 Plan provides that in the event of certain specified significant corporate transactions including: (i) a sale of all or substantially all of our consolidated assets, (ii) the sale or disposition of at least 90% of our outstanding securities, (iii) the consummation of a merger, consolidation, or similar transaction where we do not survive the transaction, and (iv) the consummation of a merger, consolidation, or similar transaction where we do survive the transaction but the shares of our common stock outstanding prior to such transaction are converted or exchanged into other property by virtue of the transaction, each outstanding award will be treated as the administrator determines unless otherwise provided in an award agreement or other written agreement between us and the award holder. For example, the administrator may arrange for the assumption, continuation, or substitution of an award by a successor corporation and arrange for the assignment of any reacquisition or repurchase rights held by us to a successor corporation. As another example, if awards held by participants whose service to us has not terminated prior to the effective date of such transaction are not assumed, continued, or substituted, then the awards held by such participants will terminate if not exercised at or prior to the effective time of the corporate transaction, but any reacquisition or repurchase rights held by us with respect to such awards will lapse, contingent on the effectiveness of such transaction. As a further example, if awards held by participants who no longer provide services to us as of immediately prior to a corporate transaction are not assumed, continued, or substituted, such awards will not accelerate and will be terminated if not exercised prior to the effective date of the transaction, provided that any reacquisition or repurchase rights held by us will not terminate. Notwithstanding the above, if an award will terminate if not exercised prior to the

effective date of a corporate transaction, the administrator may provide that the participant may not exercise the award, but will receive a payment equal to the excess, if any, of the value of the property the participant would have received upon exercise of the award prior to the transaction over any exercise price payable by the participant in connection with the exercise.

Amendment; termination. Subject to the terms of our 2010 Plan, our Board of Directors may terminate, amend or modify our 2010 Plan or any portion thereof at any time, although certain amendments require stockholder approval. As noted above, no further awards will be granted under our 2010 Plan after it is terminated in connection with this offering. However, all awards outstanding under our 2010 Plan will continue to be governed by their existing terms following termination of the 2010 Plan.

Executive Incentive Compensation Plan

Our Board of Directors adopted an Executive Incentive Compensation Plan (the Bonus Plan) in August 2019. The Bonus Plan will be administered by a committee appointed by our Board of Directors. Unless and until our Board of Directors determines otherwise, our compensation committee will be the administrator of the Bonus Plan. The Bonus Plan allows our compensation committee to provide cash incentive awards to selected employees, including our named executive officers, determined by our compensation committee, based upon performance goals established by our compensation committee. Our compensation committee, in its sole discretion, will establish a target award for each participant under the Bonus Plan, which may be expressed as a percentage of the participant's average annual base salary for the applicable performance period, a fixed dollar amount, or such other amount or based on such other formula as our compensation committee determines to be appropriate.

Under the Bonus Plan, our compensation committee will determine the performance goals applicable to awards, which goals may include, without limitation: attainment of research and development milestones, bookings, business divestitures and acquisitions, cash flow, cash position, contract awards or backlog, customer renewals, customer retention rates from an acquired company, subsidiary, business unit or division, earnings (which may include earnings before interest and taxes, earnings before taxes, and net taxes), earnings per share, expenses, gross margin, growth in stockholder value relative to the moving average of the S&P 500 Index or another index, internal rate of return, market share, net income, net profit, net sales, new product development, new product invention or innovation, number of customers, operating cash flow, operating expenses, operating income, operating margin, overhead or other expense reduction, product defect measures, product release timelines, productivity, profit, retained earnings, return on assets, return on capital, return on equity, return on investment, return on sales, revenue, revenue growth, sales results, sales growth, stock price, time to market, total stockholder return, working capital, unadjusted or adjusted actual contract value, unadjusted or adjusted total contract value, and individual objectives such as peer reviews or other subjective or objective criteria. As determined by our compensation committee, the performance goals may be based on GAAP or non-GAAP results, and any actual results may be adjusted by our compensation committee for one-time items or unbudgeted or unexpected items and/or payments of actual awards under the Bonus Plan when determining whether the performance goals have been met. The goals may be on the basis of any factors our compensation committee determines relevant, and may be on an individual, divisional, business unit, segment, or company-wide basis. Any criteria used may be measured on such basis as our compensation committee determines. The performance goals may differ from participant to participant and from award to award. Our compensation committee also may determine that a target award or a portion thereof will not have a performance goal associated with it but instead will be granted (if at all) in the compensation committee's sole discretion.

Our compensation committee may, in its sole discretion and at any time, increase, reduce, or eliminate a participant's actual award, or increase, reduce, or eliminate the amount allocated to the bonus pool. The actual award may be below, at, or above a participant's target award, in our compensation committee's discretion. Our compensation committee may determine the amount of any increase, reduction, or elimination on the basis of such factors as it deems relevant, and it will not be required to establish any allocation or weighting with respect to the factors it considers.

Actual awards will generally be paid in cash (or its equivalent) in a single lump sum only after they are earned and approved by our compensation committee. Our compensation committee has the right, in its sole discretion, to settle an actual award with a grant of an equity award under our then-current equity compensation plan, which equity award may have such terms and conditions, including vesting, as our compensation committee determines in its sole discretion. Unless otherwise determined by our compensation committee, to earn an actual award, a participant must be employed by us (or an affiliate of us, as applicable) through the date the bonus is paid. Payment of bonuses occurs as soon as administratively practicable after the end of the applicable performance period, but in no case later than the 15th day of the third month of the fiscal year immediately following the fiscal year in which the bonuses vest.

Our Board of Directors will have the authority to amend or terminate the Bonus Plan provided such action does not alter or impair the existing rights of any participant with respect to any earned bonus without the participant's consent. The Bonus Plan will remain in effect until terminated in accordance with the terms of the Bonus Plan.

401(k) plan

We maintain a tax-qualified 401(k) retirement plan for all U.S. employees who satisfy certain eligibility requirements, including requirements relating to age and length of service. Under our 401(k) plan, employees may elect to defer up to all eligible compensation, subject to applicable annual Code limits. We intend for our 401(k) plan to qualify under Section 401(a) and 501(a) of the Code so that contributions by employees to our 401(k) plan, and income earned on those contributions, are not taxable to employees until withdrawn from our 401(k) plan. The 401(k) plan also permits contributions to be made on a post-tax basis for those employees participating in the Roth 401(k) plan component.

Certain Relationships and Related Party Transactions

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS In addition to the compensation arrangements, including employment, termination of employment, and change in control arrangements, discussed in the sections titled "Management" and "Executive Compensation," the following is a description of each transaction since January 1, 2016, and each currently proposed transaction in which:

- we have been or are to be a participant;
- the amount involved exceeded or exceeds $120,000; and
- any of our directors, executive officers, or holders of more than 5% of our outstanding capital stock, or any immediate family member of, or person sharing the household with, any of these individuals or entities, had or will have a direct or indirect material interest.

Series D Redeemable Convertible Preferred Stock Financing

In September 2018, we sold and issued 13,636,366 shares of our Series D redeemable convertible preferred stock for aggregate gross proceeds of $150.0 million. Entities affiliated with Fidelity, Pelion Ventures, and NEA participated in this transaction and purchased $60.0 million, $32.5 million, and $30.4 million of Series D redeemable convertible preferred stock, respectively. Carl Ledbetter, a member of our Board of Directors, is affiliated with Pelion Ventures. Scott Sandell, a member of our Board of Directors, is affiliated with NEA.

Amended and Restated Investors' Rights Agreement

We are party to an Amended and Restated Investors' Rights Agreement (IRA), dated as of September 4, 2018, which provides, among other things, registration rights to certain holders of our capital stock, including entities affiliated with each of Fidelity, NEA, Pelion Ventures, and Venrock. Scott Sandell, a member of our Board of Directors, is affiliated with NEA. Carl Ledbetter, a member of our Board of Directors, is affiliated with Pelion Ventures. See the section titled "Description of Capital Stock—Registration Rights" for additional information regarding these registration rights.

Right of First Refusal

Pursuant to certain of our bylaws, equity compensation plans, and certain agreements with our stockholders, including our Amended and Restated Right of First Refusal and Co-Sale Agreement, dated as of September 4, 2018, we or our assignees have a right to purchase shares of our capital stock which certain stockholders propose to sell to other parties. This right will terminate immediately prior to the completion of this offering. Since January 1, 2016, we have waived our right of first refusal in connection with the sale of certain shares of our capital stock, including sales by certain of our executive officers, resulting in the purchase of such shares by certain of our stockholders, including related persons. See the section titled "Principal Stockholders" for additional information regarding beneficial ownership of our capital stock.

Limitation of Liability and Indemnification of Officers and Directors

We expect to adopt an amended and restated certificate of incorporation, which will become effective immediately prior to the completion of this offering, and which will contain provisions that limit the liability of our directors and officers for monetary damages to the fullest extent permitted by Delaware law. Consequently, our directors will not be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duties as directors, except liability for the following:

- any breach of their duty of loyalty to our company or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law; or
- any transaction from which they derived an improper personal benefit.

Any amendment to, or repeal of, these provisions will not eliminate or reduce the effect of these provisions in respect of any act, omission, or claim that occurred or arose prior to that amendment or repeal. If the Delaware General Corporation Law is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of our directors will be further limited to the greatest extent permitted by the Delaware General Corporation Law.

In addition, we expect to adopt amended and restated bylaws, which will become effective immediately prior to the completion of this offering, and which will provide that we will indemnify, to the fullest extent permitted by law, any person who is or was a party or is threatened to be made a party to any action, suit, or proceeding by reason of the fact that he or she is or was one of our directors or officers or is or was serving at our request as a director or officer of another corporation, partnership, joint venture, trust, or other enterprise. Our amended and restated bylaws are expected to provide that we may indemnify to the fullest extent permitted by law any person who is or was a party or is threatened to be made a party to any action, suit, or proceeding by reason of the fact that he or she is or was one of our employees or agents or is or was serving at our request as an employee or agent of another corporation, partnership, joint venture, trust, or other enterprise. Our amended and restated bylaws will also provide that we must advance expenses incurred by or on behalf of a director or officer in advance of the final disposition of any action or proceeding, subject to limited exceptions.

Further, we have entered into or will enter into indemnification agreements with each of our directors and executive officers that may be broader than the specific indemnification provisions contained in the Delaware General Corporation Law. These indemnification agreements require us, among other things, to indemnify our directors and executive officers against liabilities that may arise by reason of their status or service. These indemnification agreements also require us to advance all expenses incurred by the directors and executive officers in investigating or defending any such action, suit, or proceeding. We believe that these agreements are necessary to attract and retain qualified individuals to serve as directors and executive officers.

The limitation of liability and indemnification provisions that are expected to be included in our amended and restated certificate of incorporation, amended and restated bylaws, and the indemnification agreements that we have entered into or will enter into with our directors and executive officers may discourage stockholders from bringing a lawsuit against our directors and executive officers for breach of their fiduciary duties. They may also reduce the

likelihood of derivative litigation against our directors and executive officers, even though an action, if successful, might benefit us and other stockholders. Further, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage awards against directors and executive officers as required by these indemnification provisions. At present, we are not aware of any pending litigation or proceeding involving any person who is or was one of our directors, officers, employees, or other agents or is or was serving at our request as a director, officer, employee, or agent of another corporation, partnership, joint venture, trust, or other enterprise, for which indemnification is sought, and we are not aware of any threatened litigation that may result in claims for indemnification.

We have obtained insurance policies under which, subject to the limitations of the policies, coverage is provided to our directors and executive officers against loss arising from claims made by reason of breach of fiduciary duty or other wrongful acts as a director or executive officer, including claims relating to public securities matters, and to us with respect to payments that may be made by us to these directors and executive officers pursuant to our indemnification obligations or otherwise as a matter of law.

Certain of our non-employee directors may, through their relationships with their employers, be insured and/or indemnified against certain liabilities incurred in their capacity as members of our Board of Directors.

The underwriting agreement will provide for indemnification by the underwriters of us and our officers and directors for certain liabilities arising under the Securities Act or otherwise.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers, or persons controlling our company pursuant to the foregoing provisions, we have been informed that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Policies and Procedures for Related Party Transactions

Following the completion of this offering, our audit committee will have the primary responsibility for reviewing and approving or disapproving "related party transactions," which are transactions between us and related persons in which the aggregate amount involved exceeds or may be expected to exceed $120,000 and in which a related person has or will have a direct or indirect material interest. Upon completion of this offering, our policy regarding transactions between us and related persons will provide that a related person is defined as a director, executive officer, nominee for director, or greater than 5% beneficial owner of our common stock, in each case since the beginning of the most recently completed year, and any of their immediate family members. Our audit committee charter that will be in effect upon completion of this offering will provide that our audit committee shall review and approve or disapprove any related party transactions.

Principal Stockholders

PRINCIPAL STOCKHOLDERS The following table sets forth certain information with respect to the beneficial ownership of our capital stock as of June 30, 2019, and as adjusted to reflect the sale of our common stock offered by us in this offering assuming no exercise of the underwriters' option to purchase additional shares of our common stock from us, for:

- each of our named executive officers;
- each of our directors;
- all of our executive officers and directors as a group; and
- each person known by us to be the beneficial owner of more than 5% of the outstanding shares of each of our Class A common stock and Class B common stock.

We have determined beneficial ownership in accordance with the rules of the SEC, and thus it represents sole or shared voting or investment power with respect to our securities. Unless otherwise indicated below, to our knowledge, the persons and entities named in the table have sole voting and sole investment power with respect to all shares that they beneficially owned, subject to community property laws where applicable. The information does not necessarily indicate beneficial ownership for any other purpose, including for purposes of Sections 13(d) and 13(g) of the Securities Act.

We have based our calculation of the percentage of beneficial ownership prior to this offering on 46,360,728 shares of our Class A common stock and 211,982,959 shares of our Class B common stock outstanding as of June 30, 2019, after giving effect to the Capital Stock Conversions.

We have based our calculation of the percentage of beneficial ownership after this offering on shares of our Class A common stock issued by us in this offering and shares of Class A common stock and shares of Class B common stock outstanding immediately after the completion of this offering, assuming that the underwriters will not exercise their option to purchase up to an additional shares of our Class A common stock from us in full. We have deemed shares of our common stock subject to stock options that are currently exercisable or exercisable within 60 days of June 30, 2019 to be outstanding and to be beneficially owned by the person holding the stock option for the purpose of computing the percentage ownership of that person. We did not deem these shares outstanding, however, for the purpose of computing the percentage ownership of any other person.

Unless otherwise indicated, the address of each beneficial owner listed in the table below is c/o Cloudflare, Inc., 101 Townsend Street, San Francisco, California 94107.

Name of Beneficial Owner	Shares Beneficially Owned							
	Class A Shares	%	Class B Shares†	%	% of Total OutstandingBeforeOffering	% of TotalVotingPowerBeforeOffering#	% of Total OutstandingAfterOffering	% of To

Named Executive Officers and Directors:						
Matthew Prince[1]	—	*	42,800,177	20.2	16.6	19.8
Michelle Zatlyn[2]	—	*	14,574,974	6.8	5.6	6.6
Thomas Seifert[3]	—	*	2,892,566	1.4	1.1	1.3
Douglas Kramer[4]	—	*	609,323	*	*	*
Maria Eitel[5]	—	*	110,000	*	*	*
Carl Ledbetter[6]	4,250,340	9.2	44,191,318	20.9	18.8	20.6
Stanley Meresman[7]	—	*	176,000	*	*	*
Scott Sandell[8]	4,059,376	8.8	48,588,474	22.9	20.4	22.6
All executive officers and directors as a group (8 persons)[9]	8,309,716	17.9	147,211,491	70.4	61.2	69.3
Greater than 5% Stockholders:						
Entities affiliated with NEA[10]	4,059,376	8.8	48,691,964	23.0	20.4	22.7
Entities affiliated with Pelion Ventures[11]	4,250,340	9.2	44,191,318	20.9	18.8	20.6
Entities affiliated with Venrock[12]	489,756	1.1	41,308,180	19.5	16.2	19.1
Entities affiliated with Fidelity[13]	14,326,940	30.9	—	*	5.5	*
Trusts affiliated with Lee Holloway[14]	8,353,227	18.0	—	*	3.2	*

† The Class B common stock is convertible at any time by the holder into shares of Class A common stock on a share-for-share basis, such that each holder of Class B common stock beneficially owns an equivalent number of Class A common stock.

Percentage total voting power represents voting power with respect to all shares of our Class A and Class B common stock, as a single class. Each holder of Class B common stock shall be entitled to 10 votes per share of Class B common stock and each holder of Class A common stock shall be entitled to one vote per share of Class A common stock on all matters submitted to our stockholders for a vote. The Class A common stock and Class B common stock vote together as a single class on all matters submitted to a vote of our stockholders, except as may otherwise be required by law.

* Represents beneficial ownership of less than one percent (1%) of the outstanding shares of our common stock.

(1) Includes (i) 27,702,545 shares of Class B common stock held of record by Mr. Prince, of which 4,000,000 may be repurchased by us at the original exercise price; (ii) 2,190,572 shares of Class B common stock held of record by The Matthew Prince 2016 Annuity Trust dated March 29, 2016, for which Mr. Prince serves as co-trustee and investment advisor; (iii) 1,013,584 shares of Class B common stock held of record by The Matthew Prince 2017 Annuity Trust dated July 12, 2017, for which Mr. Prince serves as co-trustee and investment advisor; (iv) 1,694,456 shares of Class B common stock held of record by The Matthew Prince 2018 Annuity Trust dated October 26, 2018, for which Mr. Prince serves as co-trustee and investment advisor; (v) 800,000 shares of Class B common stock held of record by The Prince Family Exempt Irrevocable Trust dated March 29, 2016, for which Mr. Prince serves as an investment advisor; and (vi) 9,399,020 shares of Class B common stock held of record by Pine Hill Group, LLC (PHG), for which Mr. Prince serves as a member of the board of managers and shares voting and dispositive power with respect to the shares of Class B common stock held of record by PHG.

(2) Includes (i) 8,532,756 shares of Class B common stock held of record by Ms. Zatlyn; (ii) 1,242,218 shares of Class B common stock held of record by The Sutherland/Zatlyn 2017 Annuity Trust dated December 15, 2017, for which Ms. Zatlyn serves as co-trustee; (iii) 800,000 shares of Class B common stock held of record by The Sutherland/Zatlyn 2019 Annuity Trust dated February 28, 2019, for which Ms. Zatlyn serves as co-trustee; and (iv) 4,000,000 shares of Class B common stock subject to options exercisable within 60 days of June 30, 2019, none of which are fully vested.

(3) Includes (i) 512,225 shares of Class B common stock held of record by Mr. Seifert and (ii) 2,380,341 shares of Class B common stock subject to options exercisable within 60 days of June 30, 2019, of which 271,178 are fully vested.

(4) Includes (i) 434,323 shares of Class B common stock held of record by Mr. Kramer, of which 250,636 may be repurchased by us at the original exercise price; and (ii) 175,000 shares of Class B common stock subject to options exercisable within 60 days of June 30, 2019, of which none are fully vested.

(5) Includes 110,000 shares of Class B common stock held of record by Ms. Eitel, of which 96,250 may be repurchased by us at the original exercise price.

(6) Includes 4,250,340 shares of Class A common stock and 44,191,318 shares of Class B common stock disclosed in footnote (11) below that are held of record by entities affiliated with Pelion Ventures.

(7) Includes 176,000 shares of Class B common stock subject to options exercisable within 60 days of June 30, 2019, of which 22,000 are fully vested.

(8) Includes 4,059,376 shares of Class A common stock and 48,588,474 shares of Class B common stock disclosed in footnote (10) below that are held of record by New Enterprise Associates 13, LP (NEA 13).

(9) Includes (i) 8,309,716 shares of Class A common stock and 147,211,491 shares of Class B common stock beneficially owned by our executive officers and directors and (ii) 6,731,341 shares of Class B common stock subject to options exercisable within 60 days of June 30, 2019 and held by our executive officers and directors, of which 293,178 are fully vested.

(10) Includes (i) 4,059,376 shares of Class A common stock and 48,588,474 shares of Class B common stock held of record by NEA 13 and (ii) 103,490 shares of Class B common stock held of record by NEA Ventures 2010, L.P. (Ven 2010). The securities directly held by NEA 13 are indirectly held by NEA Partners 13 L P (NEA Partners 13), the sole general partner of NEA 13, and NEA 13 GP LTD (NEA 13 LTD), is the sole general partner of NEA Partners 13. The individual Directors of NEA 13 LTD (collectively, the NEA 13 Directors) are Peter J. Barris, Forest Baskett, Patrick J. Kerins, David M. Mott, and Scott Sandell, one of our directors. The securities directly held by Ven 2010 are indirectly held by Karen P. Welsh, the general partner of Ven 2010. The address for each of these entities is c/o New Enterprise Associates, Inc., 1954 Greenspring Drive, Suite 600, Timonium, Maryland 21093.

(11) Includes (i) 831,641 shares of Class A common stock and 2,826,097 shares of Class B common stock held of record by Pelion Ventures V, L.P. (PV V); (ii) 211,603 shares of Class A common stock and 719,071 shares of Class B common stock held of record by Pelion Ventures V-A, L.P. (PV V-A); (iii) 252,550 shares of Class A common stock and 858,224 shares of Class B common stock held of record by Pelion Ventures V Financial Institutions Fund, L.P. (PV V Financial); (iv) 497,996 shares of Class B common stock held of record by Pelion Ventures VI, L.P. (PV VI); (v) 34,051 shares of Class B common stock held of record by Pelion Ventures VI-A, L.P. (PV VI-A); (vi) 2,954,546 shares of Class A common stock and 622,265 shares of Class B common stock held of record by Pelion Opportunity Fund I, LLC (POF I); (vii) 19,904,114 shares of Class B common stock held of record by UV Partners IV, L.P. (UVP IV); (viii) 6,459,523 shares of Class B common stock held of record by UV Partners IV-A, L.P. (UVP IV-A), and (ix) 12,269,977 shares of Class B common stock held of record by UV Partners IV Financial Institutions Fund, L.P. (UVP IV Financial). Pelion Venture Partners V, LLC (PVP V LLC) is the General Partner of PV V and PV V-A. Pelion Ventures V Financial Institutions GP, LLC (PV V Financial GP) is the General Partner of PV V Financial. Pelion Venture Partners VI, LLC (PVP VI) is the General Partner of PV VI and PV VI-A. Pelion Opportunities Partners I, LLC (POP I) is the Manager of POF I. UV Partners IV GP, LLC (UVP IV GP) is the General Partner of UVP IV and UVP IV-A. UV Partners IV Financial Institutions GP, LLC (UVP IV Financial GP) is the General Partner of UVP IV Financial. Pelion Inc. is the Manager Member of PVP V LLC, PV V Financial GP, PVP VI, POP I, UVP IV GP, and UVP IV Financial GP. Blake Modersitzki serves as the Managing Member and Carl Ledbetter, one of our directors, serves as a Special Advisor to Pelion Inc. and each share voting and dispositive power with respect to the shares of Class A common stock and Class B common stock held of record by PV V, PV V-A, PV V Financial, PV VI, PV VI-A, POF I, UVP IV, UVP IV-A, and UVP IV Financial. The address for these entities is 2750 E Cottonwood Parkway, Suite 600, Salt Lake City, Utah 84121.

(12) Includes (i) 441,907 shares of Class A common stock and 37,272,400 shares of Class B common stock held of record by Venrock Associates V, L.P. (VA5); (ii) 37,466 shares of Class A common stock and 3,160,080 shares of Class B common stock held of record by Venrock Partners V, L.P. (VP5); and (iii) 10,383 shares of Class A common stock and 875,700 shares of Class B common stock held of record by Venrock Entrepreneurs Fund V, L.P. (VEF5). Venrock Management V, LLC (VM5) is the sole general partner of VA5; Venrock Management V, LLC (VPM5) is the sole general partner of VP5 and VEF Management V, LLC (VEFM5) is the sole general partner of VEF5. Each of VM5, VPM5, and VEFM5 has three or more managing members that share voting and dispositive power with respect to the shares held of record by VA5, VP5 and VEF5. The address for these entities is 3340 Hillview Avenue, Palo Alto, California 94304.

(13) Consists of 14,326,940 shares of Class A common stock held of record by 22 accounts managed by direct or indirect subsidiaries of FMR LLC. Abigail P. Johnson is a Director, the Chairman, the Chief Executive Officer, and the President of FMR LLC. Members of the Johnson family, including Abigail P. Johnson, are the predominant owners, directly or through trusts, of Series B voting common shares of FMR LLC, representing 49% of the voting power of FMR LLC. The Johnson family group and all other Series B stockholders have entered into a stockholders' voting agreement under which all Series B voting common shares will be voted in accordance with the majority vote of Series B voting common shares. Accordingly, through their ownership of voting common shares and the execution of the stockholders' voting agreement, members of the Johnson family may be deemed, under the Investment Company Act of 1940, to form a controlling group with respect to FMR LLC. Neither FMR LLC nor Abigail P. Johnson has the sole power to vote or direct the voting of the shares owned directly by the various investment companies registered under the Investment Company Act of 1940 (the Fidelity Funds), advised by Fidelity Management & Research Company, a wholly owned subsidiary of FMR LLC, which power resides in the Fidelity Funds' Boards of Trustees. Fidelity Management & Research Company carries out the voting

of the shares under written guidelines established by the Fidelity Funds' Boards of Trustees. The address for FMR LLC is 200 Seaport Boulevard V12E, Boston, Massachusetts 02210.

(14) Includes (i) 6,052,012 shares of Class A common stock held of record by The LKH Family Trust U/T/A dated August 28, 2017, for which Kristin Holloway serves as trustee; (ii) 1,018,862 shares of Class A common stock held of record by The LH 2017 Grantor Retained Annuity Trust-I, for which Kristin Holloway serves as trustee; (iii) 1,072,636 shares of Class A common stock held of record by The LH 2017 Grantor Retained Annuity Trust-II, for which Kristin Holloway serves as trustee; and (iv) 242,217 shares of Class A common stock held of record by The LH 2017 Grantor Retained Annuity Trust-III, for which Kristin Holloway serves as trustee.

Description of Capital Stock

DESCRIPTION OF CAPITAL STOCK

General

The following description summarizes certain important terms of our capital stock, as they are expected to be in effect immediately prior to the completion of this offering. We expect to adopt an amended and restated certificate of incorporation and amended and restated bylaws that will become effective immediately prior to the completion of this offering, and this description summarizes the provisions that are expected to be included in such documents. Because it is only a summary, it does not contain all the information that may be important to you. For a complete description of the matters set forth in this section titled "Description of Capital Stock," you should refer to our amended and restated certificate of incorporation, amended and restated bylaws and amended and restated investors' rights agreement, which are included as exhibits to the registration statement to which this prospectus relates, and to the applicable provisions of Delaware law.

Immediately following the completion of this offering, our authorized capital stock will consist of shares of capital stock, $0.001 par value per share, of which:

- shares are designated as Class A common stock;
- shares are designated as Class B common stock; and
- shares are designated as preferred stock.

Assuming the completion of the Capital Stock Conversions, which will occur immediately prior to the completion of this offering, as of June 30, 2019, there were 46,360,728 shares of our Class A common stock outstanding, held by 236 stockholders of record, and 211,982,959 shares of our Class B common stock outstanding, held by 313 stockholders of record. Pursuant to our amended and restated certificate of incorporation, our Board of Directors will have the authority, without stockholder approval except as required by the listing standards of the New York Stock Exchange (the NYSE), to issue additional shares of our Class A common stock.

Common Stock

We have two classes of authorized common stock, Class A common stock and Class B common stock. The rights of the holders of Class A common stock and Class B common stock are identical, except with respect to voting and conversion.

Dividend Rights

Subject to preferences that may apply to any shares of preferred stock outstanding at the time, the holders of our common stock are entitled to receive dividends out of funds legally available if our Board of Directors, in its discretion, determines to issue dividends and then only at the times and in the amounts that our Board of Directors may determine. See the section titled "Dividend Policy" for additional information.

Voting Rights

Prior to the completion of this offering, holders of our Class A common stock and Class B common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders. Following the completion of this offering, holders of Class A common stock will be entitled to one vote for each share held on all matters submitted to a vote of stockholders and holders of our Class B common stock will be entitled to 10 votes for each share held, except as otherwise required by law. The holders of our Class A common stock and Class B common stock vote together as a single class, unless otherwise required by law.

Delaware law could require either holders of our Class A common stock and our Class B common stock to vote separately as a single class in the following circumstances:

- if we were to seek to amend our amended and restated certificate of incorporation to increase or decrease the par value of a class of stock, then that class would be required to vote separately to approve the proposed amendment; and
- if we were to seek to amend our amended and restated certificate of incorporation in a manner that alters or changes the powers, preferences, or special rights of a class of stock in a manner that affected its holders adversely, then that class would be required to vote separately to approve the proposed amendment.

Stockholders do not have the ability to cumulate votes for the election of directors. Our amended and restated certificate of incorporation and amended and restated bylaws that will be in effect at the closing of this offering will provide for a classified Board of Directors consisting of three classes of approximately equal size, each serving staggered three-year terms. Only the directors in one class will be subject to election by a plurality of the votes cast at each annual meeting of stockholders, with the directors in the other classes continuing for the remainder of their respective three-year terms.

No Preemptive or Similar Rights

Our common stock is not entitled to preemptive rights, and is not subject to conversion, redemption, or sinking fund provisions.

Right to Receive Liquidation Distributions

If we become subject to a liquidation, dissolution, or winding-up, the assets legally available for distribution to our stockholders would be distributable ratably among the holders of our common stock and any participating preferred stock outstanding at that time, subject to prior satisfaction of all outstanding debt and liabilities and the preferential rights of and the payment of liquidation preferences, if any, on any outstanding shares of preferred stock.

Conversion of Class B Common Stock

Each share of Class B common stock is convertible at any time at the option of the holder into one share of Class A common stock. Following the completion of this offering, shares of Class B common stock will automatically convert into shares of Class A common stock upon sale or transfer of such shares and upon the cessation of employment by holders of our Class B common stock (other than Mr. Prince and Ms. Zatlyn), but excluding certain transfers permitted by our amended and restated certificate of incorporation.

Fully Paid and Non-Assessable

In connection with this offering, our legal counsel will opine that the shares of our Class A common stock to be issued in this offering will be fully paid and non-assessable.

Preferred Stock

Our Board of Directors is authorized, subject to limitations prescribed by Delaware law, to issue preferred stock in one or more series, to establish from time to time the number of shares to be included in each series, and to fix the designation, powers, preferences, and rights of the shares of each series and any of its qualifications, limitations, or restrictions, in each case without further vote or action by our stockholders. Our Board of Directors can also increase or decrease the number of shares of any series of preferred stock, but not below the number of shares of that series then outstanding, without any further vote or action by our stockholders. Our Board of Directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring, or preventing a change in control of our company and might adversely affect the market price of our common stock and the voting and other rights of the holders of our common stock. We have no current plan to issue any shares of preferred stock.

Options

As of June 30, 2019, we had outstanding options to purchase an aggregate of 23,558,731 shares of our Class B common stock, with a weighted-average exercise price of $2.27 per share, under our equity compensation plans. Options granted under our 2010 Plan generally vest upon the satisfaction of a service-based vesting condition over a four-year period.

RSUs

As of June 30, 2019, there were 4,148,564 shares of our Class B common stock subject to RSUs outstanding under our 2010 Plan. RSUs granted under our 2010 Plan generally vest upon the satisfaction of both a service-based vesting condition and a performance vesting condition, as defined below, occurring before these RSUs expire. The service-based vesting condition is typically satisfied over a four-year period, which (i) in certain cases is satisfied with respect to 25% of the RSUs upon completion of one year of service measured from the vesting commencement date, and the balance being satisfied in successive equal quarterly installments over the next three-year period, and (ii) in other cases is satisfied in successive equal quarterly installments over such four-year period. The performance vesting condition occurs on the earlier of (A) an acquisition or change in control of us or (B) the effective date of the registration statement as filed with the SEC in connection with our initial public offering. In connection with this offering, for those RSUs that will be fully vested after completion of this offering, the settlement date for such vested RSUs will be the later of (x) the next trading day following the 180-day lockup period after this offering (or, if earlier than such 180-day period, March 15, 2020) and (y) the next regular quarterly settlement date for the applicable vested RSU. As of the date of this prospectus, we would have 632,721 shares of common stock subject to RSUs that would settle no later than March 15, 2020. For additional information, please refer to the description of the lock-up agreement in the section titled “Underwriting.”

Registration Rights

After the completion of this offering, certain holders of our common stock will be entitled to rights with respect to the registration of their shares under the Securities Act. These registration rights are contained in our IRA. We and certain holders of our redeemable convertible preferred stock are parties to our IRA. Immediately prior to the completion of this offering, each share of outstanding redeemable convertible preferred stock will convert automatically into one share of Class B common stock, in the case of Series A redeemable convertible preferred stock, Series B redeemable convertible preferred stock or Series C redeemable convertible preferred stock, or Class A common stock, in the case of Series D redeemable convertible preferred stock. The registration rights set forth in our IRA will expire five years following the completion of this offering, or, with respect to any particular stockholder, when such stockholder is able to sell all of its shares on any one day pursuant to Rule 144 of the Securities Act or a similar exemption. We will pay the registration expenses (other than underwriting discounts, selling commissions, and transfer taxes) of the holders of the shares registered pursuant to the registrations described below, including the fees and disbursements of one special counsel for the selling stockholders in an amount not to exceed $30,000. In an underwritten offering, the managing underwriter, if any, has the right, subject to specified conditions, to limit the number of shares such holders may include. In connection with this offering, we expect that substantially all of the stockholders that have registration rights will agree not to sell or otherwise dispose of any of our securities without our prior written consent and the underwriters for a period of 180 days after the date of this prospectus, subject to certain terms and conditions. See the section titled “Shares Eligible for Future Sale—Lock-Up and Market Standoff Agreements” for additional information regarding such restrictions.

Demand Registration Rights

After the completion of this offering, the holders of up to 150,002,517 shares of our Class B common stock and 31,381,152 shares of our Class A common stock will be entitled to certain demand registration rights. At any time beginning 180 days after the effective date of this offering, the holders of at least 50% of these shares then outstanding can request that we register the offer and sale of their shares. We are obligated to effect only two such registrations. If we determine that it would be materially detrimental to us and our stockholders to effect such a demand registration, we have the right to defer such registration, not more than once in any 12-month period, for a period of up to 90 days.

Piggyback Registration Rights

After the completion of this offering, if we propose to register the offer and sale of our Class A common stock under the Securities Act, in connection with the public offering of such Class A common stock, the holders of up to 150,002,517 shares of our Class B common stock and 31,381,152 shares of our Class A common stock will be entitled to certain "piggyback" registration rights allowing the holders to include their shares in such registration, subject to certain marketing and other limitations. As a result, whenever we propose to file a registration statement under the Securities Act, other than with respect to (i) a registration relating to the sale of securities to our employees pursuant to an equity plan, (ii) a registration related to any employee benefit plan or a corporate reorganization or other transaction covered by Rule 145 promulgated under the Securities Act, (iii) a registration on any registration form which does not permit secondary sales or does not include substantially the same information as would be required to be included in a registration statement covering the public offering of our Class A common stock, or (iv) a registration in which the only Class A common stock being registered is Class A common stock issuable upon conversion of debt securities that are also being registered, the holders of these shares are entitled to notice of the registration and have the right, subject to certain limitations, to include their shares in the registration.

S-3 Registration Rights

After the completion of this offering, the holders of up to 150,002,517 shares of our Class B common stock and 31,381,152 shares of our Class A common stock will be entitled to certain Form S-3 registration rights. The holders of at least 20% of these shares then outstanding may make a written request that we register the offer and sale of their shares on a registration statement on Form S-3 if we are eligible to file a registration statement on Form S-3 so long as the request covers securities the anticipated aggregate public offering price of which, net of underwriting discounts and commissions, is at least $1,000,000. These stockholders may make an unlimited number of requests for registration on Form S-3; however, we will not be required to effect a registration on Form S-3 if we have effected two such registrations within the 12-month period preceding the date of the request. Additionally, if we determine that it would be materially detrimental to us and our stockholders to effect such a registration, we have the right to defer such registration, not more than once in any 12-month period, for a period of up to 90 days.

Anti-Takeover Provisions

Certain provisions of Delaware law, our amended and restated certificate of incorporation to be effective immediately prior to the completion of this offering, and our amended and restated bylaws to be effective immediately prior to the completion of this offering, which are summarized below, may have the effect of delaying, deferring, or discouraging another person from acquiring control of us. They are also designed, in part, to encourage persons seeking to acquire control of us to negotiate first with our Board of Directors. We believe that the benefits of increased protection of our potential ability to negotiate with an unfriendly or unsolicited acquirer outweigh the disadvantages of discouraging a proposal to acquire us because negotiation of these proposals could result in an improvement of their terms.

Delaware Law

We will be governed by the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a public Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless:

- the transaction was approved by the board of directors prior to the time that the stockholder became an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding shares owned by directors who are also officers of the corporation and shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- at or subsequent to the time the stockholder became an interested stockholder, the business combination was approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

In general, Section 203 defines a "business combination" to include mergers, asset sales, and other transactions resulting in financial benefit to a stockholder and an "interested stockholder" as a person who, together with affiliates and associates, owns, or, within three years, did own, 15% or more of the corporation's outstanding voting stock. These provisions may have the effect of delaying, deferring, or preventing changes in control of our company.

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaw Provisions

Our amended and restated certificate of incorporation to be effective immediately prior to the completion of this offering and our amended and restated bylaws to be effective immediately prior to the completion of this offering will include a number of provisions that could deter hostile takeovers or delay or prevent changes in control of our Board of Directors or management team, including the following:

Dual-class stock. As described above in the section titled "—Common Stock," our amended and restated certificate of incorporation will provide for a dual class common stock structure, which will provide our pre-offering investors and co-founders, which includes certain of our executive officers, employees, directors, and their affiliates, with significant influence over matters requiring stockholder approval, including the election of directors and significant corporate transactions, such as a merger or other sale of our company or its assets.

Board of Directors vacancies. Our amended and restated certificate of incorporation and amended and restated bylaws will authorize only our Board of Directors to fill vacant directorships, including newly created seats. In addition, the number of directors constituting our Board of Directors will be permitted to be set only by a resolution adopted by a majority vote of our entire Board of Directors. These provisions would prevent a stockholder from increasing the size of our Board of Directors and then gaining control of our Board of Directors by filling the resulting vacancies with its own nominees. This will make it more difficult to change the composition of our Board of Directors and will promote continuity of management.

Classified Board of Directors. Our amended and restated certificate of incorporation and amended and restated bylaws will provide that our Board of Directors is classified into three classes of directors. A third party may be discouraged from making a tender offer or otherwise attempting to obtain control of us as it is more difficult and time consuming for stockholders to replace a majority of the directors on a classified Board of Directors. See the section titled "Management—Classified Board of Directors."

Stockholder action; special meeting of stockholders. Our amended and restated certificate of incorporation will provide that our stockholders may not take action by written consent, but may only take action at annual or special meetings of our stockholders. As a result, a holder controlling a majority of our capital stock would not be able to amend our amended and restated bylaws or remove directors without holding a meeting of our stockholders called in accordance with our amended and restated bylaws. Our amended and restated bylaws will further provide that special meetings of our stockholders may be called only by a majority of our entire Board of Directors, the Chair of our Board of Directors, or our Chief Executive Officer, thus prohibiting a stockholder from calling a special meeting. These provisions might delay the ability of our stockholders to force consideration of a proposal or for stockholders controlling a majority of our capital stock to take any action, including the removal of directors.

Advance notice requirements for stockholder proposals and director nominations. Our amended and restated bylaws will provide advance notice procedures for stockholders seeking to bring business before our annual meeting of stockholders or to nominate candidates for election as directors at our annual meeting of stockholders. Our amended and restated bylaws will also specify certain requirements regarding the form and content of a stockholder's notice. These provisions might preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our annual meeting of stockholders if the proper procedures are not followed. We expect that these provisions may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company.

No cumulative voting. The Delaware General Corporation Law provides that stockholders are not entitled to cumulate votes in the election of directors unless a corporation's certificate of incorporation provides otherwise. Our amended and restated certificate of incorporation will not provide for cumulative voting.

Directors removed only for cause. Our amended and restated certificate of incorporation will provide that stockholders may remove directors only for cause.

Amendment of charter and bylaws provisions. Any amendment of the above provisions in our amended and restated certificate of incorporation and Bylaws will require approval by holders of at least two-thirds of the voting power of our then outstanding capital stock.

Issuance of undesignated preferred stock. Our Board of Directors will have the authority, without further action by our stockholders, to issue up to shares of undesignated preferred stock with rights and preferences, including voting rights, designated from time to time by our Board of Directors. The existence of authorized but unissued shares of preferred stock would enable our Board of Directors to render more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest, or other means.

Exclusive Forum

Our amended and restated bylaws will provide that the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware) will be the sole and exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: (i) any derivative action or proceeding brought on our behalf; (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, or other employees to us or our stockholders; (iii) any action arising pursuant to any provision of the Delaware General Corporation Law or our certificate of incorporation or bylaws; or (iv) any other action asserting a claim that is governed by the internal affairs doctrine, in all cases subject to the court having jurisdiction over indispensable parties named as defendants. The provisions would not apply to suits brought to enforce a duty or liability created by the Exchange Act. Additionally, nothing in our amended and restated bylaws will preclude stockholders that assert claims under the Securities Act from bringing such claims in state or federal court, subject to applicable law. Any person or entity purchasing or otherwise acquiring any interest in our securities shall be deemed to have notice of and consented to this provision. Although we believe these provisions benefit us by providing increased consistency in the application of Delaware law for the specified types of actions and proceedings, the provisions may have the effect of discouraging lawsuits against us or our directors and officers.

Transfer Agent and Registrar

Upon completion of this offering, the transfer agent and registrar for our common stock will be Computershare Trust Company, N.A. The transfer agent and registrar's address is 250 Royall Street, Canton, Massachusetts 02021.

Limitations of Liability and Indemnification

See the section titled "Certain Relationships and Related Party Transactions—Limitation of Liability and Indemnification of Officers and Directors."

Listing

We have applied to list our Class A common stock on the NYSE under the symbol "NET."

Shares Eligible for Future Sale

SHARES ELIGIBLE FOR FUTURE SALE Prior to this offering, there has been no public market for our Class A common stock, and we cannot predict the effect, if any, that market sales of shares of our Class A common stock or the availability of shares of our Class A common stock for sale will have on the market price of our Class A common stock prevailing from time to time. Future sales of our common stock in the public market, or the availability of such shares for sale in the public market, could adversely affect market prices prevailing from time to time. As described below, only a limited number of shares of our Class A common stock will be available for sale shortly after this offering due to contractual and legal restrictions on resale. Nevertheless, sales of our

Class A common stock in the public market after such restrictions lapse, or the perception that those sales may occur, could adversely affect the prevailing market price at such time and could impair our ability to raise equity capital in the future.

Following the completion of this offering, based on the number of shares of our capital stock outstanding as of June 30, 2019, we will have a total of shares of our Class A common stock outstanding and shares of our Class B common stock outstanding. Of these outstanding shares, all shares of our Class A common stock sold in this offering will be freely tradable, except that any shares purchased in this offering by our affiliates, as that term is defined in Rule 144 under the Securities Act, would only be able to be sold in compliance with the Rule 144 limitations described below.

The remaining outstanding shares of our common stock will be deemed "restricted securities" as defined in Rule 144 under the Securities Act. Restricted securities may be sold in the public market only if they are registered under the Securities Act or if they qualify for an exemption from registration under Rule 144 or Rule 701 under the Securities Act, which rules are summarized below. As a result of the lock-up and market standoff agreements described below and the provisions of our IRA described under the section titled "Description of Capital Stock—Registration Rights," and subject to the provisions of Rule 144 or Rule 701, shares of our Class A common stock will be available for sale in the public market as follows:

- beginning on the date of this prospectus, all shares of our Class A common stock sold in this offering will be immediately available for sale in the public market; and
- beginning 181 days after the date of this prospectus (subject to the terms of the lock-up and market standoff agreements described below) additional shares will become eligible for sale in the public market, of which shares will be held by affiliates and subject to the volume and other restrictions of Rule 144, as described below.

Lock-Up and Market Standoff Agreements

Our executive officers, directors, and substantially all the other holders of our capital stock and securities convertible into or exchangeable for our capital stock have agreed that, subject to certain exceptions, for a period of 180 days after the date of this prospectus (the lock-up period), they will not, without the prior written consent of the representatives, dispose of or hedge any shares or any securities convertible into or exchangeable for shares of our capital stock; provided that if (i) at least 120 days have elapsed since the date of this prospectus, (ii) we have publicly released our earnings results for the fiscal year ended December 31, 2019, and (iii) the lock-up period is scheduled to end during a broadly applicable period during which trading in our securities would not be permitted under our insider trading policy (a blackout period), or within five trading days prior to a blackout period, the lock-up period will end 10 trading days prior to the commencement of such blackout period. The representatives may, in their discretion, release any of the securities subject to these lock-up agreements at any time. In addition, our executive officers, directors, and substantially all the holders of our capital stock and securities convertible into or exchangeable for our capital stock have entered into market standoff agreements with us under which they have agreed that, subject to certain exceptions, for a period of 180 days after the date of this prospectus, they will not, without our prior written consent, dispose of or hedge any shares or any securities convertible into or exchangeable for shares of our common stock.

In addition, we will enter into a lock-up agreement with the underwriters under which we will agree not to sell any of our capital stock for 180 days following the date of this prospectus, subject to certain exceptions including, but not limited to, our issuance of shares of common stock or certain other securities in connection with our acquisition of the securities, business, technology, property, or other assets of another person or entity or pursuant to an employee benefit plan that we assumed in connection with such acquisition, or our joint ventures, commercial relationships, and other strategic transactions, provided that each recipient executes and delivers a lock-up agreement with substantially the same restrictions to which our executive officers, directors, and certain other holders of our capital stock and securities convertible into or exchangeable for our capital stock are subject.

Rule 144

In general, Rule 144 provides that once we have been subject to the public company reporting requirements of Section 13 or Section 15(d) of the Exchange Act for at least 90 days, a person who is not deemed to have been one of our affiliates for purposes of the Securities Act at any time during the 90 days preceding a sale and who has beneficially owned the shares of our common stock proposed to be sold for at least six months is entitled to sell those shares without complying with the manner of sale, volume limitation, or notice provisions of Rule 144, subject to compliance with the public information requirements of Rule 144. If such a person has beneficially owned the shares proposed to be sold for at least one year, including the holding period of any prior owner other than our affiliates, then that person would be entitled to sell those shares without complying with any of the requirements of Rule 144.

In general, Rule 144 provides that our affiliates or persons selling shares of our common stock on behalf of our affiliates are entitled to sell upon expiration of the market standoff agreements and lock-up agreements described above, within any three-month period, a number of shares of our common stock that does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding, which will equal shares immediately after the completion of this offering; or
- the average weekly trading volume of our common stock during the four calendar weeks preceding the filing of a notice on Form 144 with respect to that sale.

Sales of common stock made in reliance upon Rule 144 by our affiliates or persons selling shares of our common stock on behalf of our affiliates are also subject to certain manner of sale provisions and notice requirements and to the availability of current public information about us.

Rule 701

Rule 701 generally allows a stockholder who purchased shares of our capital stock pursuant to a written compensatory plan or contract and who is not deemed to have been an affiliate of our company during the immediately preceding 90 days to sell these shares in reliance upon Rule 144, but without being required to comply with the public information, holding period, volume limitation, or notice provisions of Rule 144. Rule 701 also permits affiliates of our

company to sell their Rule 701 shares under Rule 144 without complying with the holding period requirements of Rule 144. All holders of Rule 701 shares, however, are required to wait until 180 days after the date of this prospectus before selling those shares pursuant to Rule 701.

Registration Rights

Pursuant to our IRA, after the completion of this offering, the holders of up to 150,002,517 shares of our Class B common stock and 31,381,152 shares of our Class A common stock, or certain of their transferees, will be entitled to certain rights with respect to the registration of the offer and sale of those shares, as converted into an equivalent number of shares of our Class A common stock upon such offer and sale, under the Securities Act. See the section titled "Description of Capital Stock—Registration Rights" for a description of these registration rights. If the offer and sale of these shares of our Class A common stock are registered, the shares will be freely tradable without restriction under the Securities Act, subject to the Rule 144 limitations applicable to affiliates, and a large number of shares may be sold into the public market.

Registration Statement

We intend to file a registration statement on Form S-8 under the Securities Act promptly after the completion of this offering to register shares of our common stock subject to RSUs and options outstanding, as well as reserved for future issuance, under our equity compensation plans. The registration statement on Form S-8 is expected to become effective immediately upon filing, and shares of our common stock covered by the registration statement will then become eligible for sale in the public market, subject to the Rule 144 limitations applicable to affiliates, vesting restrictions, and any applicable market standoff agreements and lock-up agreements. See the section titled "Executive Compensation—Employee Benefit and Stock Plans" for a description of our equity compensation plans.

Material U.s. Federal Income Tax Consequences to Non-u.s. Holders of Our Class a Common Stock

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES TO NON-U.S. HOLDERS

Of Our Class a Common Stock

The following is a summary of the material U.S. federal income tax consequences to certain non-U.S. holders (as defined below) of the ownership and disposition of our Class A common stock but does not purport to be a complete analysis of all the potential tax considerations relating thereto. This summary is based upon the provisions of the Internal Revenue Code of 1986, as amended (the Code), Treasury Regulations promulgated thereunder, administrative rulings, and judicial decisions, all as of the date hereof. These authorities may be changed, possibly retroactively, so as to result in U.S. federal income tax consequences different from those set forth below. No ruling from the Internal Revenue Service (the IRS), has been, or will be, sought with respect to the tax consequences discussed herein, and there can be no assurance that the IRS will not take a position contrary to the tax consequences discussed below or that any position taken by the IRS would not be sustained.

This summary does not address the tax considerations arising under the laws of any non-U.S., state, or local jurisdiction, or under U.S. federal gift and estate tax laws, except to the limited extent set forth below. In addition, this discussion does not address the application of the Medicare contribution tax on net investment income or any tax considerations applicable to a non-U.S. holder's particular circumstances or non-U.S. holders that may be subject to special tax rules, including, without limitation:

- banks, insurance companies or other financial institutions (except to the extent specifically set forth below), regulated investment companies, or real estate investment trusts;
- persons subject to the alternative minimum tax;
- tax-exempt organizations or governmental organizations;
- controlled foreign corporations, passive foreign investment companies, or corporations that accumulate earnings to avoid U.S. federal income tax;
- brokers or dealers in securities or currencies;
- traders in securities or other persons that elect to use a mark-to-market method of accounting for their holdings in our stock;
- U.S. expatriates or certain former citizens or long-term residents of the United States;
- partnerships or entities classified as partnerships for U.S. federal income tax purposes or other pass-through entities (and investors therein);
- persons who hold our Class A common stock as a position in a hedging transaction, "straddle," "conversion transaction," or other risk reduction transaction or integrated investment;
- persons who hold or receive our Class A common stock pursuant to the exercise of any employee stock option or otherwise as compensation;
- persons who do not hold our Class A common stock as a capital asset within the meaning of Section 1221 of the Code;

- persons deemed to sell our Class A common stock under the constructive sale provisions of the Code;
- persons subject to special tax accounting rules as a result of any item of gross income with respect to our Class A common stock being taken into account in an "applicable financial statement" as defined in Section 451(b) of the Code;
- persons that own, or are deemed to own, more than five percent of our Class A common stock (except to the extent specifically set forth below); or
- persons that own, or are deemed to own, our Class B common stock.

In addition, if a partnership or entity classified as a partnership for U.S. federal income tax purposes holds our Class A common stock, the tax treatment of a partner generally will depend on the status of the partner and upon the activities of the partnership. Accordingly, partnerships that hold our Class A common stock, and partners in such partnerships, should consult their tax advisors.

You are urged to consult your tax advisor with respect to the application of the U.S. federal income tax laws to your particular situation, as well as any tax consequences of the acquisition, ownership, and disposition of our Class A common stock arising under the U.S. federal estate or gift tax rules, under the laws of any state, local, non-U.S., or other taxing jurisdiction, or under any applicable tax treaty.

Non-U.S. Holder Defined

For purposes of this discussion, you are a non-U.S. holder if you are a holder of our common stock that is not a partnership (or entity or arrangement treated as a partnership for U.S. federal income tax purposes) and is not any of the following:

- an individual who is a citizen or resident of the United States (for U.S. federal income tax purposes);
- a corporation or other entity taxable as a corporation created or organized in the United States or under the laws of the United States or any political subdivision thereof or other entity treated as such for U.S. federal income tax purposes;
- an estate whose income is subject to U.S. federal income tax regardless of its source; or
- a trust (x) whose administration is subject to the primary supervision of a U.S. court and which has one or more "United States persons" (within the meaning of Section 7701(a)(3) of the Code) who have the authority to control all substantial decisions of the trust or (y) which has made a valid election to be treated as a U.S. person.

Distributions

As described in the section titled "Dividend Policy," we have never declared or paid cash dividends on our capital stock and do not anticipate paying any dividends on our capital stock in the foreseeable future. However, if we do make distributions on our Class A common stock, those payments will constitute dividends for U.S. tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. To the extent those distributions exceed both our current and our accumulated earnings and profits, they will constitute a return of capital and will first reduce your basis in our Class A common stock, but not below zero, and then will be treated as gain from the sale of stock as described below under "—Gain on Disposition of Our Class A Common Stock."

Except as otherwise described below in the discussions of effectively connected income (in the next paragraph), backup withholding and FATCA, any dividend paid to you generally will be subject to U.S. withholding tax either at a rate of 30% of the gross amount of the dividend or such lower rate as may be specified by an applicable income tax treaty between the United States and your country of residence. In order to receive a reduced treaty rate, you must provide us with an IRS Form W-8BEN, IRS Form W-8BEN-E, or other appropriate version of IRS Form W-8, including any required attachments and your taxpayer identification number, certifying qualification for the reduced rate; additionally, you will be required to update such Forms and certifications from time to time as required by law. If your shares of our Class A common stock are eligible for a reduced rate of U.S. withholding tax pursuant to an income tax treaty, you may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. If you hold our Class A common stock through a financial institution or other agent acting on your behalf, you will be required to provide appropriate documentation to the agent, which then will be required to provide certification to us or our paying agent, either directly or through other intermediaries. You should consult your tax advisor regarding their entitlement to benefits under an applicable income tax treaty.

Dividends received by you that are effectively connected with your conduct of a U.S. trade or business (and, if required by an applicable income tax treaty, attributable to a permanent establishment or fixed base maintained by you in the United States) are generally exempt from such withholding tax, subject to the discussions below on backup withholding and FATCA withholding. In order to obtain this exemption, you must provide us with an IRS Form W-8ECI or other applicable IRS Form W-8, including any required attachments and your taxpayer identification number; additionally, you will be required to update such forms and certifications from time to time as required by law. Such effectively connected dividends, although not subject to U.S. federal withholding tax, are includable on your U.S. income tax return and generally taxed to you at the same graduated rates applicable to U.S. persons, net of certain deductions and credits. If you are a corporate non-U.S. holder, dividends you receive that are effectively connected with your conduct of a U.S. trade or business may also be subject to a branch profits tax at a rate of 30% or such lower rate as may be specified by an applicable income tax treaty between the United States and your country of residence. You should consult your tax advisor regarding any applicable tax treaties that may provide for different rules.

Gain on Disposition of Our Class A Common Stock

Except as otherwise described below in the discussion of backup withholding, you generally will not be subject to U.S. federal income tax on any gain realized upon the sale or other disposition of our Class A common stock unless:

- the gain is effectively connected with your conduct of a U.S. trade or business (and, if required by an applicable income tax treaty, the gain is attributable to a permanent establishment or fixed base maintained by you in the United States);
- you are a non-resident alien individual who is present in the United States for a period or periods aggregating 183 days or more during the calendar year in which the sale or disposition occurs, and other conditions are met; or
- our Class A common stock constitutes a United States real property interest by reason of our status as a "United States real property holding corporation," or USRPHC, for U.S. federal income tax purposes at any time within the shorter of the five-year period preceding your disposition of, or your holding period for, our Class A common stock, and, in the case where shares of our Class A common stock are regularly traded on an established securities market, you own, or are treated as owning, more than 5% of our Class A common stock at any time during the foregoing period.

Generally, a corporation is a "United States real property holding corporation" if the fair market value of its United States real property interests equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests and its other assets used or held for use in a trade or business (all as determined for United States federal income tax purposes). We believe that we are not currently and will not become a USRPHC for U.S. federal income tax purposes, and the remainder of this discussion assumes this is the case. However, because the determination of whether we are a USRPHC depends on the fair market value of our U.S. real property relative to the fair market value of our other business assets, there can be no assurance that we will not become a USRPHC in the future. Even if we become a USRPHC, however, as long as our Class A common stock is regularly traded on an established securities market, such Class A common stock will be treated as U.S. real property interests only if you actually or constructively hold more than 5% of such regularly traded Class A common stock at any time during the shorter of the five-year period preceding your disposition of, or your holding period for, our Class A common stock. No assurance can be provided that our Class A common stock will be regularly traded on an established securities market at all times for purposes of the rules described above.

If you are a non-U.S. holder described in the first bullet above, you will generally be required to pay tax on the net gain derived from the sale under regular graduated U.S. federal income tax rates (and a corporate non-U.S. holder described in the first bullet above also may be subject to the branch profits tax at a 30% rate), unless otherwise provided by an applicable income tax treaty between the United States and your country of residence. If you are a non-U.S. holder described in the second bullet above, you will generally be required to pay a flat 30% tax (or such lower rate specified by an applicable income tax treaty between the United States and your country of residence) on the gain derived from the sale, which gain may be offset by certain U.S. source capital losses (provided you have timely filed U.S. federal income tax returns with respect to such losses). You should consult your tax advisor with respect to whether any applicable income tax or other treaties may provide for different rule.

Federal Estate Tax

Our Class A common stock beneficially owned by an individual who is not a citizen or resident of the United States (as defined for U.S. federal estate tax purposes) at the time of their death will generally be includable in the decedent's gross estate for U.S. federal estate tax purposes, unless an applicable estate tax treaty provides otherwise. You should consult your tax advisor regarding the U.S. federal estate tax consequences of the ownership or disposition of our Class A common stock.

Backup Withholding and Information Reporting

Generally, we must report annually to the IRS the amount of dividends paid to you, your name and address, and the amount of tax withheld, if any. A similar report will be sent to you. Pursuant to applicable income tax treaties or other agreements, the IRS may make these reports available to tax authorities in your country of residence.

Payments of dividends or of proceeds on the disposition of stock made to you may be subject to information reporting and backup withholding at a current rate of 24% unless you establish an exemption, for example, by properly certifying your non-U.S. status on an IRS Form W-8BEN, IRS Form W-8BEN-E, or another appropriate version of IRS Form W-8. Notwithstanding the foregoing, backup withholding and information reporting may apply if either we or our paying agent has actual knowledge, or reason to know, that you are a United States person as defined under the Code.

Backup withholding is not an additional tax; rather, the U.S. federal income tax liability of persons subject to backup withholding will be reduced by the amount of tax withheld. If withholding results in an overpayment of taxes, a refund or credit may generally be obtained from the IRS, provided that the required information is furnished to the IRS in a timely manner.

Fatca

The Foreign Account Tax Compliance Act and the rules and regulations promulgated thereunder (collectively, FATCA), generally impose a U.S. federal withholding tax of 30% on dividends on and gross proceeds from the sale or other disposition of our Class A common stock paid to a "foreign financial institution" (as specially defined under these rules), unless such institution enters into an agreement with the U.S. government to withhold on certain payments and to collect and provide to the U.S. tax authorities substantial information regarding the U.S. account holders of such institution (which includes certain equity and debt holders of such institution, as well as certain account holders that are foreign entities with U.S. owners) or otherwise establishes an exemption. FATCA also generally imposes a U.S. federal withholding tax of 30% on dividends on and gross proceeds from the sale or other disposition of our Class A common stock paid to a "non-financial foreign entity" (as specially defined under these rules) unless such entity provides the withholding agent with a certification identifying certain substantial direct and indirect U.S. owners of the entity, certifies that there are none, or otherwise establishes and certifies to an exemption. The withholding provisions under FATCA generally apply to dividends on our Class A common stock. The Treasury Secretary has issued proposed regulations providing that the withholding provisions under FATCA do not apply with respect to payment of gross proceeds from a sale or other disposition of our Class A common stock, which may be relied upon by taxpayers until final regulations are issued. An intergovernmental agreement between the United States and your country of tax residence may modify the requirements described in this paragraph. If a

dividend payment is both subject to withholding under FATCA and subject to the withholding tax discussed above under "—Distributions," the withholding under FATCA may be credited against, and therefore reduce, such other withholding tax. Non-U.S. holders should consult their own tax advisors regarding the possible implications of FATCA on their investment in our Class A common stock.

Each prospective investor should consult its own tax advisor regarding the particular U.S. federal, state, and local, and non-U.S. tax consequences of purchasing, holding, and disposing of our common stock, including the consequences of any proposed change in applicable laws.

Underwriting

UNDERWRITING We and the underwriters named below have entered into an underwriting agreement with respect to the shares of Class A common stock being offered. Subject to certain conditions, each underwriter has severally agreed to purchase the number of shares of Class A common stock indicated in the following table. Goldman Sachs & Co. LLC, Morgan Stanley & Co. LLC, and J.P. Morgan Securities LLC are the representatives of the underwriters.

Underwriters	Number of Shares
Goldman Sachs & Co. LLC	
Morgan Stanley & Co. LLC	
J.P. Morgan Securities LLC	
Jefferies LLC	
Wells Fargo Securities, LLC	
RBC Capital Markets, LLC	
JMP Securities LLC	
Evercore Group L.L.C.	
Needham & Company, LLC	
Oppenheimer & Co. Inc.	
BTIG, LLC	
SunTrust Robinson Humphrey, Inc.	
Total	

The underwriters are committed to take and pay for all of the shares being offered, if any are taken, other than the shares covered by the option described below unless and until such option is exercised.

The underwriters have an option to buy up to an additional shares of Class A common stock from us to cover sales by the underwriters of a greater number of shares than the total number set forth in the table above. They may exercise that option for 30 days. If any shares are purchased pursuant to this option, the underwriters will severally purchase shares in approximately the same proportion as set forth in the table above.

The following table shows the per share and total underwriting discounts and commissions to be paid to the underwriters by us. Such amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase an additional shares of Class A common stock.

	No Exercise	Full Exercise
Per share		$$
Total		$$

Shares of Class A common stock sold by the underwriters to the public will initially be offered at the initial public offering price set forth on the cover of this prospectus. Any shares sold by the underwriters to securities dealers may be sold at a discount of up to $ per share from the initial public offering price. After the initial offering of the shares, the representatives may change the offering price and the other selling terms. The offering of the shares by the underwriters is subject to receipt and acceptance and subject to the underwriters' right to reject any order in whole or in part. Sales of shares made outside of the United States may be made by affiliates of the underwriters.

Our officers, directors, and the holders of substantially all the shares of our capital stock and securities convertible into or exchangeable for our capital stock have agreed with the underwriters, subject to certain exceptions, not to dispose of or hedge any of their common stock or securities convertible into or exchangeable for shares of common stock during the period from the date of this prospectus continuing through the date 180 days after the date of this prospectus, except with the prior written consent of Goldman Sachs & Co. LLC, Morgan Stanley & Co. LLC, and J.P. Morgan Securities LLC; provided that if (i) at least 120 days have elapsed since the date of this prospectus, (ii) we have publicly released our earnings results for the fiscal year ended December 31, 2019, and (iii) the lock-up period is scheduled to end during a broadly applicable period during which trading in our securities would not be permitted under our insider trading policy (a blackout period), or within five trading days prior to a blackout period, the lock-up period will end 10 trading days prior to the commencement of such blackout period. This agreement does not apply to any existing employee benefit plans. See the section titled "Shares Eligible for Future Sale" for a discussion of certain transfer restrictions.

Prior to the offering, there has been no public market for our Class A common stock. The initial public offering price will be negotiated among us and the representatives. Among the factors to be considered in determining the initial public offering price of the shares, in addition to prevailing market conditions, will be our historical performance, estimates of our business potential and earnings prospects, an assessment of our management, and the consideration of the above factors in relation to market valuation of companies in related businesses.

We have applied to list our Class A common stock on the NYSE under the symbol “NET.”

In connection with the offering, the underwriters may purchase and sell shares of our Class A common stock in the open market. These transactions may include short sales, stabilizing transactions, and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering, and a short position represents the amount of such sales that have not been covered by subsequent purchases. A “covered short position” is a short position that is not greater than the amount of additional shares for which the underwriters’ option described above may be exercised. The underwriters may cover any covered short position by either exercising their option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to cover the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase additional shares pursuant to the option described above. “Naked” short sales are any short sales that create a short position greater than the amount of additional shares for which the option described above may be exercised. The underwriters must cover any such naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of common stock made by the underwriters in the open market prior to the completion of the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Purchases to cover a short position and stabilizing transactions, as well as other purchases by the underwriters for their own accounts, may have the effect of preventing or retarding a decline in the market price of our Class A common stock, and together with the imposition of the penalty bid, may stabilize, maintain, or otherwise affect the market price of the common stock. As a result, the price of the common stock may be higher than the price that otherwise might exist in the open market. The underwriters are not required to engage in these activities and may end any of these activities at any time. These transactions may be effected on the NYSE, in the over-the-counter market or otherwise.

We have agreed to indemnify the several underwriters against certain liabilities, including liabilities under the Securities Act.

A prospectus in electronic format may be made available on the web sites maintained by one or more underwriters, or selling group members, if any, participating in the offering. The underwriters may agree to allocate a number of shares to underwriters and selling group members for sale to their online brokerage account holders. Internet distributions will be allocated by the representatives to underwriters and selling group members that may make Internet distributions on the same basis as other allocations.

Other Relationships

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include sales and trading, commercial and investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage, and other financial and non-financial activities and services. Certain of the underwriters and their respective affiliates have provided, and may in the future provide, a variety of these services to the issuer and to persons and entities with relationships with the issuer, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the underwriters and their respective affiliates, officers, directors and employees may purchase, sell or hold a broad array of investments and actively traded securities, derivatives, loans, commodities, currencies, credit default swaps, and other financial instruments for their own account and for the accounts of their customers, and such investment and trading activities may involve or relate to assets, securities and/or instruments of the issuer (directly, as collateral securing other obligations or otherwise) and/or persons and entities with relationships with the issuer. The underwriters and their respective affiliates may also communicate independent investment recommendations, market color, or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities, and instruments.

Selling Restrictions

Other than in the United States, no action has been taken by us or the underwriters that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

European Economic Area

In relation to each Member State of the European Economic Area that has implemented the Prospectus Directive (a Relevant Member State), an offer to the public of our common shares may not be made in that Relevant Member State, except that an offer to the public in that Relevant Member State of our Class A common stock may be made at any time under the following exemptions under the Prospectus Directive:

(i) to any legal entity which is a qualified investor as defined in the Prospectus Directive;

(ii) to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive), subject to obtaining the prior consent of the representatives for any such offer; or (iii) in any other circumstances falling within Article 3(2) of the Prospectus Directive;

provided that no such offer of shares of our common stock shall result in a requirement for the publication by us or any underwriter of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression "offer to the public" in relation to our Class A common stock in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and our common shares to be offered so as to enable an investor to decide to purchase our common shares, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State, the expression "Prospectus Directive" means Directive 2003/71/EC (as amended), including by Directive 2010/73/EU, and includes any relevant implementing measure in the Relevant Member State.

This European Economic Area selling restriction is in addition to any other selling restrictions set out below.

United Kingdom

In the United Kingdom, this prospectus is only addressed to and directed as qualified investors who are (i) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the Order); or (ii) high net worth entities and other persons to whom it may lawfully be communicated, falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons"). Any investment or investment activity to which this prospectus relates is available only to relevant persons and will only be engaged with relevant persons. Any person who is not a relevant person should not act or relay on this prospectus or any of its contents.

Canada

The securities may be sold in Canada only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions, and Ongoing Registrant Obligations. Any resale of the securities must be made in accordance with an exemption form, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this offering memorandum (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Hong Kong

The shares may not be offered or sold in Hong Kong by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32 of the Laws of Hong Kong) (Companies (Winding Up and Miscellaneous Provisions) Ordinance) or which do not constitute an invitation to the public within the meaning of the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong) (Securities and Futures Ordinance), or (ii) to "professional investors" as defined in the Securities and Futures Ordinance and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance, and no advertisement, invitation or document relating to the shares may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" in Hong Kong as defined in the Securities and Futures Ordinance and any rules made thereunder.

Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor (as defined under Section 4A of the Securities and Futures Act, Chapter 289 of Singapore (the SFA), under Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA, in each case subject to conditions set forth in the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor, the securities (as defined in Section 239(1) of the SFA) of that corporation shall not be transferable for 6 months after that corporation has acquired the shares under Section 275 of the SFA except: (i) to an institutional investor under Section 274 of the SFA or to a relevant person (as defined in Section 275(2) of the SFA), (ii) where such transfer arises from an offer in that corporation's securities pursuant to Section 275(1A) of the SFA, (iii) where no consideration is or will be given for the transfer, (iv) where the transfer is by operation of law, (v) as specified in Section 276(7) of the SFA, or (vi) as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore (Regulation 32).

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is a trust (where the trustee is not an accredited investor (as defined in Section 4A of the SFA)) whose sole purpose is to hold investments and each beneficiary of the trust is an accredited investor, the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferable for 6 months after that trust has acquired the shares under

Section 275 of the SFA except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person (as defined in Section 275(2) of the SFA), (2) where such transfer arises from an offer that is made on terms that such rights or interest are acquired at a consideration of not less than S$200,000 (or its equivalent in a foreign currency) for each transaction (whether such amount is to be paid for in cash or by exchange of securities or other assets), (3) where no consideration is or will be given for the transfer, (4) where the transfer is by operation of law, (5) as specified in Section 276(7) of the SFA, or (6) as specified in Regulation 32.

Japan

The securities have not been and will not be registered under the Financial Instruments and Exchange Act of Japan (Act No. 25 of 1948, as amended) (the FIEA). The securities may not be offered or sold, directly or indirectly, in Japan or to or for the benefit of any resident of Japan (including any person resident in Japan or any corporation or other entity organized under the laws of Japan) or to others for reoffering or resale, directly or indirectly, in Japan or to or for the benefit of any resident of Japan, except pursuant to an exemption from the registration requirements of the FIEA and otherwise in compliance with any relevant laws and regulations of Japan.

Legal Matters

LEGAL MATTERS Wilson Sonsini Goodrich & Rosati, P.C., Palo Alto, California, which has acted as our counsel in connection with this offering, will pass upon the validity of the shares of our Class A common stock being offered by this prospectus. The underwriters have been represented by Fenwick & West LLP, Mountain View, California.

Experts

EXPERTS

The consolidated financial statements of Cloudflare, Inc. at December 31, 2017 and 2018, and for each of the years in the three-year period ended December 31, 2018, have been included herein and in the registration statement in reliance upon the report of KPMG LLP, independent registered public accounting firm, appearing elsewhere herein, and upon the authority of said firm as experts in accounting and auditing.

Where You Can Find Additional Information

WHERE YOU CAN FIND ADDITIONAL INFORMATION We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of our Class A common stock offered by this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement, some of which is contained in exhibits to the registration statement as permitted by the rules and regulations of the SEC. For further information with respect to us and our Class A common stock, we refer you to the registration statement, including the exhibits filed as a part of the registration statement. Statements contained in this prospectus concerning the contents of any contract or any other document is not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, please see the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. You may obtain copies of this information from an SEC maintained Internet website that contains reports, proxy statements, and other information about issuers, like us, that file electronically with the SEC. The address of that website is www.sec.gov.

As a result of this offering, we will become subject to the information and reporting requirements of the Exchange Act and, in accordance with this law, will file periodic reports, proxy statements, and other information with the SEC. These periodic reports, proxy statements, and other information will be available for inspection and copying at the SEC's website referred to above. We also maintain a website at www.cloudflare.com. Upon completion of this offering, you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on our website is not a part of this prospectus and the inclusion of our website address in this prospectus is an inactive textual reference only.

CLOUDFLARE, INC.

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Report of Independent Registered Public Accounting Firm

Report of Independent Registered Public Accounting Firm To the Stockholders and Board of Directors Cloudflare, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Cloudflare, Inc. and subsidiaries (the Company) as of December 31, 2017 and 2018, the related consolidated statements of operations, comprehensive loss, redeemable convertible preferred stock and stockholders' deficit, and cash flows for each of the years in the three-year period ended December 31, 2018, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2018, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

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

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

/s/ KPMG LLP

We have served as the Company's auditor since 2014.

Santa Clara, California May 24, 2019

Consolidated Balance Sheets

CLOUDFLARE, INC.

Consolidated Balance Sheets

(in thousands, except per share data)

	December 31,		June 30, 2019	Pro Forma June 30, 2019
	2017	2018	(Unaudited)	
Assets				
Current assets:				
Cash and cash equivalents	$24,444	$25,055	$42,394	
Marketable securities	48,963	135,602	82,294	
Accounts receivable, net	11,476	25,155	29,926	
Contract assets	3,710	1,552	1,705	
Prepaid expenses and other current assets	3,431	9,373	9,687	
Total current assets	92,024	196,737	166,006	
Property and equipment, net	51,423	73,210	84,640	
Goodwill	4,083	4,083	4,083	
Acquired intangible assets, net	673	156	94	
Deferred contract acquisition costs, noncurrent	10,765	15,940	19,482	
Restricted cash	2,437	6,371	6,371	
Other noncurrent assets	1,738	1,883	6,183	

Total assets	$163,143	$298,380	$286,859	
Liabilities, Redeemable Convertible Preferred Stock and Stockholders' (Deficit) Equity				
Current liabilities:				
Accounts payable	$4,725	$14,285	$17,128	
Accrued expenses and other current liabilities	8,893	15,699	18,577	
Note payable, current portion	356	255	74	
Liability for early exercise of unvested stock options	1,262	14,323	14,952	
Deferred revenue	11,927	16,817	26,757	
Total current liabilities	27,163	61,379	77,488	
Note payable, net of current portion	255	—	—	
Build-to-suit lease financing obligation	10,313	10,443	10,490	
Deferred revenue, noncurrent	207	220	1,007	
Redeemable convertible preferred stock warrant liability	398	1,618	1,945	
Other noncurrent liabilities	3,095	6,704	9,843	
Total liabilities	41,431	80,364	100,773	
Commitments and contingencies (Note 7)				
Redeemable Convertible Preferred Stock				
Redeemable convertible preferred stock; $0.001 par value; 152,199, 168,108, and 168,108 shares authorized as of December 31, 2017, December 31, 2018, and June 30, 2019 (unaudited), respectively; 152,022, 165,658, and 165,658 shares issued and outstanding with aggregate liquidation preference of $180,737, $332,041, and $332,041 as of December 31, 2017, December 31, 2018, and June 30, 2019 (unaudited), respectively; 168,108 shares authorized, no shares issued and outstanding as of June 30, 2019, pro forma (unaudited)	181,546	331,521	331,521	$—
Stockholders' (Deficit) Equity				
Common stock; $0.001 par value; 760,000, 850,000, and 850,000 shares authorized as of December 31, 2017, December 31, 2018, and June 30, 2019 (unaudited), respectively; 79,116, 91,542, and 92,686 shares issued and outstanding as of December 31, 2017, December 31, 2018, and June 30, 2019 (unaudited), respectively; 850,000 shares authorized, 258,344 shares issued and outstanding as of June 30, 2019, pro forma (unaudited)	79	85	86	251
Additional paid-in capital	48,907	82,345	87,111	433,130
Accumulated deficit	(108,714)	(195,878)	(232,698)	(247,361)
Accumulated other comprehensive income (loss)	(106)	(57)	66	66
Total stockholders' (deficit) equity	(59,834)	(113,505)	(145,435)	$186,086
Total liabilities, redeemable convertible preferred stock and stockholders' (deficit) equity	$163,143	$298,380	$286,859	

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

Consolidated Statements of Operations

CLOUDFLARE, INC.

Consolidated Statements of Operations

(in thousands, except per share data)

	Year Ended December 31,			Six Months Ended June 30,	
	2016	**2017**	**2018**	**2018**	**2019**
				(unaudited)	
Revenue	$84,791	$134,915	$192,674	$87,105	$129,151
Cost of revenue	23,962	28,788	43,537	19,372	29,192
Gross profit	60,829	106,127	149,137	67,733	99,959

Operating expenses:					
Sales and marketing	40,122	61,899	94,394	41,744	66,653
Research and development	23,663	33,650	54,463	24,286	36,517
General and administrative	14,073	20,308	85,179	33,041	33,707
Total operating expenses	77,858	115,857	234,036	99,071	136,877
Loss from operations	(17,029)	(9,730)	(84,899)	(31,338)	(36,918)
Non-operating income (expense):					
Interest income	626	762	1,895	460	1,743
Interest expense	(654)	(862)	(992)	(475)	(563)
Other income (expense), net	(208)	115	(2,091)	(663)	(379)
Total non-operating income (expense), net	(236)	15	(1,188)	(678)	801
Loss before income taxes	(17,265)	(9,715)	(86,087)	(32,016)	(36,117)
Provision for income taxes	69	1,033	1,077	472	703
Net loss	$(17,334)	$(10,748)	$(87,164)	$(32,488)	$(36,820)
Net loss per share attributable to common stockholders, basic and diluted	$(0.23)	$(0.14)	$(1.08)	$(0.41)	$(0.43)
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted	75,721	77,147	80,981	78,828	85,382
Pro forma net loss per share, basic and diluted			$(0.37)		$(0.15)
Weighted-average shares used in computing pro forma net loss per share, basic and diluted			237,322		251,085

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

Consolidated Statements of Comprehensive Loss

CLOUDFLARE, INC.

Consolidated Statements of Comprehensive Loss

(in thousands)

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
				(unaudited)	
Net loss	$(17,334)	$(10,748)	$(87,164)	$(32,488)	$(36,820)
Other comprehensive income (loss):					
Change in unrealized gain (loss) on investments, net of tax	55	(17)	49	42	123
Other comprehensive income (loss)	55	(17)	49	42	123
Comprehensive loss	$(17,279)	$(10,765)	$(87,115)	$(32,446)	$(36,697)

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

Consolidated Statements of Redeemable Convertible Preferred Stock and Stockholders' Deficit

CLOUDFLARE, INC.

Consolidated Statements of Redeemable Convertible Preferred Stock and Stockholders' Deficit

(in thousands)

	Redeemable convertible preferred stock		Common stock		Additional paid-in capital	Accumulated deficit	Accumulated othercomprehensive income (loss)	Total stockholders' deficit
	Shares	Amount	Shares	Amount				

Balance as of December 31, 2015	**152,022**	**$181,546**	**75,562**	**$76**	**$37,741**	**$(80,632)**	**$(144)**	**$(42,959)**
Issuance of common stock upon exercise of stock options	—	—	974	1	832	—	—	833
Issuance of common stock in connection with acquisition	—	—	76	—	124	—	—	124
Repurchases of unvested common stock	—	—	(33)	—	—	—	—	—
Issuance of common stock related to early exercised stock options	—	—	14	—	—	—	—	—
Vesting of early exercised stock options	—	—	—	—	143	—	—	143
Stock-based compensation	—	—	—	—	5,748	—	—	5,748
Net loss	—	—	—	—	—	(17,334)	—	(17,334)
Other comprehensive income (loss)	—	—	—	—	—	—	55	55
Balance as of December 31, 2016	**152,022**	**181,546**	**76,593**	**77**	**44,588**	**(97,966)**	**(89)**	**(53,390)**
Issuance of common stock upon exercise of stock options	—	—	1,461	2	1,053	—	—	1,055
Repurchases of unvested common stock	—	—	(11)	—	—	—	—	—
Issuance of common stock related to early exercised stock options	—	—	997	—	—	—	—	—
Vesting of early exercised stock options	—	—	—	—	455	—	—	455
Vesting of restricted stock	—	—	76	—	5	—	—	5
Stock-based compensation	—	—	—	—	2,806	—	—	2,806
Net loss	—	—	—	—	—	(10,748)	—	(10,748)
Other comprehensive income (loss)	—	—	—	—	—	—	(17)	(17)
Balance as of December 31, 2017	**152,022**	**181,546**	**79,116**	**79**	**48,907**	**(108,714)**	**(106)**	**(59,834)**
Issuance of Series D redeemable convertible preferred stock, net of issuance costs of $25	13,636	149,975	—	—	—	—	—	—
Issuance of common stock upon exercise of stock options	—	—	5,481	6	4,406	—	—	4,412
Repurchases of unvested common stock	—	—	(36)	—	—	—	—	—
Issuance of common stock related to early exercised stock options	—	—	6,906	—	—	—	—	—
Vesting of early exercised stock options	—	—	—	—	1,415	—	—	1,415
Vesting of restricted stock	—	—	75	—	3	—	—	3
Stock-based compensation	—	—	—	—	27,614	—	—	27,614
Net loss	—	—	—	—	—	(87,164)	—	(87,164)
Other comprehensive income (loss)	—	—	—	—	—	—	49	49
Balance as of December 31, 2018	**165,658**	**331,521**	**91,542**	**85**	**82,345**	**(195,878)**	**(57)**	**(113,505)**

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

Consolidated Statements of Redeemable Convertible Preferred Stock and Stockholders' Deficit—continued

(in thousands)

	Three Months Ended June 30, 2018							
	Redeemable convertible preferred stock		Common stock		Additional paid-incapital	Accumulated deficit	Accumulated othercomprehensiveincome (loss)	Total stockholders'deficit
	Shares	Amount	Shares	Amount				

Balance as of March 31, 2018 (unaudited)	**152,022**	**$181,546**	**80,040**	**$79**	**$50,250**	**$(120,182)**	**$(103)**	**$(69,956)**
Issuance of common stock upon exercise of stock options (unaudited)	—	—	185	—	242	—	—	242
Repurchases of unvested common stock (unaudited)	—	—	(7)	—	—	—	—	—
Issuance of common stock related to early exercised stock options (unaudited)	—	—	661	—	—	—	—	—
Vesting of early exercised stock options (unaudited)	—	—	—	—	198	—	—	198
Stock-based compensation (unaudited)	—	—	—	—	1,126	—	—	1,126
Net loss (unaudited)	—	—	—	—	—	(21,020)	—	(21,020)
Other comprehensive income (loss) (unaudited)	—	—	—	—	—	—	39	39
Balance as of June 30, 2018 (unaudited)	**152,022**	**$181,546**	**80,879**	**$79**	**$51,816**	**$(141,202)**	**$(64)**	**$(89,371)**

	Three Months Ended June 30, 2019							
	Redeemable convertible preferred stock		**Common stock**		**Additional paid-incapital**	**Accumulated deficit**	**Accumulated othercomprehensiveincome (loss)**	**Total stockholders'deficit**
	Shares	**Amount**	**Shares**	**Amount**				
Balance as of March 31, 2019 (unaudited)	**165,658**	**$331,521**	**92,293**	**$85**	**$84,668**	**$(212,992)**	**$15**	**$(128,224)**
Issuance of common stock upon exercise of stock options (unaudited)	—	—	235	1	385	—	—	386
Repurchases of unvested common stock (unaudited)	—	—	(31)	—	—	—	—	—
Issuance of common stock related to early exercised stock options (unaudited)	—	—	189	—	—	—	—	—
Vesting of early exercised stock options (unaudited)	—	—	—	—	942	—	—	942
Stock-based compensation (unaudited)	—	—	—	—	1,116	—	—	1,116

Net loss (unaudited)	–	–	–	–	–	(19,706)	–	(19,706)
Other comprehensive income (loss) (unaudited)	–	–	–	–	–	–	51	51
Balance as of June 30, 2019 (unaudited)	**165,658**	**$331,521**	**92,686**	**$86**	**$87,111**	**$(232,698)**	**$66**	**$(145,435)**

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

Consolidated Statements of Redeemable Convertible Preferred Stock and Stockholders' Deficit–continued

(in thousands)

	Six Months Ended June 30, 2018							
	Redeemable convertible preferred stock		**Common stock**		**Additional paid-incapital**	**Accumulated deficit**	**Accumulated othercomprehensiveincome (loss)**	**Total stockholders'deficit**
	Shares	**Amount**	**Shares**	**Amount**				
Balance as of December 31, 2017	**152,022**	**$181,546**	**79,116**	**$79**	**$48,907**	**$(108,714)**	**$(106)**	**$(59,834)**
Issuance of common stock upon exercise of stock options (unaudited)	–	–	555	–	596	–	–	596
Repurchases of unvested common stock (unaudited)	–	–	(24)	–	–	–	–	–
Issuance of common stock related to early exercised stock options (unaudited)	–	–	1,232	–	–	–	–	–
Vesting of early exercised stock options (unaudited)	–	–	–	–	366	–	–	366
Stock-based compensation (unaudited)	–	–	–	–	1,947	–	–	1,947
Net loss (unaudited)	–	–	–	–	–	(32,488)	–	(32,488)
Other comprehensive income (loss) (unaudited)	–	–	–	–	–	–	42	42
Balance as of June 30, 2018 (unaudited)	**152,022**	**$181,546**	**80,879**	**$79**	**$51,816**	**$(141,202)**	**$(64)**	**$(89,371)**

	Six Months Ended June 30, 2019							
	Redeemable convertible preferred stock		**Common stock**		**Additional paid-incapital**	**Accumulated deficit**	**Accumulated othercomprehensiveincome (loss)**	**Total stockholders'deficit**
	Shares	**Amount**	**Shares**	**Amount**				

Balance as of December 31, 2018	**165,658**	**$331,521**	**91,542**	**$85**	**$82,345**	**$(195,878)**	**$(57)**	**$(113,505)**
Issuance of common stock in connection with acquisition (unaudited)	—	—	7	—	18	—	—	18
Issuance of common stock upon exercise of stock options (unaudited)	—	—	581	1	1,066	—	—	1,067
Repurchases of unvested common stock (unaudited)	—	—	(40)	—	—	—	—	—
Issuance of common stock related to early exercised stock options (unaudited)	—	—	596	—	—	—	—	—
Vesting of early exercised stock options (unaudited)	—	—	—	—	1,438	—	—	1,438
Stock-based compensation (unaudited)	—	—	—	—	2,244	—	—	2,244
Net loss (unaudited)	—	—	—	—	—	(36,820)	—	(36,820)
Other comprehensive income (loss) (unaudited)	—	—	—	—	—	—	123	123
Balance as of June 30, 2019 (unaudited)	**165,658**	**$331,521**	**92,686**	**$86**	**$87,111**	**$(232,698)**	**$66**	**$(145,435)**

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

Consolidated Statements of Cash Flows

CLOUDFLARE, INC.

Consolidated Statements of Cash Flows

(in thousands)

	Year Ended December 31,			Six Months Ended June 30,	
	2016	**2017**	**2018**	**2018**	**2019**
				(unaudited)	
Cash Flows From Operating Activities					
Net loss	$(17,334)	$(10,748)	$(87,164)	$(32,488)	$(36,820)
Adjustments to reconcile net loss to cash provided by (used in) operating activities:					
Depreciation and amortization expense	8,355	12,174	18,905	8,278	13,160
Amortization of deferred contract acquisition costs	1,602	3,955	7,060	3,138	4,904
Stock-based compensation expense	5,700	2,755	27,347	1,849	2,101

Net accretion of discounts and amortization of premiums on marketable securities	662	338	(570)	(6)	(852)
Deferred income taxes	(530)	(135)	385	5	—
Provision for bad debt	—	—	1,080	909	451
Change in fair value of redeemable convertible preferred stock warrant liability	(30)	50	1,220	148	327
Other	9	9	46	(20)	9
Changes in operating assets and liabilities, net of effect of acquisitions:					
Accounts receivable, net	(6,680)	(2,073)	(14,758)	(13,857)	(5,222)
Contract assets	(635)	(3,075)	2,158	2,588	(153)
Deferred contract acquisition costs	(5,011)	(8,976)	(12,235)	(5,406)	(8,446)
Prepaid expenses and other current assets	(784)	941	(5,942)	(1,685)	(314)
Other noncurrent assets	(194)	(1,261)	(352)	(228)	(1,373)
Accounts payable	1,247	(957)	4,386	7,239	4,887
Accrued expenses and other current liabilities	2,765	3,976	6,806	5,037	920
Deferred revenue	(3,020)	5,500	4,903	6,129	10,727
Liability for early exercise of unvested stock options	1	6	18	19	—
Other noncurrent liabilities	559	688	3,426	1,252	3,137
Net cash provided by (used in) operating activities	**(13,318)**	**3,167**	**(43,281)**	**(17,099)**	**(12,557)**
Cash Flows From Investing Activities					
Purchases of property and equipment	(15,898)	(19,031)	(25,466)	(6,307)	(18,990)
Capitalized internal-use software	(2,660)	(3,944)	(9,373)	(3,616)	(7,471)
Cash paid for acquisitions, net of cash acquired	(1,376)	(250)	—	—	—
Purchases of marketable securities	(74,891)	(47,090)	(145,269)	(5,163)	(45,143)
Sales of marketable securities	1,301	—	—	—	1,978
Maturities of marketable securities	78,260	79,831	59,249	30,655	97,448
Other investing activities	8	28	64	35	25
Net cash provided by (used in) investing activities	**(15,256)**	**9,544**	**(120,795)**	**15,604**	**27,847**
Cash Flows From Financing Activities					
Proceeds from issuance of preferred stock, net of issuance costs	—	—	149,975	—	—
Proceeds from the exercise of stock options	833	1,085	4,412	596	1,067
Proceeds from the early exercise of stock options	24	1,675	14,525	2,708	2,174
Repurchases of unvested common stock	(20)	(16)	(65)	(44)	(88)
Payments on note payable	(507)	(345)	(356)	(176)	(182)
Payments on related party promissory note payable	—	(4,750)	—	—	—
Proceeds from build-to-suit lease financing obligation drawdown	88	2,202	130	79	47
Payments of deferred offering costs	—	—	—	—	(969)
Net cash provided by (used in) financing activities	**418**	**(149)**	**168,621**	**3,163**	**2,049**
Net increase (decrease) in cash, cash equivalents, and restricted cash	(28,156)	12,562	4,545	1,688	17,339
Cash, cash equivalents, and restricted cash, beginning of period	42,475	14,319	26,881	26,881	31,426
Cash, cash equivalents, and restricted cash, end of period	**$14,319**	**$26,881**	**$31,426**	**$28,549**	**$48,765**
Supplemental Disclosure of Cash Flow Information:					
Cash paid for interest	$636	$812	$786	$428	$289
Cash paid for taxes	$4	$825	$2,658	$1,380	$1,454

Supplemental Disclosure of Non-cash Investing and Financing Activities:					
Issuance of common stock related to acquisitions	$124	$—	$—	$—	$—
Stock-based compensation capitalized for software development	$47	$51	$267	$99	$143
Net change in accounts payable and accrued expenses related to property and equipment additions	$2,032	$563	$5,757	$2,310	$2,229
Vesting of early exercised stock options	$143	$455	$1,415	$367	$1,438
Construction in progress related to build-to-suit lease financing obligation	$42	$—	$—	$—	$—
Net change in deferred offering costs, accrued but not paid	$—	$—	$—	$—	$1,958

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

Notes to Consolidated Financial Statements

CLOUDFLARE, INC.

Notes to Consolidated Financial Statements

Note 1. Organization

Organization and Description of Business

Cloudflare, Inc. (the Company, or Cloudflare) was incorporated in Delaware in July 2009. The Company has built a global cloud platform that delivers a broad range of network services to businesses of all sizes and geographies, making them more secure, enhancing the performance of their business-critical applications, and eliminating the cost and complexity of managing individual network hardware. Cloudflare provides businesses a scalable, easy-to-use, unified control plane to deliver security, performance, and reliability across their on-premise, hybrid, cloud, and SaaS applications. The Company's headquarters are located in San Francisco, California.

Note 2. Basis of Presentation and Summary of Significant Accounting Policies

Basis of Presentation and Principles of Consolidation

The accompanying consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States (U.S. GAAP) and include the accounts of the Company and its wholly owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation. The Company's fiscal year ends on December 31.

Unaudited Interim Consolidated Financial Information

The accompanying interim consolidated balance sheet as of June 30, 2019 and the consolidated statements of operations, of comprehensive loss, and of cash flows for the six months ended June 30, 2018 and 2019, the consolidated statement of redeemable convertible preferred stock and stockholders' deficit for the six months ended June 30, 2019, and the related footnote disclosures are unaudited. These unaudited interim consolidated financial statements have been prepared in accordance with U.S. GAAP. In management's opinion, the unaudited interim consolidated financial statements include all adjustments necessary to state fairly the Company's financial position as of June 30, 2019 and its results of operations and cash flows for the six months ended June 30, 2018 and 2019. The financial data and the other information disclosed in these notes to the consolidated financial statements related to these six-month periods are unaudited. The results for the six months ended June 30, 2019 are not necessarily indicative of the results expected for the full year ending December 31, 2019 or any future period.

Unaudited Pro Forma Balance Sheet Information

Immediately prior to the completion of a qualifying initial public offering, as described in Note 8, (i) all outstanding redeemable convertible preferred stock other than Series D redeemable convertible preferred stock will automatically convert into shares of Class B common stock, and (ii) all shares of Series D redeemable convertible preferred stock will automatically convert into shares of Class A common stock. The unaudited pro forma balance sheet information gives effect to the conversion of the redeemable convertible preferred stock into 31,381,152 shares of Class A common stock and 134,276,690 shares of Class B common stock as of June 30, 2019. Additionally, as described in "Stock-based Compensation" below, the Company has granted qualified event options (QE Options) and restricted stock units (QE RSUs) to employees and contractors which vest on the satisfaction of both a service-based condition and a performance condition. For QE Options, the performance condition will be satisfied upon the occurrence of a qualifying event as follows: (i) the Company's equity securities are listed for sale on a public stock exchange, (ii) the closing of a change in control as defined in the Company's 2010 Equity Incentive Plan (the 2010 Plan), or (iii) an event occurs that the Company's board of directors in its sole discretion deems to be a qualifying event. For QE Options, the service-based condition is satisfied by rendering service from the date of grant through the qualified event, as well as a four year vesting period commencing with the qualified event. For QE RSUs, the performance condition will be satisfied upon the occurrence of a qualifying event as follows: (i) the closing of a change in control as defined in the 2010 Plan, or (ii) the effective date of a registration statement of the Company filed under the Securities Act of 1933, as amended (Securities Act) for the first underwritten public sale of its common stock. The QE RSUs have a service-based vesting condition typically satisfied over a four year vesting period. The Company expects to record stock-based compensation expense in connection with its initial public offering (IPO), related to the QE Options for the service period rendered from the date of grant through the equity securities listing date and for the QE RSUs that vest in connection with the IPO. Accordingly, the unaudited pro forma balance sheet information as of June 30, 2019 gives effect to stock-based

compensation expense of $14.7 million associated with these QE Options and QE RSUs, for the QE Options service period rendered from the date of grant through June 30, 2019 and for the QE RSUs for which the service-based condition was satisfied as of June 30, 2019. This pro forma adjustment related to stock-based compensation expense of $14.7 million has been reflected as an increase to additional paid-in capital and accumulated deficit. No RSUs have been included in the unaudited pro forma balance sheet disclosure of shares outstanding as the settlement of these shares will take place subsequent to the IPO. Payroll tax expenses and other withholding obligations have not been included in the pro forma adjustments. RSU holders will generally incur taxable income based upon the value of the shares on the date they are settled. The Company is required to withhold taxes on such value at applicable minimum statutory rates. The Company is unable to quantify these obligations as of June 30, 2019 and will remain unable to quantify them until the settlement of the RSUs, as the withholding obligations will be based on the value of the shares on the settlement date.

Unaudited Pro Forma Net Loss per Share

The unaudited pro forma net loss per share attributable to common stockholders for the year ended December 31, 2018 and the six months ended June 30, 2019 has been computed to give effect to the automatic conversion of all outstanding redeemable convertible preferred stock into shares of Class B common stock other than Series D redeemable convertible preferred stock which automatically converts into shares of Class A common stock immediately prior to the completion of a qualifying initial public offering using the if converted method as though the conversion had occurred as of the beginning of the period or the original date of issuance, if later. The liquidation and dividend rights are identical among Class A and Class B common stock, and all classes of common stock share equally in the Company's earnings and losses. Accordingly, net loss has been reallocated to Class A and Class B common stock on a proportional basis.

In addition, the pro forma share amounts include the QE RSUs granted to employees with both service-based and performance vesting conditions, for which the service-based condition was satisfied as of June 30, 2019. These RSUs will vest upon the satisfaction of the performance condition in connection with the IPO. Stock-based compensation expense associated with the QE Options and QE RSUs is excluded from this pro forma presentation. If the qualifying initial public offering had occurred on December 31, 2018 or June 30, 2019, the Company would have recorded $6.1 million or $14.7 million, respectively, of stock-based compensation expense related to these QE Options and QE RSUs.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported and disclosed in the consolidated financial statements and accompanying notes to the consolidated financial statements. Such estimates include, but are not limited to, deferred contract acquisitions costs, the period of benefit generated from the Company's deferred contract acquisition costs, the capitalization and estimated useful life of internal-use software, the assessment of recoverability of intangible assets and their estimated useful lives, useful lives of property and equipment, the valuation and recognition of stock-based compensation expense, uncertain tax positions, and the recognition and measurement of current and deferred income tax assets and liabilities. Management bases these estimates and assumptions on historical experience and on various other assumptions that are believed to be reasonable. Actual results could differ materially from these estimates.

Concentrations of Risks

The Company's revenue is reliant on its customers utilizing Internet-based services. These services can be prone to rapid changes in technology and government regulation. If the Company were unable to keep pace with customers' needs and continue to improve its technological capabilities, or if another firm were to introduce competitive products, or a government jurisdiction were to enact legislation detrimental to the Company's business, such an event or events could adversely affect the Company's operating results.

The Company serves its customers from co-location facilities located in various cities and countries around the world. The Company has internal procedures to restore services in the event of disasters at its current co-location facilities. Even with these procedures for disaster recovery in place, the Company's services could be significantly interrupted during the implementation of restoration procedures.

The Company's financial instruments that are exposed to concentrations of credit risk consist primarily of cash, cash equivalents, marketable securities, and accounts receivable. Although the Company maintains cash deposits, cash equivalent balances, and marketable securities with multiple financial institutions, the deposits, at times, may exceed federally insured limits. Cash and cash equivalents may be withdrawn or redeemed on demand. The Company believes that the financial institutions that hold its cash and cash equivalents are financially sound and, accordingly, minimal credit risk exists with respect to these balances. The Company also maintains investments in U.S. treasury securities, U.S. government agency securities, commercial paper, and corporate bonds that carry high credit ratings and accordingly, minimal credit risk exists with respect to these balances. Cash equivalents consist of money market funds, commercial paper, and corporate bonds which are invested through financial institutions in the United States.

The Company's accounts receivable are derived from net revenue to customers located throughout the world. The Company grants credit to its customers in the normal course of business.

For the year ended December 31, 2016, one customer accounted for 11% of total revenue. For the years ended December 31, 2017 and 2018, no customer accounted for more than 10% of the Company's revenue. For the six months ended June 30, 2018 and 2019 (unaudited), no customer accounted for more than 10% of the Company's revenue. No customer represented 10% or more of accounts receivable, net as of December 31, 2017 and 2018, and June 30, 2019 (unaudited).

Revenue Recognition

The Company elected to early adopt Accounting Standards Codification (ASC) Topic 606, *Revenue From Contracts With Customers* (ASC 606), effective as of January 1, 2017, retrospectively to the earliest year presented. Under this transition method, the Company is presenting the consolidated financial statements for the year ended December 31, 2016, as if ASC 606 had been effective for that period.

In accordance with ASC 606, revenue is recognized when a customer obtains control of promised services. The amount of revenue recognized reflects the consideration that the Company expects to be entitled to receive in exchange for these services. To achieve this standard, the Company applies the following five steps:

1. Identify the contract with a customer The Company considers the terms and conditions of the contracts and its customary business practices in identifying its contracts under ASC 606. The Company determines it has a contract with a customer when the contract is approved, the Company can identify each party's rights regarding the services to be transferred, the Company can identify the payment terms, the Company has determined that collectibility is probable, and the contract has commercial substance. The Company applies judgment in determining that collectibility is probable, which is based on a variety of factors, including the customer's historical payment experience or, in the case of a new customer, credit and financial information relevant to the customer.

2. Identify the performance obligations in the contract Performance obligations promised in a contract are identified based on the services that will be transferred to the customer that are both capable of being distinct, whereby the customer can benefit from the service either on its own or together with other resources that are readily available to the Company, and are distinct in the context of the contract, whereby the transfer of the services is separately identifiable from other promises in the contract. The Company's performance obligation primarily consists of subscription and support services, as they are provided over the same service period.

3. Determine the transaction price The transaction price is determined based on the consideration to which the Company expects to be entitled in exchange for transferring services to the customer. Usage based variable consideration is recognized in the period it is incurred. None of the Company's contracts contain a significant financing component.

4. Allocate the transaction price to performance obligations in the contract The subscription and support services in the Company's contracts are considered a single performance obligation, and thus the entire transaction price is allocated to the single performance obligation.

5. Recognize revenue when or as the Company satisfies a performance obligation Revenue is recognized at the time the related performance obligation is satisfied by transferring the service to a customer. Revenue is recognized when control of the services is transferred to the Company's customers, in an amount that reflects the consideration that the Company expects to be entitled to receive in exchange for those services.

The Company generates sales directly through its sales team and through its channel partners. Revenue from sales to channel partners are recorded once all the revenue recognition criteria above are met. Channel partners generally receive an order from an end-customer prior to placing an order with the Company. Payment from channel partners is not contingent on the partner's collection from end-customers. The Company has determined that it is acting as an agent in these arrangements and records this revenue on a net basis.

Subscription and Support Revenue

The Company generates revenue primarily from sales to its customers of subscriptions to access its platform, together with related support services. Arrangements with customers generally do not provide the customer with the right to take possession of the Company's software operating its global cloud platform at any time. Instead, customers are granted continuous access to the Company's global cloud platform over the contractual period. Access to the Company's platform and products is considered a monthly series comprising one performance obligation. A time-elapsed output method is used to measure progress because the Company transfers control evenly over the contractual period. Accordingly, the fixed consideration related to subscription and support revenue is generally recognized on a straight-line basis over the contract term beginning on the date that the Company's service is made available to the customer. Usage-based consideration is primarily related to fees charged for the Company's customer's use of excess bandwidth when accessing the Company's platform in a given period and is recognized as revenue in the period in which the usage occurs.

The typical subscription and support term for the Company's enterprise customers is one year and subscription and support term lengths range from one to three years. Most of the Company's contracts with enterprise customers are non-cancelable over the contractual term. Customers typically have the right to terminate their contracts for cause if the Company fails to perform in accordance with the contractual terms. For the Company's self-serve customers, subscription and support terms are typically monthly.

Variable Consideration

If the Company's services do not meet certain service level commitments, its customers are entitled to receive service credits, and in certain cases, refunds, each representing a form of variable consideration. Revenue from sales is recorded at the net sales price, which is the transaction price, and includes estimates of these forms of variable consideration to the extent that a significant reversal of cumulative revenue will not occur in a future period. The Company has historically not experienced any significant incidents affecting the defined levels of reliability and performance as required by its subscription contracts. Accordingly, any estimated refunds related to these agreements in the consolidated financial statements are not material during the periods presented.

Usage-based consideration is primarily related to fees charged for the Company's customer's use of excess bandwidth when accessing the Company's platform in a given period and is recognized as revenue in the period in which the usage occurs.

Disaggregation of Revenue

Subscription and support revenue is recognized over time and accounted for substantially all of the Company's revenue for the years ended December 31, 2016, 2017, and 2018, and for the six months ended June 30, 2018 and 2019 (unaudited).

The following table summarizes the revenue by region based on the billing address of customers who have contracted to use the Company's global cloud platform:

Year Ended December 31,			Six Months Ended June 30,	
2016	2017	2018	2018	2019

							(unaudited)			
	(in thousands)									
		Percentage		Percentage		Percentage		Percentage		Percentage
	Amount	of Revenue	Amount	of Revenue	Amount	of Revenue	Amount	of Revenue	Amount	of Revenue
United States	$43,185	51%	$64,940	48%	$92,652	48%	$40,960	47%	$63,966	50%
Europe, Middle East, and Africa	17,688	21%	31,882	24%	48,438	25%	22,727	26%	30,623	24%
Asia Pacific	8,498	10%	15,465	11%	26,305	14%	11,534	13%	19,494	15%
China	10,053	12%	14,425	11%	12,546	6%	6,232	8%	6,295	5%
Other	5,367	6%	8,203	6%	12,733	7%	5,652	6%	8,773	6%
Total	$84,791	100%	$134,915	100%	$192,674	100%	$87,105	100%	$129,151	100%

The following table summarizes the revenue from contracts by type of customer:

	Year Ended December 31,						Six Months Ended June 30,			
	2016		2017		2018		2018		2019	
							(unaudited)			
	(in thousands)									
		Percentage		Percentage		Percentage		Percentage		Percentage
	Amount	of Revenue	Amount	of Revenue	Amount	of Revenue	Amount	of Revenue	Amount	of Revenue
Channel partners	$3,446	4%	$7,849	6%	$13,231	7%	$5,718	7%	$11,859	9%
Direct customers	81,345	96%	127,066	94%	179,443	93%	81,387	93%	117,292	91%
Total	$84,791	100%	$134,915	100%	$192,674	100%	$87,105	100%	$129,151	100%

Contract Balances

Contract liabilities consist of deferred revenue and include payments received in advance of performance under the contract. Such amounts are recognized as revenue over the contractual period. For the years ended December 31, 2016, 2017, and 2018, the Company recognized revenue of $9.6 million, $6.6 million, and $11.9 million, respectively, that was included in the corresponding contract liability balance at the beginning of the periods presented. For the six months ended June 30, 2018 and 2019 (unaudited), the Company recognized revenue of $10.0 million and $13.1 million, respectively, that was included in the corresponding contract liability balance at the beginning of the periods presented.

The Company receives payments from customers based upon contractual billing schedules; accounts receivable are recorded when the right to consideration becomes unconditional. Standard payment terms are due upon receipt. Contract assets include amounts related to the Company's contractual right to consideration for both completed and partially completed performance obligations that have not been invoiced.

Costs to Obtain and Fulfill a Contract

The Company capitalizes sales commission and associated payroll taxes paid to internal sales personnel that are incremental to the acquisition of channel partner and direct customer contracts. These costs are recorded as deferred contract acquisition costs on the consolidated balance sheets. The Company determines whether costs should be deferred based on its sales compensation plans, if the commissions are in fact incremental and would not have occurred absent the customer contract.

Sales commissions for renewal of a contract are not considered commensurate with the commissions paid for the acquisition of the initial contract. Commissions paid upon the initial acquisition of a contract are amortized over an estimated period of benefit of three years while commissions paid for renewal contracts are amortized over the contractual term of the renewals. Amortization of deferred contract acquisition costs is recognized on a straight-line basis commensurate with the pattern of revenue recognition and included in sales and marketing expense in the consolidated statements of operations. The Company determines the period of benefit for commissions paid for the acquisition of the initial contract by taking into consideration the expected subscription term and expected renewals of its customer contracts, the duration of its relationships with its customers, customer retention data, its technology development lifecycle, and other factors. The Company periodically reviews the carrying amount of deferred contract acquisition costs to determine whether events or changes in circumstances have occurred that could impact the period of benefit of these deferred costs. The Company did not recognize any impairment losses of deferred contract acquisition costs during the periods presented.

The following table summarizes the activity of the deferred contract acquisition costs:

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
				(unaudited)	
	(in thousands)				
Beginning balance	$2,335	$5,744	$10,765	$10,765	$15,940

Capitalization of contract acquisition costs	5,011	8,976	12,235	5,406	8,446
Amortization of deferred contract acquisition costs	(1,602)	(3,955)	(7,060)	(3,138)	(4,904)
Ending balance	$5,744	$10,765	$15,940	$13,033	$19,482

Remaining Performance Obligations

The typical subscription and support term is one year and subscription and support term lengths range from one to three years. Most of the Company's subscription and support contracts are non-cancelable over the contractual term. Customers typically have the right to terminate their contracts for cause if the Company fails to perform. As of December 31, 2018 and June 30, 2019 (unaudited), the aggregate amount of the transaction price allocated to remaining performance obligations was $141.4 million and $173.6 million, respectively. As of December 31, 2018, the Company expected to recognize 82% of its remaining performance obligations as revenue over the next 12 months and 18% of its remaining performance obligations as revenue over the next three years. As of June 30, 2019 (unaudited), the Company expected to recognize 82% of its remaining performance obligations as revenue over the next 12 months and 18% of its remaining performance obligations as revenue over the next three years.

Nonmonetary Transactions

From time to time, the Company enters into nonmonetary arrangements. In the year ended December 31, 2018 and the six months ended June 30, 2018 and 2019 (unaudited), the Company did not participate in any significant nonmonetary transactions. In the years ended December 31, 2016 and 2017, the Company participated in nonmonetary transactions with three of its customers in exchange for those customers agreeing to become vendors providing services to the Company. In accordance with ASC 606, at contract inception, the Company measures and records the transaction price for nonmonetary transactions that meet certain criteria at the estimated fair value of the non-cash consideration received from the customer; if the Company cannot reasonably estimate the fair value of the non-cash consideration, the Company will measure the consideration indirectly by reference to the standalone selling price of the goods or services promised to the customer in exchange for the consideration. Services delivered to the Company and provided by the Company are recognized as the services or capacity is delivered, which also may require estimates. The estimated fair value of the services was derived from internal margin metrics and third-party comparable pricing. Nonmonetary transaction revenue was $5.8 million and $7.0 million for the years ended December 31, 2016 and 2017, respectively. Nonmonetary transaction expense, recognized as a component of cost of revenue and of sales and marketing expense in the consolidated statements of operations, was $5.8 million and $7.0 million for the years ended December 31, 2016 and 2017, respectively. The Company concluded that one of the three arrangements was not in the scope of ASC 606 and could not be recognized at fair value as the transaction did not have commercial substance. There were no significant exchanges of services under that contract during the periods presented.

Accounts Receivable and Allowance

Accounts receivable are recorded at the invoiced amount and are non-interest bearing. Accounts receivable are stated at their net realizable value, net of an allowance. Credit is extended to customers based on an evaluation of their financial condition and other factors. In determining the necessary allowance, the Company considers the current aging and financial condition of its customers, the amount of receivables in dispute, and current payment patterns. Accounts receivable are written off against the allowance when management determines a balance is uncollectible and the Company no longer actively pursues collection of the receivable. The Company does not have any off-balance-sheet credit exposure related to its customers. As of December 31, 2016 and 2017, the Company's allowance for doubtful accounts was zero. As of December 31, 2018 and June 30, 2019 (unaudited), the Company's allowance for doubtful accounts was $0.2 million and $0.5 million, respectively. Bad debt expense for the year ended December 31, 2018 was $1.1 million. Bad debt expense for the six months ended June 30, 2018 and 2019 (unaudited) was $1.0 million and $0.5 million, respectively. The write-off of uncollectible accounts receivable for the year ended December 31, 2018 was $0.9 million and for the six months ended June 30, 2018 and 2019 (unaudited) was $0.06 million and $0.09 million, respectively.

Cost of Revenue

Cost of revenue consists primarily of expenses that are directly related to providing the Company's service to its paying customers. These expenses include expenses related to operating in co-location facilities, network and bandwidth costs, depreciation of the Company's equipment located in co-location facilities, related overhead costs, the amortization of the Company's capitalized internal-use software, and the amortization of acquired developed technologies. Cost of revenue also includes employee-related costs, including salaries, bonuses, benefits, and stock-based compensation for employees whose primary responsibilities relate to supporting the Company's paying customers and delivering paid customer support. Other costs included in cost of revenue include credit card fees related to processing customer transactions and allocated overhead costs.

Research and Development

The Company charges costs related to research, design, and development of products to research and development expense in the consolidated statements of operations as incurred. Research and development expenses support the Company's efforts to add new features to its existing offerings and to ensure the security, performance, and reliability of its global cloud platform. The majority of the Company's research and development expenses result from employee-related costs, including salaries, bonuses and benefits, consulting costs, depreciation of equipment used in research and development, and allocated overhead costs.

Advertising Expense

Advertising costs are charged to sales and marketing expense in the consolidated statements of operations as incurred. Advertising expense for the years ended December 31, 2016, 2017, and 2018 was $2.2 million, $5.9 million, and $10.4 million, respectively. Advertising expense for the six months ended June 30, 2018 and 2019 (unaudited) was $4.1 million and $8.4 million, respectively.

Stock-based Compensation

The Company recognizes stock-based compensation expense based on the fair value of the awards granted. The Company estimates the fair value of each stock-based payment award on the grant date using the Black-Scholes option pricing model.

The Black-Scholes option pricing model requires the use of highly subjective assumptions, including the option's expected term, the fair value of the underlying common stock, the expected volatility of the price of the common stock, risk-free interest rates, and the expected dividend yield of the common stock. The assumptions used to determine the fair value of the stock-based awards are management's best estimates and involve inherent uncertainties and the application of judgment. Stock-based compensation expense for awards with service-based vesting only is recognized on a straight-line basis over the requisite service period of the awards, which is generally four years. The Company accounts for forfeitures as they occur.

The Company has granted QE Options and QE RSUs to employees and contractors which vest on the satisfaction of both a service-based condition and a performance condition. For QE Options, the performance condition will be satisfied upon the occurrence of a qualifying event as follows: (i) the Company's equity securities are listed for sale on a public stock exchange, (ii) the closing of a change in control, as defined in the 2010 Plan, or (iii) an event occurs that the Company's board of directors in its sole discretion deems to be a qualifying event. For QE Options, the service-based condition is satisfied by rendering service from the date of grant through the qualified event, as well as a four year vesting period commencing with the qualified event. For QE RSUs, the performance condition will be satisfied upon the occurrence of a qualifying event as follows: (i) the closing of a change in control as defined in the 2010 Plan, or (ii) the effective date of a registration statement of the Company filed under the Securities Act for the first underwritten public sale of its common stock. The QE RSUs have a service-based vesting condition satisfied over a four year vesting period. Awards which contain both service-based and performance conditions are recognized using the accelerated attribution method once the performance condition is probable of occurring. A change in control event, listing of equity securities event, and effectiveness of a registration statement event are not deemed probable until consummated. Accordingly, no expense is recorded related to these awards until the performance condition becomes probable of occurring. In connection with its IPO, the Company expects to record stock-based compensation expense for the QE Options for the service period rendered from the date of grant through the equity securities listing date and for the QE RSUs that vest in connection with the IPO.

Income Taxes

The Company accounts for income taxes using the asset and liability method. Deferred income taxes are recognized by applying the enacted statutory tax rates applicable to future years to differences between the carrying amounts of existing assets and liabilities and their respective tax bases and net operating loss and tax credit carryforwards. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the period that includes the enactment date. The measurement of deferred tax assets is reduced, if necessary, by a valuation allowance to amounts that are more likely than not to be realized.

The Company recognizes tax benefits from uncertain tax positions only if it believes that it is more likely than not that the tax position will be sustained on examination by the taxing authorities based on the technical merits of the position. The tax benefits recognized in the consolidated financial statements from such positions are then measured based on the largest benefit that has a greater than 50% likelihood of being realized upon settlement.

Foreign Currency Remeasurement

The Company's functional currency of its foreign subsidiaries is the U.S. dollar. The monetary assets and liabilities that are denominated in a currency other than U.S. dollar of the Company's foreign subsidiaries are remeasured into U.S. dollars at the exchange rate on the balance sheet date, while nonmonetary items are remeasured at historical rates. Revenue and expenses are remeasured at average exchange rates during the period. Transaction gains and losses that arise from exchange rate fluctuations on transactions denominated in a currency other than the functional currency are included in other income (expense), net in the consolidated statements of operations. The Company recognized a remeasurement loss of $0.2 million for the year ended December 31, 2016, a remeasurement gain of $0.2 million for the year ended December 31, 2017, and a remeasurement loss of $0.3 million for the year ended December 31, 2018. The Company recognized remeasurement losses of $0.3 million and $0.01 million for the six months ended June 30, 2018 and 2019 (unaudited), respectively.

Cash and Cash Equivalents

Cash and cash equivalents consist of highly liquid investments with an original maturity from the date of purchase of 90 days or less.

Restricted Cash

At December 31, 2017, the Company had $2.4 million in restricted cash related to an irrevocable standby letter of credit established according to the requirements under a lease agreement. At December 31, 2018 and June 30, 2019 (unaudited), the Company had $6.4 million in restricted cash related to irrevocable standby letters of credit established according to the requirements under lease agreements.

Marketable Securities

Available-for-sale securities

The Company's marketable securities consist of U.S. treasury securities, U.S. government agency securities, commercial paper, and corporate bonds. The Company has designated all marketable securities as available-for-sale and therefore, such marketable securities are reported at fair value, with unrealized gains and losses recorded in accumulated other comprehensive loss on the consolidated balance sheets. For securities sold prior to maturity, the cost of securities sold is based on the specific identification method. Realized gains and losses on the sale of marketable securities are recorded in other income (expense), net in the consolidated statements of operations. Securities with original maturities greater than three months and remaining maturities less than one year are classified as marketable securities. Securities with remaining maturities greater than one year are classified as long-term investments.

Other-than-temporary impairment

All of the Company's investments are subject to a periodic impairment review. The Company recognizes an impairment charge when a decline in the fair value of its investments below the cost basis is determined to be other-than-temporary. Factors considered in determining whether a loss is temporary include the extent and length of time the investment's fair value has been lower than its cost basis, the financial condition and near-term prospects of the investee, the extent of the loss related to credit of the issuer, the expected cash flows from the security, the Company's intent to sell the security, and whether or not the Company will be required to sell the security prior to the expected recovery of the investment's amortized cost basis. No such impairment charges were recorded during the years ended December 31, 2016, 2017, and 2018, and the six months ended June 30, 2018 and 2019 (unaudited).

Fair Value Measurements

The carrying value of the Company's financial instruments, including cash equivalents, marketable securities, accounts receivable, accounts payable, and accrued expenses, approximates fair value due to their short-term nature.

Property and Equipment

Property and equipment are stated at cost, net of accumulated depreciation. Depreciation is computed on a straight-line basis over the estimated useful lives of the assets, which is generally as follows:

	Useful Lives
Servers—network infrastructure	4 years
Buildings	30 years
Office and computer equipment	2 years
Office furniture	3 years
Software	3 years
Leasehold improvements	Lesser of useful life or term of lease
Asset retirement obligation	Lesser of useful life or term of lease

Expenditures for maintenance and repairs are expensed as incurred.

Build-to-Suit Leases

The Company capitalizes construction in progress and records a corresponding long-term liability for build-to-suit lease agreements where the Company is considered the accounting owner during the construction period. For the building under build-to-suit lease arrangements where the Company has taken occupancy, the Company determined that it continued to be the deemed owner of this building. This is principally due to the Company's significant investment in tenant improvements. As a result, the building is being depreciated over the useful life. At occupancy, the long-term construction obligations are considered long-term finance lease obligations. Assets capitalized under build-to-suit leases were $13.0 million as of December 31, 2017, December 31, 2018, and June 30, 2019 (unaudited). Depreciation expense for these assets was $0.3 million, $0.4 million, and $0.4 million for the years ended December 31, 2016, 2017, and 2018, respectively, and $0.2 million for the six months ended June 30, 2018 and 2019 (unaudited).

Capitalized Internal-Use Software Development Costs

Certain development costs related to the Company's global cloud platform during the application development stage are capitalized. Costs incurred in the preliminary stages of development are analogous to research and development activities and are expensed as incurred. The preliminary stage includes such activities as conceptual formulation of alternatives, evaluation of alternatives, determination of existence of needed technology, and final selection of alternatives. Once the application development stage is reached, internal and external costs are capitalized until the software is substantially complete and ready for its intended use. Capitalized costs are recorded as part of property and equipment, net. Capitalized internal-use software is amortized on a straight-line basis over its estimated useful life, which is generally three years, and is recorded as cost of revenue in the consolidated statements of operations. Capitalization of costs associated with the development of software for internal-use totaled $2.7 million, $4.0 million, and $9.6 million for the years ended December 31, 2016, 2017, and 2018, respectively, and $3.7 million and $7.6 million for the six months ended June 30, 2018 and 2019 (unaudited), respectively. Amortization expense for capitalized internal-use software totaled $0.1 million, $1.0 million, and $3.3 million for the years ended December 31, 2016, 2017, and 2018, respectively, and $1.1 million and $2.8 million for the six months ended June 30, 2018 and 2019 (unaudited), respectively.

Business Combinations

The Company includes the results of operations of the businesses that the Company acquires from the date of acquisition. The fair value of the assets acquired and liabilities assumed is based on their estimated fair values as of the respective date of acquisition. The excess purchase price over the fair value of the net assets acquired and liabilities assumed is recorded as goodwill. Determining the fair value of assets acquired and liabilities assumed requires significant judgment and estimates including the selection of valuation methodologies, future expected cash flows, discount rates, and useful lives. The Company's estimates of fair value are based on assumptions believed to be reasonable, but which are inherently uncertain and, as a result, actual results may differ from estimates. During the measurement period, not to exceed one year from the date of acquisition, the Company may record adjustments to the

assets acquired and liabilities assumed with a corresponding offset to goodwill. At the conclusion of the measurement period, or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are reflected in the consolidated statements of operations.

When the Company issues payments or grants of equity to selling stockholders in connection with an acquisition, the Company evaluates whether the payments or awards are compensatory. This evaluation includes whether cash payments or stock award vesting is contingent on the continued employment of the selling stockholder beyond the acquisition date. If continued employment is required for the cash to be paid or stock awards to vest, the award is treated as compensation for post-acquisition services and is recognized as compensation expense.

Transaction costs associated with business combinations are expensed as incurred, and are included in general and administrative expense in the Company's consolidated statements of operations.

Goodwill and Intangible Assets

Goodwill represents the excess of the purchase price of an acquired business over the fair value of the net tangible and identifiable intangible assets acquired. The carrying amount of goodwill is reviewed for impairment at least annually, in the fourth quarter, or whenever events or changes in circumstances indicate that the carrying value may not be recoverable. At December 31, 2017 and 2018, and June 30, 2019 (unaudited), the Company had a single operating segment and reporting unit structure. As part of the annual goodwill impairment test, the Company first performs a qualitative assessment to determine whether further impairment testing is necessary. If, as a result of the qualitative assessment, it is more likely than not that the fair value of the reporting unit is less than its carrying amount, the quantitative impairment test will be required. If the Company has determined it necessary to perform a quantitative impairment assessment, the Company will compare the fair value of the reporting unit with its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value, limited to the total amount of goodwill of the reporting unit. The Company did not recognize any goodwill impairment charges for any of the periods presented.

Intangible assets are carried at cost, net of accumulated amortization. Intangible assets are amortized on a straight-line basis over their estimated useful lives. The Company estimates the useful life by estimating the expected period of economic benefit. The estimated useful life of the Company's acquired developed technology intangible assets is two years.

Indefinite lived intangibles are assessed annually for impairment, which includes an assessment of whether there were any triggering events that required an impairment assessment of the Company's definite lived intangible assets, and whether it was more likely than not that the Company's indefinite lived intangible asset was impaired. The Company's indefinite lived intangible asset arose from an asset acquisition in November 2017. As a result of acquiring assets the Company recognized $0.3 million of in-process research and development. The Company began amortizing the in-process research and development as developed technology in 2018. The Company performed an evaluation for impairment and determined there was no impairment for the years ended December 31, 2017 and 2018, and the six months ended June 30, 2018 and 2019 (unaudited).

Impairment of Long-Lived Assets

The Company evaluates long-lived assets, which include depreciable tangible assets, for impairment whenever events or changes in circumstances indicate that the carrying value of long-lived assets may not be recoverable. The recoverability of these assets is measured by comparing the carrying amounts to the future undiscounted cash flows these assets are expected to generate. The Company recognizes an impairment in the event the carrying amount of such assets exceeds the fair value attributable to such assets. There were no events or changes in circumstances that indicated the long-lived assets were impaired during any of the periods presented.

Deferred Offering Costs

Deferred offering costs are capitalized and consist of fees and expenses incurred in connection with the anticipated sale of the Company's common stock in the IPO, including the legal, accounting, printing, and other IPO-related costs. Upon completion of the IPO, these deferred offering costs will be reclassified to stockholders' (deficit) equity and recorded against the proceeds from the offering. As of December 31, 2017 and 2018, the Company had not incurred such costs. The balance of deferred offering costs as of June 30, 2019 (unaudited) was $2.9 million, which is included in other noncurrent assets on the consolidated balance sheets.

Operating Leases

The Company recognizes rent expense on a straight-line basis over the non-cancelable term of the operating lease. The difference between rent expense and rent paid is recorded as deferred rent in accrued expenses and other current liabilities and other noncurrent liabilities on the consolidated balance sheets.

Legal Contingencies

The Company accrues a liability for an estimated loss for legal contingencies if the potential loss from any claim or legal proceeding is considered probable, and the amount can be reasonably estimated. The Company believes there are no legal proceedings pending that could have, individually or in the aggregate, a material adverse effect on its results of operations or financial condition.

Redeemable Convertible Preferred Stock Warrant Liability

Warrants to purchase shares of the Company's redeemable convertible preferred stock are classified as noncurrent liabilities on the consolidated balance sheets at fair value upon issuance because the underlying shares of redeemable convertible preferred stock are redeemable at the option of the holders upon the occurrence of certain deemed liquidation events considered not solely within the Company's control, which may therefore obligate the Company to transfer assets at some point in the future. The warrants are subject to remeasurement to fair value at each balance sheet date and any change in fair value is recognized as a component of other income (expense), net, in the consolidated statements of operations. The Company will continue to adjust the liability for changes in fair value until the earlier of the exercise or expiration of the warrants, the completion of a deemed liquidation event, conversion of

redeemable convertible preferred stock into common stock, or until the redeemable convertible preferred stock can no longer trigger a deemed liquidation event. At that time, the redeemable convertible preferred stock warrant liability will be reclassified to redeemable convertible preferred stock or additional paid-in capital, as applicable.

Net Loss per Share Attributable to Common Stockholders

Basic and diluted net loss per share attributable to common stockholders is presented in conformity with the two-class method required for participating securities. The Company considers its redeemable convertible preferred stock to be participating securities. The Company also considers any shares issued on the early exercise of stock options subject to repurchase to be participating securities because holders of such shares have nonforfeitable dividend rights in the event a dividend is paid on common stock. Under the two-class method, net income is attributed to common stockholders and participating securities based on their participation rights. The holders of the redeemable convertible preferred stock, as well as the holders of early exercised shares subject to repurchase, do not have a contractual obligation to share in the losses of the Company. As such, the Company's net losses for the years ended December 31, 2016, 2017, and 2018, and the six months ended June 30, 2018 and 2019 were not allocated to these participating securities.

Under the two-class method, basic net loss per share attributable to common stockholders is computed by dividing the net loss attributable to common stockholders by the weighted-average number of shares of common stock outstanding during the period, less shares subject to repurchase.

Diluted net loss per share attributable to common stockholders adjusts basic net loss per share for the effect of dilutive securities, including stock options. As the Company has reported losses for all periods presented, all potentially dilutive securities are antidilutive and accordingly, basic net loss per share equals diluted net loss per share.

Segment and Geographic Information

The Company has one reportable and operating segment. Financial information about the Company's operating segment and geographic areas is presented in Note 15 to these consolidated financial statements.

Recent Accounting Pronouncements

Recently Adopted Accounting Pronouncements In January 2017, the Financial Accounting Standards Board (FASB) issued ASU No. 2017-04, *Intangibles—Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*. The new standard will simplify the measurement of goodwill by eliminating step two of the two-step impairment test. Step two measures a goodwill impairment loss by comparing the implied fair value of a reporting unit's goodwill with the carrying amount of that goodwill. The new guidance requires an entity to compare the fair value of a reporting unit with its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value. Additionally, an entity should consider income tax effects from any tax-deductible goodwill on the carrying amount of the reporting unit when measuring the goodwill impairment loss, if applicable. For public business entities, it is effective for annual periods beginning after December 15, 2019, and interim periods therein. For all other public entities, it is effective for annual periods beginning after December 15, 2020, and interim periods therein. For all other entities, it is effective for annual periods beginning after December 15, 2021, and interim periods therein. Early adoption is permitted. The Company early adopted this ASU effective January 1, 2018, noting no impact on the consolidated financial statements.

In May 2017, the FASB issued ASU No. 2017-09, *Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting,* which provides clarity in applying the guidance in Topic 718 around modifications of share-based payment awards. For all entities, it is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is permitted for public entities for reporting periods for which financial statements have not yet been issued and all other entities for reporting periods for which financial statements have not yet been available for issuance. The Company adopted this ASU effective January 1, 2018, noting no material impact on the consolidated financial statements.

In March 2018, the FASB issued ASU No. 2018-05, *Income Taxes (Topic 740): Amendments to SEC paragraphs pursuant to SEC Staff Accounting Bulletin No. 118*. The Amendments in this update add various SEC paragraphs pursuant to the issuance of SEC Staff Accounting Bulletin No. 118, Income Tax Accounting Implications of the Tax Cuts and Jobs Act (SAB 118). SAB 118 directs taxpayers to consider the implications of the Tax Cuts and Jobs Act (TCJA) as provisional when it does not have the necessary information available, prepared, or analyzed in reasonable detail to complete its accounting for the change in the tax law. The standard was effective upon issuance. The Company has completed accounting for the tax effects of the TCJA in 2018 at the close of the measurement period on December 22, 2018. Refer to Note 12 to these consolidated financial statements for further information.

In June 2018, the FASB issued ASU No. 2018-07, *Compensation—Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting.* The updated guidance simplifies the accounting for nonemployee share-based payment transactions. The amendments in the new guidance 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. For public business entities, it is effective for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year. For all other entities, it is effective for fiscal years beginning after December 15, 2019, and interim periods within fiscal years beginning after December 15, 2020. Early adoption is permitted, but no earlier than an entity's adoption date of Topic 606. The Company early adopted the standard prospectively as of January 1, 2018 and the impact of the adoption, including the cumulative effect of the adoption, did not have a material impact on the Company's consolidated financial statements.

Recently Issued Accounting Pronouncements In February 2016, the FASB issued ASU 2016-02, *Leases* (Topic 842), and since that date, has issued several ASUs to further clarify certain aspects of ASU 2016-02 and provide entities with practical expedients that may be elected upon adoption. ASU 2016-02 introduces the recognition of right-of-use assets and lease liabilities by lessees for all leases on the consolidated balance sheets. For the consolidated statements of operations, the ASU retains the distinction between finance leases and operating leases, with the classification criteria for distinguishing between finance leases and operating leases are substantially similar to the previous lease guidance. In transition, lessees and lessors are required to recognize and measure leases at either the beginning of the earliest period presented using a modified retrospective approach, or at the adoption date recognizing the cumulative effect adjustment to the opening balance of retained earnings in the period of adoption. The effective date and transition

requirements of ASU 2016-02, for public business entities, is interim and annual periods beginning on or after December 15, 2018, with early adoption permitted. For all other entities, ASU 2016-02 is effective for annual periods beginning on or after December 15, 2019, and interim periods within annual periods beginning after December 15, 2020. Early adoption is permitted. The Company intends to adopt the ASU beginning January 1, 2020, and has elected to apply the alternate transition method by recording a cumulative-effect adjustment to the opening balance of retained earnings (accumulated deficit) in the period of adoption. The Company is currently evaluating the effect that this ASU will have on its consolidated financial statements.

In July 2017, the FASB issued ASU No. 2017-11, *Earnings Per Share (Topic 260); Distinguishing Liabilities from Equity (Topic 480); Derivatives and Hedging (Topic 815): (Part I) Accounting for Certain Financial Instruments with Down Round Features, (Part II) Replacement of the Indefinite Deferral for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Noncontrolling Interests with a Scope Exception.* This ASU reduces the complexity associated with an issuer's accounting for certain financial instruments with characteristics of liabilities and equity. Specifically, the FASB determined that a down round feature would no longer cause a freestanding equity-linked financial instrument (or an embedded conversion option) to be accounted for as a derivative liability at fair value with changes in fair value recognized in current earnings. For public business entities, it is effective for fiscal years beginning after December 15, 2018, and interim periods therein. For all other entities, it is effective for fiscal years beginning after December 15, 2019, and interim periods within fiscal years beginning after December 15, 2019. Early adoption is permitted. The Company is currently evaluating the potential impact of this ASU on its consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles–Goodwill and Other–Internal-Use Software (ASC 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement*. This guidance provides that implementation costs be evaluated for capitalization using the same criteria as that used for internal-use software development costs, with amortization expense being recorded in the same income statement expense line as the hosted service costs and over the expected term of the hosting arrangement. For public business entities, it is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. For all other entities, it is effective for fiscal years beginning after December 15, 2020, and interim periods beginning after December 15, 2021. Early adoption of the amendments in this update is permitted, including adoption in any interim period, for all entities. The Company is currently evaluating the potential impact of this ASU on its consolidated financial statements.

Recently Adopted Accounting Pronouncements (unaudited) In February 2018, the FASB issued ASU No. 2018-02, *Income Statement–Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*, which provides financial statement preparers with an option to reclassify stranded tax effects within accumulated other comprehensive income to retained earnings in each period in which the effect of the change in the U.S. federal corporate income tax rate in the Tax Cuts and Jobs Act (or portion thereof) is recorded. For all entities, it is effective for fiscal years beginning after December 15, 2018, and interim periods therein. Early adoption is permitted. The amendments in this ASU should be applied either in the period of adoption or retrospectively to each period (or periods) in which the effect of the change in the U.S. federal corporate income tax rate in the Tax Cuts and Jobs Act is recognized. The Company adopted this ASU effective January 1, 2019, noting no material impact on the Company's consolidated financial statements.

Note 3. Business Combinations

In December 2016, the Company completed its acquisition of Eager Platform Company (Eager). Eager developed an app store which allows non-technical website owners to install plugins to improve their websites. This technology makes it easy for companies to release their tools on content management system platforms. With this acquisition the Company bolstered its app store. The total purchase consideration for this acquisition was $1.7 million, consisting of cash of $1.6 million and $0.1 million in shares of the Company's common stock. In addition to the purchase consideration, the Company provided for an additional $1.4 million, of which $0.3 million was in the form of restricted stock to employees for future services and milestones. The remaining $1.1 million relates to cash payments, a portion of which was paid at the acquisition close and the remainder was paid to employees for future services and milestones.

Note 4. Fair Value Measurements

Fair value is defined as the exchange price that would be received from sale of an asset or paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date.

Assets and liabilities measured at fair value are classified into the following categories:

- Level I: Observable inputs are unadjusted quoted prices in active markets for identical assets or liabilities;
- Level II: Observable inputs are quoted prices for similar assets and liabilities in active markets or inputs other than quoted prices that are observable for the assets or liabilities, either directly or indirectly through market corroboration, for substantially the full term of the financial instruments; and
- Level III: Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. These inputs are based on the Company's own assumptions used to measure assets and liabilities at fair value and require significant management judgment or estimation.

The Company classifies its cash equivalents, which are comprised of highly liquid money market funds, commercial paper, and corporate bonds within Level I of the fair value hierarchy because they are valued based on quoted market prices in active markets. The Company classifies its investments, which are comprised of U.S. treasury securities, U.S. government agency securities, commercial paper, and corporate bonds, within Level II of the fair value hierarchy because the fair value of these securities is priced by using inputs based on non-binding market consensus prices that are primarily corroborated by observable market data or quoted market prices for similar instruments. The Company recognizes transfers between levels within the fair value hierarchy, if any, at the end of each period. There were no transfers between levels during the periods presented.

The following tables summarize the Company's cash and available-for-sale securities' amortized cost, unrealized gains (losses), and fair value by significant investment category reported as cash and cash equivalents, restricted cash, marketable securities, or long-term investments as of December 31, 2017 and 2018, and June 30, 2019.

(in thousands)					Reported as:			
December 31, 2017	Amortized Cost	Unrealized Gain	Unrealized (Loss)	Fair Value	Cash & CashEquivalents	Marketable Securities	Long-term Investments	Long-term RestrictedCash
Cash	$17,023	$—	$—	$17,023	$17,023	$—	$—	$—
Level I:								
Money market funds	8,758	—	—	8,758	6,321	—	—	2,437
Level II:								
Corporate bonds	30,020	—	(39)	29,981	1,100	28,881	—	—
U.S. treasury securities	10,622	—	(19)	10,603	—	10,603	—	—
U.S. government agency securities	9,497	—	(18)	9,479	—	9,479	—	—
Subtotal	50,139	—	(76)	50,063	1,100	48,963	—	—
Total assets measured at fair value on a recurring basis	$75,920	$—	$(76)	$75,844	$24,444	$48,963	$—	$2,437

(in thousands)					Reported as:			
December 31, 2018	Amortized Cost	Unrealized Gain	Unrealized (Loss)	Fair Value	Cash & CashEquivalents	Marketable Securities	Long-term Investments	Long-term RestrictedCash
Cash	$4,151	$—	$—	$4,151	$4,151	$—	$—	$—
Level I:								
Money market funds	23,278	—	—	23,278	16,907	—	—	6,371
Level II:								
Corporate bonds	17,291	1	(16)	17,276	—	17,276	—	—
U.S. treasury securities	102,360	8	(20)	102,348	—	102,348	—	—
U.S. government agency securities	1,099	—	—	1,099	—	1,099	—	—
Commercial paper	18,876	—	—	18,876	3,997	14,879	—	—
Subtotal	139,626	9	(36)	139,599	3,997	135,602	—	—
Total assets measured at fair value on a recurring basis	$167,055	$9	$(36)	$167,028	$25,055	$135,602	$—	$6,371

(in thousands, unaudited)					Reported as:			
June 30, 2019	Amortized Cost	Unrealized Gain	Unrealized (Loss)	Fair Value	Cash & CashEquivalents	Marketable Securities	Long-term Investments	Long-termRestrictedCash
Cash	$4,410	$—	$—	$4,410	$4,410	$—	$—	$—
Level I:								
Money market funds	42,358	—	—	42,358	35,987	—	—	6,371
Level II:								
Corporate bonds	11,832	10	—	11,842	—	11,842	—	—
U.S. treasury securities	61,340	84	—	61,424	—	61,424	—	—
U.S. government agency securities	1,099	2	—	1,101	—	1,101	—	—
Commercial paper	9,924	—	—	9,924	1,997	7,927	—	—
Subtotal	84,195	96	—	84,291	1,997	82,294	—	—
Total assets measured at fair value on a recurring basis	$130,963	$96	$—	$131,059	$42,394	$82,294	$—	$6,371

The aggregate fair value of the Company's money market funds approximated amortized cost and, as such, there were no unrealized gains or losses on money market funds as of December 31, 2017 and 2018, and June 30, 2019 (unaudited). Realized gains and losses, net of tax, were not material for any of the periods presented.

The amortized cost of available-for-sale investments with maturities less than one year was $49.0 million, $135.6 million, and $82.2 million as of December 31, 2017 and 2018, and June 30, 2019 (unaudited), respectively. The amortized cost of available-for-sale investments with maturities greater than one year was zero as of December 31, 2017 and 2018, and June 30, 2019 (unaudited).

As of December 31, 2017 and 2018, net unrealized losses on investments were $0.1 million and $0.06 million net of tax, respectively, and were included in accumulated other comprehensive loss on the consolidated balance sheets. As of June 30, 2019 (unaudited), net unrealized gains on investments were $0.1 million net of tax, and were included in accumulated other comprehensive income on the consolidated balance sheets. The unrealized gains and losses on the available-for-sale investments are related to U.S. treasury securities, U.S. government agency securities, and corporate bonds. The Company determined these unrealized losses to be temporary. Factors considered in determining whether a loss is temporary included the length of time and extent to which the investment's fair value has been less than the cost basis, the financial condition and near-term prospects of the investee, the extent of the loss related to credit of the issuer, the expected cash flows from the security, the Company's intent to sell the security, and whether or not the Company will be required to sell the security before the recovery of its amortized cost.

The Company classifies financial instruments in Level III of the fair value hierarchy when there is reliance on at least one significant unobservable input to the valuation model. In addition to these unobservable inputs, the valuation models for Level III financial instruments typically also rely on a number of inputs that are readily observable, either directly or indirectly. The Company's assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgments and consider factors specific to the asset or liability. The gains and losses presented below include changes in the fair value related to both observable and unobservable inputs. The Company's only Level III financial instruments are its redeemable convertible preferred stock warrants.

The following tables summarize the Company's redeemable convertible preferred stock warrant liability measured and recorded at fair value as of December 31, 2017 and 2018, and June 30, 2019:

	December 31, 2017	
	Fair Value	Reported as Long-Term Liability
	(in thousands)	
Fair value using Level III inputs		
Redeemable convertible preferred stock warrant liability	$398	$398
Balance as of December 31, 2017	$398	$398

	December 31, 2018	
	Fair Value	Reported as Long-Term Liability
	(in thousands)	
Fair value using Level III inputs		
Redeemable convertible preferred stock warrant liability	$1,618	$1,618
Balance as of December 31, 2018	$1,618	$1,618

	June 30, 2019	
	Fair Value	Reported as Long-Term Liability
	(in thousands, unaudited)	
Fair value using Level III inputs		
Redeemable convertible preferred stock warrant liability	$1,945	$1,945
Balance as of June 30, 2019	$1,945	$1,945

	Redeemable Convertible PreferredStock Warrant Liability
	(in thousands)
Fair value using Level III inputs	
Balance as of December 31, 2015	$378
Addition	—
Change in fair value	(30)
Balance as of December 31, 2016	348
Addition	—
Change in fair value	50

Balance as of December 31, 2017	398
Addition	—
Change in fair value	1,220
Balance as of December 31, 2018	$1,618
Addition (unaudited)	—
Change in fair value (unaudited)	327
Balance as of June 30, 2019 (unaudited)	$1,945

Refer to Note 8 to these consolidated financial statements for further information on the redeemable convertible preferred stock warrants, including the assumptions used to determine their fair value.

Note 5. Balance Sheet Components

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consisted of the following:

	December 31,		June 30,
	2017	2018	2019
			(unaudited)
	(in thousands)		
Prepaid expenses	$2,373	$5,581	$5,403
Deposits	309	2,635	2,614
Other	749	1,157	1,670
Total prepaid expenses and other current assets	$3,431	$9,373	$9,687

Property and Equipment, Net

Property and equipment, net consisted of the following:

	December 31,		June 30,
	2017	2018	2019
			(unaudited)
	(in thousands)		
Property and equipment, net:			
Servers—network infrastructure	$46,321	$57,089	$67,302
Buildings	13,035	13,035	13,035
Construction in progress	8,217	14,848	6,736
Capitalized internal-use software	6,703	16,344	22,819
Office and computer equipment	2,161	6,552	11,206
Office furniture	1,747	3,573	5,580
Software	606	847	970
Leasehold improvements	320	772	8,334
Asset retirement obligation	49	49	49
Gross property and equipment	79,159	113,109	136,031
Less accumulated depreciation	(27,736)	(39,899)	(51,391)
Total property and equipment, net	$51,423	$73,210	$84,640

Depreciation and amortization expense on property and equipment for the years ended December 31, 2016, 2017, and 2018 was $8.3 million, $11.7 million, and $18.4 million, respectively, and for the six months ended June 30, 2018 and 2019 (unaudited) was $8.0 million and $13.1 million, respectively.

Acquired Intangible Assets, Net

Acquired intangible assets, net consisted of the following:

	December 31, 2017		
	Gross Carrying Amount	Accumulated Amortization	Net Book Value
	(in thousands)		
Developed technology	$923	$500	$423

In-process research and development	250	—	250
Total acquired intangible assets, net	$1,173	$500	$673

	December 31, 2018		
	Gross Carrying Amount	Accumulated Amortization	Net Book Value
	(in thousands)		
Developed technology	$250	$94	$156
Total acquired intangible assets, net	$250	$94	$156

	June 30, 2019		
	Gross Carrying Amount	Accumulated Amortization	Net Book Value
	(in thousands, unaudited)		
Developed technology	$250	$156	$94
Total acquired intangible assets, net	$250	$156	$94

The Company recorded, at the time of the acquisition, acquired in-process research and development for projects in progress that had not yet reached technological feasibility. The Company began amortizing the in-process research and development as developed technology in 2018 using the straight-line method over its estimated useful life.

Amortization of acquired intangible assets for the years ended December 31, 2016, 2017, and 2018 was $0.04 million, $0.5 million, and $0.5 million, respectively, and for the six months ended June 30, 2018 and 2019 (unaudited) was $0.2 million and $0.06 million, respectively.

As of December 31, 2018 and June 30, 2019, the estimated future amortization expense of acquired intangible assets was as follows:

December 31, 2018	Estimated Amortization
	(in thousands)
Year ending December 31,	
2019	$125
2020	31
Total	$156

June 30, 2019	Estimated Amortization
	(in thousands, unaudited)
Year ending December 31,	
2019 (remaining six months)	$63
2020	31
Total	$94

Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consisted of the following:

	December 31,		June 30,
	2017	2018	2019
			(unaudited)
	(in thousands)		
Accrued compensation and benefits	$5,166	$7,075	$8,743
Accrued expenses	656	4,072	5,216
Customer refunds and credits	373	2,336	2,063
Accrued co-location and bandwidth	1,303	1,119	1,409
Income taxes payable	897	225	—
Other	498	872	1,146
Total accrued expenses and other current liabilities	$8,893	$15,699	$18,577

Other Noncurrent Liabilities

Other noncurrent liabilities consisted of the following:

	December 31,		June 30,
	2017	2018	2019
			(unaudited)
	(in thousands)		
Indirect tax reserves	$1,371	$4,137	$5,659
Deferred rent	1,416	1,659	2,225
Other	308	908	1,959
Total other noncurrent liabilities	$3,095	$6,704	$9,843

Note 6. Note Payable

In July 2015 and November 2015, the Company entered into three separate Installment Purchase Agreements (the IPA Agreements) totaling $1.7 million for computer equipment and maintenance with one of its suppliers. The IPA Agreements are collateralized by the equipment purchased from the supplier and bear interest ranging from 2.9% to 5.0%. At December 31, 2017, December 31, 2018, and June 30, 2019 (unaudited), the Company had $0.6 million, $0.3 million, and $0.1 million, respectively, outstanding under this facility.

Aggregate annual future payments due on the Company's outstanding IPA Agreements balance as of December 31, 2018 were as follows:

	Amount
	(in thousands)
2019	$259
Total payments	259
Less amount representing interest	(4)
Total note payable	255
Less current portion	(255)
Note payable, net of current portion	$—

Aggregate annual future payments due on the Company's outstanding IPA Agreements balance as of June 30, 2019 were as follows:

	Amount
	(in thousands, unaudited)
2019 (remaining six months)	$75
Total payments	75
Less amount representing interest	(1)
Total note payable	74
Less current portion	(74)
Note payable, net of current portion	$—

Note 7. Commitments and Contingencies

Operating Leases

The Company has entered into various non-cancelable operating lease agreements for certain of its offices and co-location facilities with lease periods expiring between the years ending December 31, 2019 and 2027. Certain of these arrangements have free or escalating rent payment provisions. The Company recognizes rent expense on a straight-line basis over the lease period. The difference between the rent paid and the straight-line rent is recorded as deferred rent, which is included in accrued expenses and other current liabilities and other noncurrent liabilities on the consolidated balance sheets. Rent expense was $2.8 million, $3.9 million, and $7.3 million for the years ended December 31, 2016, 2017, and 2018, respectively, and $3.3 million and $5.3 million for the six months ended June 30, 2018 and 2019 (unaudited), respectively. Refer to the table below for the aggregate future minimum lease payments under non-cancelable operating leases as of December 31, 2018 and June 30, 2019 (unaudited).

Bandwidth & Co-location Commitments

The Company enters into long-term non-cancelable agreements with providers in various countries to purchase capacity, such as bandwidth and co-location space, for the Company's global cloud platform. Bandwidth and co-location costs for paying customers are recorded as cost of revenue in the consolidated statements of operations and as sales and marketing expense in the consolidated statements of operations for free customers. Such costs totaled $17.7 million, $19.2 million, and $27.5 million for the years ended December 31, 2016, 2017, and 2018, respectively, and $12.7 million and $17.1 million for the six months ended June 30, 2018 and 2019 (unaudited), respectively. Refer to the table below for long-term bandwidth and co-location commitments under non-cancelable contracts with various networks and Internet service providers as of December 31, 2018 and June 30, 2019 (unaudited).

Purchase Commitments

Open purchase commitments are for the purchase of services under non-cancelable contracts. They are not recorded as liabilities on the consolidated balance sheets as of December 31, 2018 and June 30, 2019 (unaudited) as the Company has not yet received the related services. Refer to the table below for purchase commitments under non-cancelable contracts with various vendors as of December 31, 2018.

	Payments Due by Period as of December 31, 2018						
	Total	2019	2020	2021	2022	2023	Thereafter
	(in thousands)						
Non-cancelable:							
Open purchase agreements[1]	$11,890	$1,051	$1,030	$1,364	$1,405	$1,373	$5,667
Bandwidth and co-location commitments[2]	40,280	22,664	11,169	5,000	914	533	—
Operating lease obligations[3]	53,096	9,067	9,984	8,688	7,151	4,538	13,668
Other commitments[4]	259	259	—	—	—	—	—
Total	$105,525	$33,041	$22,183	$15,052	$9,470	$6,444	$19,335

(1) Open purchase commitments are for the purchase of services under non-cancelable contracts. They were not recorded as liabilities on the consolidated balance sheet as of December 31, 2018 as the Company had not yet received the related services.

(2) Long-term commitments for bandwidth usage and co-location with various networks and Internet service providers. The costs for services not yet received were not recorded as liabilities on the consolidated balance sheet as of December 31, 2018.

(3) Office space and equipment under non-cancelable operating leases. Total payments listed represent total minimum future lease payments.

(4) Consists of note payable and amount includes accrued interest at the contractual rate.

Refer to the table below for purchase commitments under non-cancelable contracts with various vendors as of June 30, 2019.

	Payments Due by Period as of June 30, 2019						
	Total	2019 (remainingsixmonths)	2020	2021	2022	2023	Thereafter
	(in thousands, unaudited)						
Non-cancelable:							
Open purchase agreements[1]	$12,399	$502	$1,518	$1,881	$1,458	$1,373	$5,667
Bandwidth and co-location commitments[2]	38,893	11,620	16,274	7,472	2,001	1,158	368
Operating lease obligations[3]	51,844	5,190	11,206	9,914	7,326	4,540	13,668
Other commitments[4]	75	75	—	—	—	—	—
Total	$103,211	$17,387	$28,998	$19,267	$10,785	$7,071	$19,703

(1) Open purchase commitments are for the purchase of services under non-cancelable contracts. They were not recorded as liabilities on the consolidated balance sheet as of June 30, 2019 as the Company had not yet received the related services.

(2) Long-term commitments for bandwidth usage and co-location with various networks and Internet service providers. The costs for services not yet received were not recorded as liabilities on the consolidated balance sheet as of June 30, 2019.

(3) Office space and equipment under non-cancelable operating leases. Total payments listed represent total minimum future lease payments.

(4) Consists of note payable and amount includes accrued interest at the contractual rate.

Build-to-Suit Lease Financing Obligation

The Company entered into a lease whereby the Company is deemed the accounting owner under build-to-suit lease accounting. The fair value of the leased property and corresponding financing obligation are included in property and equipment, net and build-to-suit lease financing obligation, respectively, on the consolidated balance sheets as of December 31, 2017 and 2018, and June 30, 2019 (unaudited). As of December 31, 2018, the Company's future minimum lease payments required under this non-cancelable obligation were as follows:

	Build-to-Suit Lease
	(in thousands)
Year ending December 31,	
2019	$2,595
2020	2,673

2021	2,753
2022	2,355
2023	—
Total minimum lease payments	$10,376

As of June 30, 2019, the Company's future minimum payments required under this non-cancelable obligation were as follows:

	Build-to-Suit Lease
	(in thousands, unaudited)
Year ending December 31,	
2019 (remaining six months)	$1,313
2020	2,673
2021	2,753
2022	2,355
2023	—
Total minimum lease payments	$9,094

The Company recognizes an increase in the fair value of the asset as additional building costs are incurred during the construction period and a corresponding increase in the build-to-suit lease financing obligation for any construction costs to be reimbursed by the landlord. As of December 31, 2017 and 2018, and June 30, 2019 (unaudited), $10.3 million, $10.4 million, and $10.5 million, respectively, of build-to-suit lease financing obligation was included on the consolidated balance sheets.

Legal Matters

From time to time the Company is a party to various legal proceedings that arise in the ordinary course of business. In addition, third parties may from time to time assert claims against the Company in the form of letters and other communications. Management currently believes that there is no pending or threatened legal proceeding to which the Company is a party that is likely to have a material adverse effect on the Company's consolidated financial statements. However, the results of legal proceedings are inherently unpredictable and if an unfavorable ruling were to occur in any of the legal proceedings there exists the possibility of a material adverse effect on the Company's financial position, results of operations, and cash flows. The Company accrues for legal proceedings that it considers probable and for which the loss can be reasonably estimated. The Company discloses potential losses when they are reasonably possible. Legal costs incurred and expected to be incurred related to litigation matters are expensed as incurred.

The Company's platform and associated products are subject to various restrictions under U.S. export control and sanctions laws and regulations, including the U.S. Department of Commerce's Export Administration Regulations (EAR) and various economic and trade sanctions regulations administered by the U.S. Department of the Treasury's Office of Foreign Assets Controls (OFAC). The U.S. export control laws and U.S. economic sanctions laws include restrictions or prohibitions on the sale or supply of certain products and services to U.S. embargoed or sanctioned countries, governments, persons and entities and also require authorization for the export of certain encryption items. In addition, various countries regulate the import of certain encryption technology, including through import permitting and licensing requirements and have enacted or could enact laws that could limit the Company's ability to distribute its platform.

Although the Company takes precautions to prevent its platform and associated products from being accessed or used in violation of such laws, the Company may have inadvertently allowed its platform and associated products to be accessed or used by some customers in apparent violation of U.S. economic sanctions laws, including by users in embargoed or sanctioned countries, and the Company may have exported or allowed the download of certain software prior to making required filings with the U.S. Department of Commerce's Bureau of Industry and Security. As a result, the Company has submitted to OFAC and to the Bureau of Industry and Security a voluntary self-disclosure concerning potential violations, and the Company has submitted a voluntary self-disclosure to the Census Bureau regarding potential violations of the Foreign Trade Regulations related to some incorrect electronic export information statements to the U.S. government for certain hardware exports, which were authorized. If the Company is found to be in violation of U.S. economic sanctions or export control laws, it could result in substantial fines and penalties for the Company and for the individuals working for the Company. The Company may also be adversely affected through other penalties, reputational harm, loss of access to certain markets or otherwise. No loss has been recognized in the consolidated financial statements for this loss contingency as it is not probable a loss has been incurred and the range of a possible loss is not yet estimable.

Note 8. Redeemable Convertible Preferred Stock

As of December 31, 2017 and 2018, and June 30, 2019 (unaudited), the Company's redeemable convertible preferred stock consisted of the following:

	December 31, 2017			
	Shares Authorized	Shares Issued andOutstanding	Carrying Value	Aggregate LiquidationPreference
	(in thousands)			
Series A	50,041	50,041	$1,985	$2,050
Series B	59,286	59,109	19,927	19,991

Series C	25,127	25,127	49,942	50,000
Series D	17,745	17,745	109,692	108,696
	152,199	152,022	$181,546	$180,737

	December 31, 2018 and June 30, 2019 (unaudited)			
	Shares Authorized	Shares Issued andOutstanding	Carrying Value	Aggregate LiquidationPreference
	(in thousands)			
Series A	50,041	50,041	$1,985	$2,050
Series B	59,286	59,109	19,927	19,991
Series C	25,127	25,127	49,942	50,000
Series D	33,654	31,381	259,667	260,000
	168,108	165,658	$331,521	$332,041

The holders of the Company's redeemable convertible preferred stock have various rights, preferences and privileges, which are summarized as follows:

Dividend Rights

Each holder of the shares of Series A, B, C, and D redeemable convertible preferred stock shall be entitled to receive, out of available funds and assets, noncumulative dividends at the rate of 8% of the original issue price, per annum, payable in preference and priority to any payment of any dividends on common stock when, as and if declared by the Company's board of directors. After payment of such dividends, any additional dividends are distributed among the holders of redeemable convertible preferred stock and common stock pro rata on an if-converted basis. No dividends are payable to Series A, B, or C redeemable convertible preferred stock unless dividends on Series D redeemable convertible preferred stock have been declared and paid. The right to receive dividends on shares of redeemable convertible preferred stock is not cumulative. As of December 31, 2018 and June 30, 2019 (unaudited), the Company had declared no dividends to date.

Liquidation Preference

In the event of any liquidation, dissolution, or winding up of the Company, the holders of Series D redeemable convertible preferred stock then outstanding shall be entitled to be paid prior to the holders of the common stock and Series A, B, and C redeemable convertible preferred stock, at the greater of an amount equal to the original issue price plus any dividends declared but unpaid or the amount on an as converted to common stock basis. After such payment has been made, the holders of the Series A, B, and C redeemable convertible preferred stock then outstanding shall be entitled to be paid, out of the available funds and assets, prior to the holders of the common stock, at the greater of an amount per share equal to their respective original issue price plus any dividends declared but unpaid, or the amount on an as converted to common stock basis. If assets are not sufficient to permit such payment, payment will be made ratably among the holders of the redeemable convertible preferred stock in proportion to the full amounts to which they would otherwise be entitled. Upon completion of the distribution to preferred stockholders, the remaining assets and funds of the Company available for distribution to stockholders shall be distributed among the holders of common stock pro rata based on the number of shares of common stock held by each holder. A deemed liquidation event includes a merger or consolidation with another entity; a sale, lease, transfer, exclusive license or other disposition of all or substantially all of the Company's assets; the transfer or disposition of a majority of the Company's voting stock; or a liquidation, dissolution or winding up of the Company.

Conversion Rights

Each outstanding share of the Series A, B, and C redeemable convertible preferred stock is convertible, at the option of the holder, at any time after the date of issuance of such shares, into shares of Class B common stock according to a conversion rate determined by dividing the applicable original issue price by the applicable conversion price in effect on the date the share certificate is surrendered for conversion. Each outstanding share of the Series D redeemable convertible preferred stock is convertible, at the option of the holder, at any time after the date of issuance of such shares, into shares of Class A common stock according to a conversion rate determined by dividing the original issue price by the conversion price in effect on the date the share certificate is surrendered for conversion. The conversion price of all series of redeemable convertible preferred stock will be adjusted for specified dilutive issuances of common stock at a price lower than the original issue price and in the event of specified stock splits, combinations, reclassifications, or other reorganizations. The conversion price per share at December 31, 2017 and 2018, and June 30, 2019 (unaudited) was equal to the original issue price divided by the conversion price, at a rate at which each share would convert into common stock at a one-for-one rate. Each share of redeemable convertible preferred stock shall automatically be converted into common stock immediately upon the earlier of (i) the closing of the sale of shares of common stock to the public at a price of at least $6.1255 per share (subject to appropriate adjustment in the event of any stock dividend, stock split, combination, or other similar recapitalization with respect to the common stock) in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended (IPO), resulting in at least $50 million of gross proceeds (qualifying IPO), or (ii) the date and time specified by vote or written consent of the holders of at least a majority of the then outstanding shares of redeemable convertible preferred stock, including at least a majority of the outstanding shares of each of the Series B and C redeemable convertible preferred stock and 51% of the outstanding shares of the Series D redeemable convertible preferred stock.

In the event the Company makes certain specified issuances of its capital stock without consideration or for a consideration per share less than the applicable conversion price for the Series A, B, C, or D redeemable convertible preferred stock, then the applicable conversion price for such series of redeemable convertible preferred stock shall be reduced.

Voting Rights

The holders of the Series A, B, C, and D redeemable convertible preferred stock are entitled to the number of votes equal to the number of shares of common stock into which such shares are convertible. The holders of the outstanding shares of common stock and each series of redeemable convertible preferred stock, voting together as a single class on an as converted basis, are entitled to elect seven directors to the Company's board of directors unless a board increase event (as defined in the amended and restated voting agreement) occurs.

Protective Provisions

At any time when at least 5,000,000 shares of redeemable convertible preferred stock remain outstanding, the Company is not permitted to amend provisions of the amended and restated certificate of incorporation or the bylaws; authorize or issue securities having any right or priority over Series D redeemable convertible preferred stock; increase the authorized number of shares of any series of redeemable convertible preferred stock; repurchase or redeem, or pay or declare any dividend on, shares of common stock or preferred stock (other than repurchases of stock from former employees, officers, directors, consultants, or other persons who performed services for the Company); consummate a liquidation event; alter the total number of authorized shares of common stock or preferred stock; change the authorized number of directors; or incur debt exceeding $1.0 million, without the approval of the holders of a majority of the then outstanding shares of redeemable convertible preferred stock. Likewise, at any time when at least 5,000,000 shares of a respective series of Series A, B, C, or D redeemable convertible preferred stock are outstanding, the Company is not permitted to alter the number of authorized shares of that respective series of redeemable convertible preferred stock; alter the voting rights or other powers, preferences, privileges, or restrictions of any of the series of redeemable convertible preferred stock without also altering such rights of the other series of redeemable convertible preferred stock in the same manner; or change the rights and preferences of the respective series of redeemable convertible preferred stock in an adverse manner, without the approval of the holders of a majority of the then outstanding shares of the respective series of redeemable convertible preferred stock. Additionally, at any time when at least 5,000,000 shares of a respective series of Series B or C redeemable convertible preferred stock are outstanding, the Company is not permitted to pay or declare a dividend on any shares of common or preferred stock, or repurchase or redeem any shares of preferred stock or common stock (other than repurchases of stock from former employees or other service providers), without the approval of the holders of a majority of the then outstanding shares of the respective series of Series B or C redeemable convertible preferred stock. Likewise, at any time when at least 5,000,000 shares of Series D redeemable convertible preferred stock are outstanding, the Company is not permitted to repurchase or redeem or pay any dividend on shares of common stock or preferred stock prior to the Series D redeemable convertible preferred stock (other than repurchases of stock from former employees or consultants), without the approval of the holders of a majority of the then outstanding shares of Series D redeemable convertible preferred stock.

Classification of Redeemable Convertible Preferred Stock

The deemed liquidation preference provisions of the Series A, B, C, and D redeemable convertible preferred stock are considered contingent redemption provisions as there are certain elements that are not solely within the Company's control. These elements primarily relate to deemed liquidation events such as a change in control or an involuntary winding-up or dissolution of the Company. Accordingly, the Company's redeemable convertible preferred stock has been presented outside of permanent equity in the mezzanine section of the consolidated balance sheets.

Redeemable Convertible Preferred Stock Warrants

In connection with the terms of a loan and security agreement entered into by the Company in April 2011, the Company issued a warrant to purchase 59,140 shares of Series B redeemable convertible preferred stock upon execution of the agreement, an additional warrant to purchase 94,510 shares of Series B redeemable convertible preferred stock in connection with the Company's drawdown of $1.6 million under the facility during October 2011 and a warrant to purchase 23,760 shares of Series B redeemable convertible preferred stock in connection with the final drawdown of $0.4 million in January 2012. The warrants expire on the earlier of (i) a change of control of the Company or any simultaneous sale of more than a majority of the then outstanding securities of the Company other than a mere reincorporation transaction, or (ii) the 10-year anniversary of their issue date, and have an exercise price of $0.34 per share. The warrants are considered a liability and are carried at fair value with any changes in fair value recognized in other income (expense), net in the consolidated statements of operations. During the years ended December 31, 2016, 2017, and 2018, and the six months ended June 30, 2018 and 2019 (unaudited), the Company recorded a gain of $0.03 million, loss of $0.05 million, loss of $1.2 million, loss of $0.1 million, and loss of $0.3 million, respectively, related to the change in fair value of the redeemable convertible preferred stock warrants. In addition, the discount on the loan related to the initial fair value of the warrants was amortized on an effective interest rate method as interest expense over the life of the loan. Amounts outstanding under the loan and security agreement were repaid in 2015.

The fair value of the redeemable convertible preferred stock warrants was determined using the following assumptions:

	December 31,			June 30,	
	2016	2017	2018	2018	2019
				(unaudited)	
Remaining contractual life (in years)	4.3	3.3	2.3	2.8	1.8
Expected volatility	46.0%	42.2%	39.2%	38.7%	37.6%
Risk-free interest rate	1.8%	2.0%	2.5%	2.6%	1.8%
Expected dividend rate	–	–	–	–	–

Note 9. Common Stock

The Company's certificate of incorporation authorizes the issuance of Class A common stock and Class B common stock. The holder of each share of Class A common stock is entitled to one vote per share, while the holder of each share of Class B common stock is entitled to one vote per share and will be entitled to 10 votes per share immediately upon the Company's securities being publicly listed for sale on a national stock exchange. As of December 31,

2017 and 2018, and June 30, 2019 (unaudited), the Company was authorized to issue 500,000,000, 550,000,000, and 550,000,000 shares of Class A common stock, respectively, and 260,000,000, 300,000,000, and 300,000,000 shares of Class B common stock, respectively, each with a par value of $0.001 per share. There were no shares of Class A common stock issued and outstanding as of December 31, 2017 and 2018, and June 30, 2019 (unaudited). The number of shares of Class B common stock issued and outstanding was 79,115,663, 91,542,243, and 92,685,845 as of December 31, 2017 and 2018, and June 30, 2019 (unaudited), respectively.

Holders of the Company's Class A common stock and Class B common stock are entitled to dividends when, as and if, declared by the Company's board of directors, subject to the rights of the holders of all classes of stock outstanding having priority rights to dividends. Any dividends paid to the holders of the Class A common stock and Class B common stock will be paid on a pro rata basis. As of December 31, 2018 and June 30, 2019 (unaudited), the Company had not declared any dividends. The rights of the holders of Class A and Class B common stock are identical, except with respect to voting, protective provisions and conversion. At any time following the IPO when any shares of Class B common stock are outstanding, the Company is not permitted, without prior written consent or affirmative vote of a majority of the voting power of the Class B common stock to do any of the following: amend provisions of the Company's amended and restated certificate of incorporation or the bylaws that modifies the voting, conversion, or other powers, preferences or other special rights or privileges or restrictions of the Class B common stock; reclassify any outstanding shares of Class A common stock into shares with rights as to dividends or liquidation that are senior to the Class B common stock or the right to more than one vote per share; or consummate a Liquidation Event (as defined in the Company's amended and restated certificate of incorporation) without the approval of a majority of the Class B common stock outstanding. Each share of Class B common stock is convertible at any time at the option of the stockholder into one share of Class A common stock. Each share of Class B common stock will convert automatically into one share of Class A common stock upon (i) any Transfer, whether or not for value, except for Permitted Transfers or to Permitted Transferees, each term as defined in the Company's amended and restated certificate of incorporation; (ii) the date that any Permitted Transferee of such shares of Class B common stock ceases to qualify as a Permitted Transferee, as defined in the Company's amended and restated certificate of incorporation; or (iii) at any time following an IPO, upon the death of such stockholder, or if such stockholder is a founder of the Company, nine months after the death of such founder. All shares of Class B common stock outstanding will convert automatically each into one share of Class A common stock upon the earliest to occur of (i) the date specified by a vote of a majority of the holders of Class B common stock outstanding, (ii) the date when the outstanding shares of Class B common stock represents less than 9% of the aggregate number of shares of common stock then outstanding, or (iii) October 31, 2034. Class A common stock and Class B common stock are referred to as common stock throughout the notes to these consolidated financial statements, unless otherwise noted.

Common Stock Reserved for Future Issuance

Shares of common stock reserved for future issuance, on an as-if converted basis, are as follows:

	December 31,		June 30,
	2017	2018	2019
			(unaudited)
	(in thousands)		
Conversion of redeemable convertible preferred stock	152,022	165,658	165,658
Stock options issued and outstanding	28,127	25,087	23,558
Remaining shares available for issuance under the 2010 Plan	9,019	13,356	9,599
Conversion of redeemable convertible preferred stock warrants	177	177	177
Unvested restricted stock and RSUs	78	—	4,149
Total shares of common stock reserved	189,423	204,278	203,141

Note 10. Stock-based Compensation

2010 Stock Plan

The Company's board of directors approved the adoption of the 2010 Plan in 2010. The 2010 Plan is a broad-based retention program and is intended to attract and retain talented employees, directors and nonemployee consultants. The 2010 Plan provides for the granting of stock options, restricted stock, restricted stock units, and stock appreciation rights to employees, directors, and consultants. Incentive stock options may be granted only to employees. All other awards under the 2010 Plan, including nonqualified stock options, may be granted to employees, directors, and consultants. Except for qualifying assumptions and substitutions of options, the exercise price of an incentive stock option and a nonqualified stock option shall not be less than 100% of the fair market value of such shares on the date of grant. Stock options granted under the 2010 Plan generally vest over a four-year period and expire no more than 10 years from the date of grant. The number of shares of common stock authorized for issuance under the 2010 Plan was 75,008,088 as of December 31, 2018 and June 30, 2019 (unaudited). Stock-based awards forfeited, cancelled, or repurchased generally are returned to the pool of shares of common stock available for issuance. The number of shares of common stock available for issuance under the 2010 Plan was 13,355,967 as of December 31, 2018 and 9,598,658 as of June 30, 2019 (unaudited).

Stock Options

Under the 2010 Plan, at exercise, stock option awards entitle the holder to receive one share of common stock. The Company accounts for forfeitures of stock-based awards when they occur. All stock-based awards with only service-based vesting conditions are recognized on a straight-line basis over the requisite service periods of the awards.

Stock-based compensation expense for stock options granted is estimated based on the option's fair value as calculated by the Black-Scholes option pricing model. The Black-Scholes model requires various assumptions, including the fair value of the underlying common stock, expected term, expected dividend yield, expected volatility of the common stock, and a risk-free interest rate. If any of the assumptions used in the Black-Scholes model change significantly, stock-based compensation expense may differ materially in the future from that recorded in the current period. The absence of a public market for the Company's common stock requires the Company's board of directors to estimate the fair value of its common stock for purposes of granting options and for determining stock-based compensation expense by considering several objective and subjective factors, including contemporaneous third-party valuations, actual and forecasted operating and financial results, market conditions and performance of comparable publicly traded companies, developments and milestones in the Company, the rights and preferences of common and preferred stock, and transactions involving preferred stock. The fair value of the Company's common stock has been determined in accordance with applicable elements of the practice aid issued by the American Institute of Certified Public Accountants, *Valuation of Privately Held Company Equity Securities Issued as Compensation*. As the Company has no active trading history, expected volatility was derived from historical volatilities of selected public companies deemed to be comparable to the Company's business. The expected term represents the period that the Company's stock-based awards are expected to be outstanding. As the Company does not have sufficient historical experience for determining the expected term of the stock option awards granted, it has based its expected term on the simplified method available under U.S. GAAP. The risk-free interest rate is based on the implied yield currently available on U.S. treasury notes with terms approximately equal to the expected term of the option. The expected dividend rate is zero as the Company currently has no history or expectation of declaring dividends on the common stock. The weighted-average assumptions used to determine the fair value of stock options granted during the periods presented were as follows:

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
				(unaudited)	
Expected term (in years)	6.1	6.5	6.5	6.7	6.2
Expected volatility	49.2%	45.8%	43.5%	44.2%	40.3%
Risk-free interest rate	1.6%	2.1%	2.9%	2.9%	2.3%
Dividend yield	—	—	—	—	—

The weighted-average grant date fair value of options granted during the years ended December 31, 2016, 2017, and 2018, and the six months ended June 30, 2018 and 2019 (unaudited) was $0.78, $0.97, $1.38, $1.33, and $4.10 per share, respectively.

The following table summarizes the stock-based awards activity:

	Stock Options Outstanding				
	(in thousands, except year and per share data)				
	Shares Available for Future Grant	Shares Subject to OptionsOutstanding	Weighted-AverageExercise Priceper Option	Weighted-AverageRemainingContractualTerms (in years)	Aggregate Intrinsic Value
Balances as of December 31, 2015	7,856	13,922	$0.78	8.4	$12,442
Increase in 2010 Plan authorized shares	—	—			
Restricted stock activity, net	(230)	—			
Options granted	(3,643)	3,643	$1.71		
Options exercised	—	(988)	$0.87		$791
Repurchase of unvested shares	33	—			
Options cancelled/forfeited/expired	3,258	(3,258)	$0.91		
Balances as of December 31, 2016	7,274	13,319	$0.99	7.8	$9,283
Increase in 2010 Plan authorized shares	19,000	—			
Restricted stock activity, net	—	—			
Options granted	(17,937)	17,937	$2.02		
Options exercised	—	(2,458)	$1.12		$2,115
Repurchase of unvested shares	11	—			
Options cancelled/forfeited/expired	671	(671)	$1.60		

Balances as of December 31, 2017	9,019	28,127	$1.62	8.5	$11,684
Increase in 2010 Plan authorized shares	13,647	—			
Restricted stock activity, net	1	—			
Options granted	(10,527)	10,527	$2.91		
Options exercised	—	(12,387)	$1.53		$15,433
Repurchase of unvested shares	36	—			
Options cancelled/forfeited/expired	1,180	(1,180)	$2.24		
Balances as of December 31, 2018	13,356	25,087	$2.18	8.4	$159,945
Increase in 2010 Plan authorized shares (unaudited)	—	—			
Restricted stock and RSU activity, net (unaudited)	(4,149)	—			
Options granted (unaudited)	(394)	394	$9.60		
Options exercised (unaudited)	—	(1,177)	$2.75		$7,177
Repurchase of unvested shares (unaudited)	40	—			
Options cancelled/forfeited/expired (unaudited)	746	(746)	$2.41		
Balances as of June 30, 2019 (unaudited)	9,599	23,558	$2.27	8.0	$181,334
Vested and expected to vest as of December 31, 2018		25,087	$2.18	8.4	$159,945
Vested and expected to vest as of June 30, 2019 (unaudited)		23,558	$2.27	8.0	$181,334
Exercisable as of December 31, 2018		25,031	$2.19	8.4	$159,554
Exercisable as of June 30, 2019 (unaudited)		23,534	$2.27	8.0	$181,127

The aggregate intrinsic value is the difference between the exercise price and the estimated fair value of the underlying common stock. Options exercisable include 20,697,847 options that were unvested as of December 31, 2018 and 18,441,270 options that were unvested as of June 30, 2019 (unaudited).

The total grant date fair value for vested options in the years ended December 31, 2016, 2017, and 2018, and the six months ended June 30, 2018 and 2019 (unaudited) was $2.3 million, $2.3 million, $3.4 million, $1.8 million, and $2.2 million, respectively.

As of December 31, 2018 and June 30, 2019 (unaudited), there was $15.5 million and $13.1 million, respectively, of unrecognized stock-based compensation expense related to unvested stock options that is expected to be recognized over a weighted-average period of 3.8 years and 3.3 years, respectively.

In addition, as of December 31, 2018 and June 30, 2019 (unaudited), there was $13.4 million and $50.5 million, respectively, of unrecognized stock-based compensation expense related to awards with vesting or vesting commencement contingent upon a qualified event (for QE Options, either (i) listing of Company equity securities for sale on a public stock exchange, (ii) the closing of a change in control, or (iii) other event as determined by the Company's board of directors; and for QE RSUs, either (i) the closing of a change in control, or (ii) the effective date of a registration statement of the Company filed under the Securities Act for the first underwritten public sale of its common stock). Stock-based compensation expense is recognized only for those awards that are expected to meet the service-based and performance conditions. As of December 31, 2017, December 31, 2018, and June 30, 2019, achievement of the performance condition was not probable. A change in control event, listing of equity securities event, and effectiveness of a registration statement event are not deemed probable until consummated. If the listing of equity securities event and effectiveness of a registration statement event had occurred on December 31, 2018 or June 30, 2019 (unaudited), the Company would have recognized $6.1 million or $14.7 million of stock-based compensation expense for the QE options service period rendered from the date of grant through December 31, 2018 or June 30, 2019 and for the QE RSUs for which the service-based condition was satisfied as of December 31, 2018 or June 30, 2019, respectively, and would have had $7.3 million or $35.8 million of unrecognized compensation cost which is expected to be recognized over a weighted-average period of 4.0 years or 3.7 years as of December 31, 2018 or June 30, 2019 (unaudited), respectively.

Early Exercises of Stock Options

The 2010 Plan allows for the early exercise of stock options for certain individuals as determined by the Company's board of directors. Early exercises of options are not deemed, for accounting purposes, to be issued until those shares vest according to their respective vesting schedules and accordingly, the consideration received for early exercises are initially recorded as a liability and reclassified to common stock and additional paid-in capital as the underlying awards vest. Stock options that are early exercised are subject to a repurchase option that allows the Company to repurchase any unvested shares within six months of an individual's termination for any reason, including death and disability (or in the case of shares issued upon exercise of an option after termination, within six months of the date of exercise), at the price equal to the lower of the amount paid by the purchaser and the fair market value at the time of repurchase. As of December 31, 2017 and 2018, and June 30, 2019 (unaudited), the Company had $1.3 million, $14.3 million, and $15.0 million, respectively, recorded in liability for early exercise of unvested stock options, and the related number of unvested shares subject to repurchase was 747,546, 6,737,971, and 6,684,754, respectively.

Restricted Stock and Restricted Stock Units

In December 2016, in connection with an acquisition, the Company issued restricted stock to certain employees of the acquired company. The terms of the awards provide for settlement in Class B common stock upon achievement of certain performance and service conditions. During the six months ended June 30, 2019 (unaudited), the Company granted RSUs to employees and contractors. Such RSUs contain both service-based and performance conditions to vest in the underlying common stock. Restricted stock and RSU activity for the years ended December 31, 2016, 2017, and 2018, and the six months ended June 30, 2019 (unaudited) was as follows:

	Restricted Stock andRSUs	Weighted-Average GrantDate Fair Value
	(in thousands, except per share data)	
Unvested as of December 31, 2015	—	
Granted	230	$1.68
Vested	(76)	$1.68
Forfeited	—	
Unvested as of December 31, 2016	154	$1.68
Granted	—	
Vested	(76)	$1.68
Forfeited	—	
Unvested as of December 31, 2017	78	$1.68
Granted	—	
Vested	(77)	$1.68
Forfeited	(1)	$1.68
Unvested as of December 31, 2018	—	
Granted (unaudited)	4,360	$ 8.72
Vested (unaudited)	—	
Forfeited (unaudited)	(211)	$8.63
Unvested as of June 30, 2019 (unaudited)	4,149	$8.73

One-third of the restricted stock award vested at the time of the acquisition. One-third vested upon the achievement of a performance milestone which occurred during the year ended December 31, 2017. The final third vested during the year ended December 31, 2018. The total grant date fair value for vested restricted stock in the years ended December 31, 2016, 2017, and 2018, and the six months ended June 30, 2018 and 2019 (unaudited) was $0.1 million, $0.1 million, $0.1 million, zero, and zero, respectively. The total stock-based compensation expense for restricted stock for the years ended December 31, 2016, 2017, and 2018, and the six months ended June 30, 2018 and 2019 (unaudited) was $0.03 million, $0.2 million, $0.1 million, $0.03 million, and zero, respectively. As of December 31, 2018 and June 30, 2019 (unaudited), the total unrecognized stock-based compensation expense related to unvested restricted stock was zero.

RSUs granted under the 2010 Plan generally vest upon the satisfaction of both a service-based vesting condition and a performance vesting condition, as defined below, occurring before these RSUs expire. The service-based vesting condition for employees is typically satisfied over a four-year period, which (i) in certain cases is satisfied with respect to 25% of the RSUs upon completion of one year of service measured from the vesting commencement date, and the balance being satisfied in successive equal quarterly installments over the next three-year period, and (ii) in other cases is satisfied in successive equal quarterly installments over such four-year period. The performance vesting condition occurs on the earlier of (i) a change in control or (ii) the effective date of a registration statement of the Company filed under the Securities Act for the first underwritten public sale of its common stock. As of June 30, 2019 (unaudited), achievement of the performance condition was not probable. A change in control event and effective date of a registration statement event are not deemed probable until consummated. As of June 30, 2019 (unaudited), the total unrecognized stock-based compensation expense related to unvested RSUs was $36.2 million.

Stock-based Compensation Expense

The following table sets forth the total stock-based compensation expense included in the Company's consolidated statements of operations:

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
				(unaudited)	
	(in thousands)				
Cost of revenue	$64	$47	$119	$50	$66
Sales and marketing	381	488	979	388	554
Research and development	1,043	969	1,532	617	823
General and administrative	4,212	1,251	24,717	794	658
Total stock-based compensation expense	$5,700	$2,755	$27,347	$1,849	$2,101

Total stock-based compensation expense for the years ended December 31, 2016 and December 31, 2018 includes charges related to a secondary sale of the Company's common stock of $3.3 million and $23.3 million, respectively. Refer to Note 14 to these consolidated financial statements for further information on these transactions.

Note 11. Net Loss per Share Attributable to Common Stockholders

Basic and diluted net loss per share attributable to common stockholders is presented in conformity with the two-class method required for participating securities. The Company considers its redeemable convertible preferred stock and shares issued on the early exercise of stock options subject to repurchase to be participating securities. Under the two-class method, the net loss attributable to common stockholders is not allocated to the redeemable convertible preferred stock and the holders of early exercised shares subject to repurchase as the holders of these participating securities do not have a contractual obligation to share in the losses of the Company.

Basic net loss per share attributable to common stockholders is computed by dividing the net loss attributable to common stockholders by the weighted-average number of shares of common stock outstanding during the period, less shares subject to repurchase. The net loss attributable to common stockholders is allocated based on the contractual participation rights of the Class A and Class B common stock. As the liquidation and dividend rights of the Class A and Class B common stock are identical, the net loss attributable to common stockholders is allocated on a proportionate basis. There were no shares of Class A common stock issued and outstanding as of December 31, 2016, 2017 and 2018, and June 30, 2019 (unaudited). As such, there was no net loss allocated to the Class A common stock.

The diluted net loss per share attributable to common stockholders is computed by giving effect to all potentially dilutive common stock equivalents during the period. For purposes of this calculation, the Company's redeemable convertible preferred stock, redeemable convertible preferred stock warrants, stock options, unvested restricted stock, unvested RSUs, and early exercised stock options are considered to be potential common stock equivalents, but have been excluded from the calculation of diluted net loss per share attributable to common stockholders as their effect is antidilutive.

The following table sets forth the computation of basic and diluted net loss per share attributable to common stockholders:

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
				(unaudited)	
	(in thousands, except per share data)				
Net loss attributable to common stockholders	$(17,334)	$(10,748)	$(87,164)	$(32,488)	$(36,820)
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted	75,721	77,147	80,981	78,828	85,382
Net loss per share attributable to common stockholders, basic and diluted	$(0.23)	$(0.14)	$(1.08)	$(0.41)	$(0.43)

Since the Company was in a loss position for all periods presented, basic net loss per share is the same as diluted net loss per share as the inclusion of all potential common shares outstanding would have been antidilutive. The potential shares of common stock that were excluded from the computation of diluted net loss per share attributable to common stockholders for the periods presented because including them would have been antidilutive are as follows:

	Year Ended December 31,			Six Months Ended June 30,	
	2016	2017	2018	2018	2019
				(unaudited)	
	(in thousands)				
Redeemable convertible preferred stock	152,022	152,022	165,658	152,022	165,658
Redeemable convertible preferred stock warrants	177	177	177	177	177
Unvested early exercised stock options subject to repurchase	74	748	6,738	1,726	6,685
Unexercised stock options	13,319	28,127	25,087	32,795	23,558
Unvested restricted stock and RSUs	154	78	—	77	4,149

Total	165,746	181,152	197,660	186,797	200,227

Unaudited Pro Forma Net Loss per Share

The following table sets forth the computation of the unaudited pro forma basic and diluted net loss per share attributable to common stockholders:

	Year Ended December 31, 2018		Six Months Ended June 30, 2019	
	Class A Common Stock	Class B Common Stock	Class A Common Stock	Class B Common Stock
	(in thousands, except per share data)			
Numerator:				
Net loss as reported	$—	$(87,164)	$—	$(36,820)
Reallocation of net loss due to pro forma adjustments	(8,104)	8,104	(4,602)	4,602
Net loss attributed to Class A and Class B common stock for pro forma basic and diluted net loss per share calculation	$(8,104)	$(79,060)	$(4,602)	$(32,218)
Denominator:				
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted	—	80,981	—	85,382
Pro forma adjustment to reflect assumed conversion of Series A-D redeemable convertible preferred stock to common stock	22,064	134,277	31,381	134,277
Pro forma adjustment to reflect assumed vesting of RSUs with performance condition	—	—	—	45
Number of shares used for pro forma basic and diluted net loss computation	22,064	215,258	31,381	219,704
Pro forma net loss per share attributable to Class A and Class B common stockholders, basic and diluted	$(0.37)	$(0.37)	$(0.15)	$(0.15)

Note 12. Income Taxes

The components of the Company's income (loss) before income taxes for the years ended December 31, 2016, 2017, and 2018 were as follows:

	Year Ended December 31,		
	2016	2017	2018
	(in thousands)		
Domestic	$(19,691)	$(11,633)	$(87,615)
Foreign	2,426	1,918	1,528
Total income (loss) before income taxes	$(17,265)	$(9,715)	$(86,087)

The components of the Company's provision for income taxes for the years ended December 31, 2016, 2017, and 2018 were as follows:

	Year Ended December 31,		
	2016	2017	2018
	(in thousands)		
Current expense (benefit):			
Federal	$260	$699	$402
State	(1)	23	42
Foreign	340	446	248
Total current provision for income taxes	$599	$1,168	$692
Deferred expense (benefit):			
Federal	(440)	1	(1)
State	(14)	—	—
Foreign	(76)	(136)	386
Total deferred provision for income taxes	$(530)	$(135)	$385
Total provision for income taxes	$69	$1,033	$1,077

A reconciliation of the U.S. federal statutory rate to the Company's effective tax rate is as follows:

	Year Ended December 31,		
	2016	2017	2018
Expected benefit at U.S. federal statutory rate	34.0%	34.0%	21.0%
State income taxes, net of federal tax benefits	0.1	(0.2)	—

Foreign income or losses taxed at different rates	(1.8)	2.1	(1.3)
Stock-based compensation	(8.5)	2.1	(5.5)
Change in valuation allowance	(22.8)	(36.5)	(14.0)
Withholding taxes	—	(7.2)	(0.5)
Transition tax	—	(3.3)	—
Miscellaneous permanent items	(1.4)	(1.6)	(1.0)
Total provision for income taxes	(0.4)%	(10.6)%	(1.3)%

In 2018, the difference in the Company's effective tax rate and the U.S. federal statutory tax rate was primarily due to recording a full valuation allowance on the Company's U.S. deferred tax assets and a charge of $23.3 million related to non-deductible stock-based compensation.

The components of the Company's deferred tax assets and liabilities as of December 31, 2017 and 2018 were as follows:

	Year Ended December 31,	
	2017	2018
	(in thousands)	
Deferred tax assets:		
Net operating loss carryforwards	$17,125	$31,788
Tax credit carryforwards	6,648	8,699
Accrued expenses and reserves	1,112	436
Stock-based compensation	962	—
Unrealized loss on investments	288	617
Other	493	1,115
Gross deferred tax assets	26,628	42,655
Valuation allowance	(22,405)	(37,924)
Total deferred tax assets	$4,223	$4,731
Deferred tax liabilities:		
Fixed assets	(2,594)	(1,269)
Intangible assets	(89)	—
Capitalized internal-use software	(1,310)	(3,111)
Stock-based compensation	—	(514)
Unrealized gain on investments	(20)	(13)
Total deferred tax liabilities	$(4,013)	$(4,907)
Net deferred tax assets (liabilities)	$210	$(176)

On December 22, 2017, the U.S. government enacted the TCJA. The TCJA makes broad and complex changes to the U.S. tax code, including, but not limited to: (i) reducing the U.S. federal corporate tax rate to 21 percent; (ii) requiring companies to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries; (iii) generally eliminating U.S. federal income taxes on dividends from foreign subsidiaries; (iv) requiring a current inclusion in U.S. federal taxable income of certain earnings of controlled foreign corporations; and (v) creating the base erosion anti-abuse tax (BEAT), a new minimum tax. ASC 740, *Income Taxes*, requires companies to recognize the effect of the tax law changes in the period of enactment. However, the SEC staff issued SAB 118 which allowed companies to record provisional amounts during a measurement period not to extend beyond one year of the enactment date. Accordingly, the Company has completed accounting for the tax effects of the TCJA in 2018.

As of December 31, 2017, the Company had recorded the effects on its existing deferred tax balances and the one-time transition tax in the Company's consolidated financial statements. The Company remeasured certain deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future, which is generally 21%. The amount recorded related to the re-measurement of the Company's deferred tax balance was $8.0 million, which was offset by corresponding movement in the valuation allowance. The one-time transition tax of $0.3 million was based on the Company's accumulated foreign subsidiary earnings not previously subject to U.S. income tax. The Company will continue to assess the impact of the recently enacted tax law (and expected further guidance from federal and state tax authorities as well as further guidance for the associated income tax accounting) on its business and consolidated financial statements. The Company has evaluated the impact of the Global Intangible Low-Taxed Income (GILTI) and Foreign-derived Intangible Income (FDII) provisions of the TCJA. The GILTI provision imposes taxes on foreign earnings in excess of a deemed return on tangible assets. The Company has made a policy election to record the tax in the period in which it occurs. The FDII imposes taxes on the excess returns earned directly by a U.S. company from foreign sales or services. The accounting for the deduction for FDII is similar to a special deduction and should be accounted for based on the guidance in ASC 740-10-25-37. The tax benefits for special deductions ordinarily are recognized no earlier than the year in which they are deductible on the tax return.

In determining the need for a valuation allowance, the Company weighs both positive and negative evidence in the various jurisdictions in which it operates to determine whether it is more likely than not that its deferred tax assets are recoverable. In assessing the ultimate realizability of its net deferred tax assets, the Company considers all available evidence, including cumulative losses since inception and expected future losses and as such, management does not believe it is more likely than not that the deferred tax assets will be realized. Accordingly, a full valuation allowance has been established in the U.S. and no deferred tax assets and related tax benefit have been recognized in the consolidated financial statements. There is however, no valuation allowance on the foreign jurisdictions, as the foreign entities have cumulative income and expected future income. The valuation allowance as of December 31, 2017 and 2018 was $22.4 million and $37.9 million, respectively. The net change in the valuation allowance for the years ended December 31, 2016, 2017, and 2018 was an increase of $7.2 million, a decrease of $2.5 million, and an increase of $15.5 million, respectively. The increase in the Company's valuation allowance compared to the prior year was primarily due to an increase in U.S. deferred tax assets from an increased U.S. taxable loss.

As of December 31, 2017 and 2018, the Company had net operating loss carryforwards for federal income tax purposes of $75.5 million and $122.3 million, net of uncertain tax positions, respectively. The federal net operating loss carryforwards for tax years before December 31, 2017 will expire, if not utilized, beginning in 2029. Under the TCJA, the federal net operating loss carryforwards for tax years after December 31, 2017 are carried forward indefinitely but are limited to 80% of taxable income. Federal research and development tax credit carryforwards as of December 31, 2018 of $5.7 million will expire beginning in 2029 if not utilized.

In addition, as of December 31, 2017 and 2018, the Company had net operating loss carryforwards for state income tax purposes of $39.9 million and $89.8 million, net of uncertain tax positions, respectively. The state net operating loss carryforwards will expire, if not utilized, beginning in the year 2029. The Company had state research and development tax credit carryforwards as of December 31, 2018 of $4.5 million. The state research and development tax credits do not expire.

As of December 31, 2017 and 2018, the Company had foreign tax credit carryforwards for federal income tax purposes of $2.9 million and $1.8 million, respectively. The federal foreign tax credit carryforwards will expire, if not utilized, beginning in 2025.

The Tax Reform Act of 1986 and similar California legislation impose substantial restrictions on the utilization of net operating losses and tax credit carryforwards in the event that there is a change in ownership as provided by Section 382 of the Internal Revenue Code and similar state provisions. Such a limitation could result in the expiration of the net operating loss carryforwards and tax credits before utilization.

A reconciliation of the beginning and ending amount of the Company's total gross unrecognized tax benefits was as follows:

	Year Ended December 31,	
	2017	2018
	(in thousands)	
Balance as of the beginning of the period	$1,153	$2,247
Decreases for tax positions related to the prior year	—	(613)
Additions for tax positions related to the current year	1,094	915
Balance as of the end of the period	$2,247	$2,549

As of December 31, 2018, no amount of unrecognized tax benefits, if recognized, would impact the Company's effective income tax rate, given the Company's full valuation allowance position. The Company does not expect any unrecognized tax benefits to be recognized within the next 12 months.

The Company's policy is to recognize interest and penalties accrued on any unrecognized tax benefits as a component of income tax expense. The Company did not recognize any income tax expense related to interest and penalties in the years ended December 31, 2016, 2017, and 2018. As of December 31, 2017 and 2018, the Company had no liabilities for interest and penalties.

The Company's significant tax jurisdictions include the United States and various U.S. states, China, Germany, Singapore, and the United Kingdom. Because of the net operating loss carryforwards, substantially all of the Company's tax years remain open to federal and state tax examination. The Company's foreign tax returns are open to audit under the statutes of limitations of the respective foreign countries in which the subsidiaries are located.

The Company's policy with respect to the Company's undistributed foreign subsidiaries' earnings is to consider those earnings to be indefinitely reinvested. As discussed above, the TCJA required a one-time transition tax on previously untaxed accumulated and current earnings and profits. Correspondingly, all undistributed earnings were deemed to be taxed in the prior year and distribution of the unremitted earnings will not have any significant U.S. federal and state income tax impact. As of December 31, 2018, the undistributed earnings approximated $1.5 million.

Note 13. Guarantees and Indemnifications

The Company has service level commitments to its customers warranting certain levels of uptime reliability and performance, and permitting those customers to receive credits in the event that the Company fails to meet those levels. In addition, the Company's customer contracts offer indemnity provisions whereby the Company indemnifies its customers for third-party claims asserted against them that result from the Company's failure to maintain the availability of their content or securing the same from unauthorized access or loss. To date, the Company has not incurred any material costs as a result of such commitments.

The Company's arrangements generally include certain provisions for indemnifying customers against liabilities if its products or services infringe a third-party's intellectual property rights. It is not possible to determine the maximum potential amount under these indemnification obligations due to the limited history of prior indemnification claims and the unique facts and circumstances involved in each particular agreement. To date, the Company has not incurred any material costs as a result of such obligations and has not accrued any liabilities related to such obligations in the consolidated financial statements.

The Company has also agreed to indemnify its directors and executive officers for costs associated with any fees, expenses, judgments, fines, and settlement amounts incurred by them in any action or proceeding to which any of them are, or are threatened to be, made a party by reason of their service as a director or officer. The Company maintains director and officer insurance coverage that would generally enable it to recover a portion of any future amounts paid. The Company also may be subject to indemnification obligations by law with respect to the actions of its employees under certain circumstances and in certain jurisdictions.

Note 14. Related Party Transactions

In September 2016, certain third-party investment funds purchased 734,634 shares of common stock from one of the Company's founders for a total purchase price of $4.5 million. Since the purchasing investment funds are entities affiliated with holders of economic interests in the Company and the funds acquired shares from the founder at a price in excess of the fair value of such shares, the amount paid in excess of the fair value of the shares at the time of the purchase was recorded as stock-based compensation expense. The Company recorded $3.3 million of stock-based compensation expense to general and administrative expense in the consolidated statement of operations during the year ended December 31, 2016 related to the purchase.

In September 2018, certain third-party investment funds purchased 8,909,092 shares of common stock from certain of the Company's founders for a total purchase price of $98.0 million. Since the purchasing investment funds are entities affiliated with holders of economic interests in the Company and the funds acquired shares from the founders at a price in excess of the fair value of such shares, the amount paid in excess of the fair value of the shares at the time of the purchase was recorded as stock-based compensation expense. The Company recorded $23.3 million of stock-based compensation expense to general and administrative expense in the consolidated statement of operations during the year ended December 31, 2018 related to the purchases.

Note 15. Segment and Geographic Information

The Company's chief operating decision maker (CODM) is its CEO, COO, and CFO. Collectively, the CODM reviews financial information presented on a consolidated basis for purposes of allocating resources and evaluating financial performance. The Company has no segment managers who are held accountable by the CODM for operations, operating results, and planning for levels or components below the consolidated unit level. Accordingly, the Company has determined it has a single operating segment.

Refer to Note 2 to these consolidated financial statements for revenue by geography.

The Company's property and equipment, net, by geographic area were as follows:

	December 31,		June 30,
	2017	2018	2019
			(unaudited)
	(in thousands)		
United States	$34,869	$46,012	$51,856
United Kingdom	1,131	5,608	8,502
Rest of the world	15,423	21,590	24,282
Total property and equipment, net	$51,423	$73,210	$84,640

No single country other than the United States or the United Kingdom accounted for more than 10% of total property and equipment, net as of December 31, 2017 and 2018, and June 30, 2019 (unaudited).

Note 16. Employee Benefit Plans

The Company has a defined-contribution plan intended to qualify under Section 401 of the Internal Revenue Code (the 401(k) Plan). The Company contracted with a third-party provider to act as a custodian and trustee, and to process and maintain the records of participant data. Substantially all the expenses incurred for administering the 401(k) Plan are paid by the Company. The Company has not made any matching contributions to date.

Note 17. Subsequent Events

The Company has evaluated subsequent events from the consolidated balance sheets date through May 24, 2019, the date on which these consolidated financial statements were available to be issued.

Between January 1, 2019 and May 24, 2019, the Company granted stock options for 393,716 shares of Class B common stock with a weighted-average exercise price of $9.60 per share under the 2010 Plan.

Between January 1, 2019 and May 24, 2019, the Company granted restricted stock units (RSUs) for 4,361,324 shares of Class B common stock with an aggregate grant date fair value of $38.0 million to eligible employees. Such RSUs contain both service-based and performance conditions to vest in the underlying common stock. The service-based condition criteria is generally met over a three to four year period. The performance condition will be satisfied on the first to occur of: (i) a change in control, or (ii) the effective date of a registration statement of the Company filed under the Securities Act for the first underwritten public sale of its common stock.

Note 18. Subsequent Events (unaudited)

In preparing the unaudited interim consolidated financial statements as of June 30, 2019 and for the six months ended June 30, 2018 and 2019, the Company has evaluated subsequent events through August 15, 2019, the date the unaudited interim consolidated financial statements were available to be issued.

Between July 1, 2019 and August 15, 2019, the Company granted RSUs for 1,421,526 shares of Class B common stock with an aggregate grant date fair value of $16.8 million to eligible employees and directors. Such RSUs contain both service-based and performance conditions to vest in the underlying common stock. The service-based condition criteria is generally met over a three to four year period. The performance condition will be satisfied on the first to occur of: (i) a change in control, or (ii) the effective date of a registration statement of the Company filed under the Securities Act for the first underwritten public sale of its common stock.

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Part Ii

Information Not Required in Prospectus

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth all expenses to be paid by us, other than underwriting discounts and commissions, upon completion of this offering. All amounts shown are estimates except for the Securities and Exchange Commission (the SEC) registration fee, the Financial Industry Regulatory Authority (FINRA) filing fee, and the exchange listing fee.

	Amount to be paid
SEC registration fee	$12,120
FINRA filing fee	15,500
Exchange listing fee	25,000
Printing and engraving expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees	*
Miscellaneous	*
Total	$ *

* To be filed by amendment.

Item 14. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law authorizes a corporation's board of directors to grant, and authorizes a court to award, indemnity to officers, directors, and other corporate agents.

We expect to adopt an amended and restated certificate of incorporation, which will become effective immediately prior to the completion of this offering, and which will contain provisions that limit the liability of our directors for monetary damages to the fullest extent permitted by Delaware law. Consequently, our directors will not be personally liable to us or our stockholders for monetary damages for any breach of fiduciary duties as directors, except liability for the following:

- any breach of their duty of loyalty to our company or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions as provided in Section 174 of the Delaware General Corporation Law; or
- any transaction from which they derived an improper personal benefit.

Any amendment to, or repeal of, these provisions will not eliminate or reduce the effect of these provisions in respect of any act, omission, or claim that occurred or arose prior to that amendment or repeal. If the Delaware General Corporation Law is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of our directors will be further limited to the greatest extent permitted by the Delaware General Corporation Law.

In addition, we expect to adopt amended and restated bylaws, which will become effective immediately prior to the completion of this offering, and which will provide that we will indemnify, to the fullest extent permitted by law, any person who is or was a party or is threatened to be made a party to any action, suit, or proceeding by reason of the fact that he or she is or was one of our directors or officers or is or was serving at our request as a director or officer of another corporation, partnership, joint venture, trust, or other enterprise. Our amended and restated bylaws are expected to provide that we may indemnify to the fullest extent permitted by law any person who is or was a party or is threatened to be made a party to any action, suit, or proceeding by reason of the

fact that he or she is or was one of our employees or agents or is or was serving at our request as an employee or agent of another corporation, partnership, joint venture, trust, or other enterprise. Our amended and restated bylaws will also provide that we must advance expenses incurred by or on behalf of a director or officer in advance of the final disposition of any action or proceeding, subject to limited exceptions.

Further, we have entered into or will enter into indemnification agreements with each of our directors and executive officers that may be broader than the specific indemnification provisions contained in the Delaware General Corporation Law. These indemnification agreements require us, among other things, to indemnify our directors and executive officers against liabilities that may arise by reason of their status or service. These indemnification agreements also require us to advance all expenses incurred by the directors and executive officers in investigating or defending any such action, suit, or proceeding. We believe that these agreements are necessary to attract and retain qualified individuals to serve as directors and executive officers.

The limitation of liability and indemnification provisions that are expected to be included in our amended and restated certificate of incorporation, amended and restated bylaws, and the indemnification agreements that we have entered into or will enter into with our directors and executive officers may discourage stockholders from bringing a lawsuit against our directors and executive officers for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against our directors and executive officers, even though an action, if successful, might benefit us and other stockholders. Further, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage awards against directors and executive officers as required by these indemnification provisions. At present, we are not aware of any pending litigation or proceeding involving any person who is or was one of our directors, officers, employees, or other agents or is or was serving at our request as a director, officer, employee, or agent of another corporation, partnership, joint venture, trust, or other enterprise, for which indemnification is sought, and we are not aware of any threatened litigation that may result in claims for indemnification.

We have obtained insurance policies under which, subject to the limitations of the policies, coverage is provided to our directors and executive officers against loss arising from claims made by reason of breach of fiduciary duty or other wrongful acts as a director or executive officer, including claims relating to public securities matters, and to us with respect to payments that may be made by us to these directors and executive officers pursuant to our indemnification obligations or otherwise as a matter of law.

Certain of our non-employee directors may, through their relationships with their employers, be insured and/or indemnified against certain liabilities incurred in their capacity as members of our Board of Directors.

The underwriting agreement to be filed as Exhibit 1.1 to this registration statement will provide for indemnification by the underwriters of us and our officers and directors for certain liabilities arising under the Securities Act of 1933, as amended (the Securities Act), or otherwise.

Item 15. Recent Sales of Unregistered Securities

Since January 1, 2016, we have issued the following unregistered securities:

Preferred Stock Issuances

In September 2018, we sold an aggregate of 13,636,366 shares of our Series D redeemable convertible preferred stock to 26 accredited investors at a purchase price of $11.00 per share, for an aggregate purchase price of $150,000,026.

Option, Restricted Stock Unit, and Common Stock Issuances

From January 1, 2016 to August 15, 2019, we granted to our directors, officers, employees, consultants, and other service providers options to purchase an aggregate of 32,501,522 shares of our Class B common stock under our 2010 Equity Incentive Plan (our 2010 Plan) at exercise prices ranging from $1.67 to $9.97 per share.

From January 1, 2016 to August 15, 2019, we granted to our directors, officers, employees, consultants, and other service providers restricted stock units covering an aggregate of 5,934,380 shares of Class B common stock under our 2010 Plan.

From January 1, 2016 to August 15, 2019, we issued and sold to our officers, directors, employees (including awards assumed through acquisitions), consultants, and other service providers an aggregate of 17,512,928 shares of our Class B common stock upon the exercise of options under our 2010 Plan at exercise prices ranging from $0.07 to $9.97 per share, for a weighted-average exercise price of $1.52 per share.

Shares Issued in Connection with Acquisitions

From January 1, 2016 to August 15, 2019, we issued an aggregate of 234,995 shares of our Class B common stock in connection with our acquisitions of certain companies or their assets and as consideration to individuals and entities who were former service providers and/or stockholders of such companies.

None of the foregoing transactions involved any underwriters, underwriting discounts or commissions, or any public offering. We believe the offers, sales, and issuances of the above securities were exempt from registration under the Securities Act (or Regulation D or Regulation S promulgated thereunder) by virtue of Section 4(a)(2) of the Securities Act because the issuance of securities to the recipients did not involve a public offering, or in reliance on Rule 701 because the transactions were pursuant to compensatory benefit plans or contracts relating to compensation as provided under such rule. The recipients of the securities in each of these transactions represented their intentions to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were placed upon the stock certificates issued in these transactions. All recipients had adequate access, through their relationships with us, to information about us. The sales of these securities were made without any general solicitation or advertising.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits.

See the Exhibit Index immediately preceding the signature page hereto for a list of exhibits to be filed as part of this registration statement on Form S-1, which Exhibit Index is incorporated herein by reference.

(b) Financial statement schedules.

All financial statement schedules are omitted because the information called for is not required or is shown either in the consolidated financial statements or in the notes thereto.

Item 17. Undertakings

The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers, and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer, or controlling person of the registrant in the successful defense of any action, suit, or proceeding) is asserted by such director, officer, or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

(1)	For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.
(2)	For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Exhibit Index

ExhibitNumber	Description
1.1*	Form of Underwriting Agreement.
3.1	Amended and Restated Certificate of Incorporation of the Registrant, as currently in effect.
3.2*	Form of Amended and Restated Certificate of Incorporation of the Registrant, to be in effect upon completion of this offering.
3.3	Amended and Restated Bylaws of the Registrant, as currently in effect.
3.4*	Form of Amended and Restated Bylaws of the Registrant, to be in effect upon the completion of this offering.
4.1	Form of common stock certificate of the Registrant.
4.2	Amended and Restated Investors' Rights Agreement by and among the Registrant and certain holders of its capital stock, dated as of September 4, 2018.
4.3	Form of convertible preferred stock warrant.
5.1*	Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation.
10.1*	Form of Indemnification Agreement between the Registrant and each of its directors and officers.
10.2*	2019 Equity Incentive Plan and related form agreements.
10.3*	2019 Employee Stock Purchase Plan and related form agreements.
10.4*	2019 Executive Incentive Compensation Plan.
10.5	2010 Equity Incentive Plan and related form agreements.
10.6*	Offer Letter dated as of , 2019 between the Registrant and Matthew Prince.
10.7*	Offer Letter dated as of , 2019 between the Registrant and Michelle Zatlyn.
10.8*	Offer Letter dated as of , 2019 between the Registrant and Thomas Seifert.
10.9*	Offer Letter dated as of , 2019 between the Registrant and Douglas Kramer.
10.10	Lease Agreement between the Registrant and Civitas Equity Fund I, LLC, dated as of April 18, 2014.
10.11	Office Lease Agreement between the Registrant and Ichi Juu Ichi, LLC, dated as of November 1, 2017.
21.1	List of subsidiaries of the Registrant.
23.1	Consent of KPMG LLP, independent registered public accounting firm.
23.2*	Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (included in Exhibit 5.1).
24.1	Power of Attorney (included on the signature page to this Registration Statement on Form S-1).

*	To be filed by amendment.

Power of Attorney (included on the signature page to this Registration Statement on Form S-1).

SIGNATURES Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this registration statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in San Francisco, California, on the 15th day of August, 2019.

CLOUDFLARE, INC.

By:	/s/ Matthew Prince
	Matthew Prince
	Chief Executive Officer

Power of Attorney

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Matthew Prince, Michelle Zatlyn, Thomas Seifert and Douglas Kramer, and each one of them, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in their name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and to sign any registration statement for the same offering covered by this registration statement that is to be effective on filing pursuant to Rule 462(b) under the Securities Act of 1933, as amended, and all post-effective amendments thereto, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement on Form S-1 has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Matthew Prince Matthew Prince	Chief Executive Officer and Chair *(Principal Executive Officer)*	August 15, 2019
/s/ Thomas Seifert Thomas Seifert	Chief Financial Officer *(Principal Financial and Accounting Officer)*	August 15, 2019
/s/ Michelle Zatlyn Michelle Zatlyn	Director	August 15, 2019
/s/ Maria Eitel Maria Eitel	Director	August 15, 2019
/s/ Carl Ledbetter Carl Ledbetter	Director	August 15, 2019
/s/ Stanley Meresman Stanley Meresman	Director	August 15, 2019
/s/ Scott Sandell Scott Sandell	Director	August 15, 2019