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

FORM 10-K

(Mark
One)

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

For the fiscal year ended December 31, 2017

OR

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

Commission File Number: 001-35155

BOINGO WIRELESS, INC.

(Exact name of registrant as specified in its charter)

DELAWARE (State of other jurisdiction of incorporation or organization)	95-4856877 (I.R.S. Employer Identification Number)
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10960 Wilshire Blvd., 23rd Floor
Los Angeles, California 90024
(Address of principal executive offices, Zip Code)

(310) 586-5180
(Registrant's telephone number, including area code)

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

Common Stock, \$0.0001 par value
(Title of each class)

The NASDAQ Stock Market LLC
(Name of each exchange on which registered)

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer or a non-accelerated filer, a smaller reporting company or an

emerging growth company. See the definition of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer

(Do not check if a
smaller reporting company)

Smaller reporting company

Emerging growth company

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

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

The aggregate market value of the Registrant's voting and non-voting common equity held by non-affiliates of the Registrant as of the last day of the Registrant's most recently completed second fiscal quarter was \$578,657,991 based on the last reported sale price of \$14.96 per share on the NASDAQ Global Market on June 30, 2017, the last trading day of the most recently completed second fiscal quarter.

As of March 1, 2018, 41,304,495 shares of Common Stock were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Company's definitive Proxy Statement for the Annual Meeting of Stockholders to be filed within 120 days of the Company's year ended December 31, 2017 are incorporated by reference into Part III of this Form 10-K where indicated.

**BOINGO WIRELESS, INC.
ANNUAL REPORT ON FORM 10-K FOR
THE YEAR ENDED DECEMBER 31, 2017**

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Forward-Looking Statements

We have made forward-looking statements in this Annual Report on Form 10-K that are subject to risks and uncertainties. Forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, are subject to the "safe harbor" created by those sections. The forward-looking statements in this report are based on our management's beliefs and assumptions and on information currently available to our management. In some cases, you can identify forward-looking statements by terms such as "anticipates," "aspires," "believes," "can," "continue," "could," "estimates," "expects," "intends," "may," "plans," "projects," "seeks," "should," "will" or "would" or the negative of these terms and similar expressions intended to identify forward-looking statements. These statements involve known and unknown risks, uncertainties and other factors, which may cause our actual results, performance, time frames or achievements to be materially different from any future results, performance, time frames or achievements expressed or implied by the forward-looking statements. We discuss many of these risks, uncertainties and other factors in this document in greater detail under the heading "Risk Factors." We believe it is important to communicate our expectations to our investors. However, there may be events in the future that we are not able to predict accurately or over which we have no control. The risks described in "Risk Factors" included in this report, as well as any other cautionary language in this report, provide examples of risks, uncertainties and events that may cause our actual results to differ materially from the expectations we describe in our forward-looking statements. Before you invest in our common stock, you should be aware that the occurrence of the events described in "Risk Factors" and elsewhere in this report could harm our business.

Given these risks, uncertainties and other factors, you should not place undue reliance on these forward-looking statements. Also, these forward-looking statements represent our estimates and assumptions only as of the date of this filing. You should read this document completely and with the understanding that our actual future results may be materially different from what we expect. We hereby qualify our forward-looking statements by these cautionary statements. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

Unless the context otherwise requires, we use the terms "Boingo," "company," "we," "us" and "our" in this Annual Report on Form 10-K to refer to Boingo Wireless, Inc. and, where appropriate, its subsidiaries.

PART I

Item 1. Business

Company Overview

Boingo helps the world stay connected to the people and things they love.

We acquire long-term wireless rights at large venues like airports, transportation hubs, stadiums, arenas, military bases, universities, convention centers, and office campuses; build high-quality wireless networks such as distributed antenna systems ("DAS"), Wi-Fi, and small cells at those venues; and monetize the wireless networks through a number of products and services.

Over the past 16 years, we've built a global network of wireless networks that we estimate reaches more than a billion consumers annually. We operate 38 DAS networks containing approximately 23,500 DAS nodes, and believe we are the largest operator of indoor DAS networks in the world. Our Wi-Fi network, which includes locations we manage and operate ourselves (our "managed and operated locations") as well as networks managed and operated by third-parties with whom we contract for access (our "roaming" networks), includes approximately 1.5 million commercial Wi-Fi hotspots in more than 100 countries around the world. We also operate Wi-Fi and internet protocol television ("IPTV") networks at 62 U.S. Army, Air Force, and Marines bases around the world.

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We generate revenue from our wireless networks in a number of ways, including our DAS, small cells and wholesale Wi-Fi offerings, which are targeted towards businesses, and our military, retail, and advertising offerings, which are targeted towards consumers.

We generate wholesale revenue from telecom operators that pay us build-out fees and recurring access fees so that their cellular customers may use our DAS or small cell networks at locations where we manage and operate the wireless network. In 2017, DAS revenue accounted for approximately 39% of our revenue.

Military revenue, which is driven by military personnel who purchase broadband and IPTV services on military bases accounted for approximately 27% of our total revenue in 2017. As of December 31, 2017, we have grown our military subscriber base to approximately 130,000, an increase of approximately 22% over the prior year. Retail revenue, which is driven by consumers who purchase a recurring monthly subscription plan or one-time Wi-Fi access, accounted for approximately 12% of our total revenue in 2017. As of December 31, 2017, our retail subscriber base was approximately 188,000, a decrease of approximately 4% over the prior year.

Our enterprise customers such as telecom operators, cable companies, technology companies, and enterprise software/services companies, pay us usage-based Wi-Fi network access and software licensing fees to allow their customers' access to our footprint worldwide. Wholesale Wi-Fi revenue also includes financial institutions and other enterprise customers who provide Boingo as a value-added service for their customers. In 2017, wholesale Wi-Fi revenue accounted for approximately 16% of our revenue.

We also generate revenue from advertisers that seek to reach consumers via sponsored Wi-Fi access. In 2017, advertising and other revenue accounted for approximately 6% of our revenue.

Our customer agreements for certain DAS networks include both a fixed and variable fee structure with the highest percentage of sales typically occurring in the fourth quarter of each year and the lowest percentage of sales occurring in the first quarter of each year. We expect this trend to continue. Our other products have not experienced any significant seasonal impact.

We were incorporated in the State of Delaware in April 2001 under the name Project Mammoth, Inc. and changed our name to Boingo Wireless, Inc. in October 2001. Our principal executive offices are located in Los Angeles, California. Our website address is www.boingo.com. The information on, or that can be accessed through, our website is not part of this Annual Report on Form 10-K.

Industry Overview

Today, consumers own multiple connected devices—smartphones, laptops, tablets, wearables, and more. According to Cisco's 2017 Visual Networking Index ("CVNI"), global mobile data traffic grew 63% in 2016 and mobile data traffic has grown eighteen-fold over the past 5 years. CVNI estimates that by 2021, there will be 1.5 mobile devices for every human on the planet. That means 11.6 billion connected mobile devices for an estimated 7.8 billion people.

What's more, mobile data growth is exploding—driven by the mix and growth of wireless devices that are accessing mobile networks worldwide and the increase in high-bandwidth activities like video, online gaming, streaming, cloud-based applications and mobile apps. In fact, CVNI estimates that global mobile traffic will grow seven-fold from 2016 to 2021, with video accounting for 78% of the world's mobile traffic by 2021. CVNI further estimates that typical smartphones will chum out 6.8 gigabytes of traffic monthly by 2021, up four times from the average of 1.6 gigabytes per month they do now. Per CVNI, in 2016, 63% of all traffic from connected mobile devices will be offloaded to the fixed network by means of Wi-Fi devices and femtocells each month, and by 2021, of all IP traffic (fixed and mobile), 50% will be Wi-Fi, 30% will be wired, and 20% will be mobile. Per CVNI, mobile network

connection speeds grew more than three-fold in 2016 from a downstream speed of 2.0 Megabits per second ("Mbps") in 2015 to 6.8 Mbps in 2016.

The mobile data explosion has fueled the growth of higher-generation network connectivity to address the demand for more bandwidth, higher security, and faster connectivity. Telecom operators have started trials for 5G, which will provide higher bandwidth (greater than 1 gigabit per second), broader coverage, and ultra-low latency. Significant 5G deployments are expected by 2020 subject to certain gating factors like standards development, regulatory approval, and spectrum availability.

Challenges Facing Our Industry

The mobile Internet is a complex and constantly evolving ecosystem comprised of dozens of manufacturers and many different operating systems. This complexity is amplified as new device models and operating systems are released, new categories of devices become Internet enabled, and new network technologies emerge.

To cope with the significant increase in mobile Internet data traffic, wireless network operators must: build denser networks, closer to the end consumer; explore solutions to offload network traffic from congested, licensed spectrum onto more efficient unlicensed spectrum; and invest in technologies that will enable the convergence of licensed and unlicensed spectrum. We expect our wireless networks to play a significant role in helping meet the ever-increasing data demands of connected consumers.

Our Strategy

We believe we are the leading global provider of neutral-host commercial mobile Wi-Fi Internet solutions and indoor DAS services. Our overall business strategy is simple: acquire long-term wireless rights at large venues; build high-quality wireless networks at those venues; and monetize the wireless networks through a number of products and services. In support of our overall business strategy, we are focused on the following objectives:

- *Expand our footprint of managed and operated and aggregated networks.* We intend to continue to grow our global network of managed and operated DAS, Wi-Fi and small cell networks. We focus our venue acquisition strategy on locations with a common profile—large venues with significant population density—as these venues face challenges that we are uniquely qualified to solve. We also plan to enter into new roaming agreements with hotspot operators to maximize the reach of our aggregated network, which creates a more attractive offering for our wholesale enterprise, military and retail customers.
- *Leverage our neutral-host business model to grow DAS, small cell, and wholesale roaming partnerships.* Our neutral-host model enables us to effectively partner with venues because we ensure *all* customers receive high-quality wireless service. We successfully balance the interests of individual carriers with the goals of our venue partners, and build flexible DAS network architectures that can support multiple carriers and the latest mobile services. We are also beginning to deploy small cell networks, and we believe this technology will enable us to expand into certain venues where a traditional DAS network is cost-prohibitive.
- *Expand our carrier offload relationships.* As cellular networks become strained due to capacity, carriers are beginning to offload their licensed mobile traffic onto unlicensed spectrum. We are highly focused on partnering with all four Tier 1 carriers in the U.S. as well as other carriers around the world to offload their mobile traffic onto our Wi-Fi networks.
- *Maximize our military business through recurring subscriber fees and shorter-term transaction plans, as well as strategic build-outs.* Our military business is uniquely designed for the highly mobile young men and women of the U.S. Army, Air Force and Marines who are frequently deployed from base to base. Our service is portable from base to base, requires no equipment, installation

appointment or truck roll, enabling a user to sign up and receive service immediately. We believe this currently provides a significant competitive advantage over the other providers who may also be operating on that base. We will continue to evaluate new military build-outs beyond our current footprint.

- *Increase our brand awareness.* We will continue to seek new ways to promote our brand through our managed and operated hotspots. We intend to enhance our brand through low-cost co-marketing arrangements with our partners and through periodic promotional and sponsorship activities and by continuing to leverage the reach of social media and public relations to interact with our customers.

Services

Our solution makes it easy, convenient and cost effective for consumers to access the mobile Internet.

DAS or Small Cell. We offer our telecom operator partners access to our DAS or small cell networks at our managed and operated locations. We deploy our DAS or small cell networks within venues that require additional signal strength to improve the quality of cellular services.

Military. We provide high-speed Wi-Fi and IPTV services for military servicemen and women living in the barracks of U.S. Army, Air Force and Marine bases around the world. We offer a selection of recurring monthly subscriptions and shorter-term transactional plans. We currently offer two tiers of service: Standard Internet (5 Mbps) and Expanded Internet (30 Mbps) as well as IPTV service. Our military service plans are portable from base to base and require no equipment or installation, enabling a user to sign up and receive service immediately.

Wholesale—Wi-Fi. Our integrated hardware and software platform allows us to provide a range of enhanced services to network operators, device manufacturers, technology companies, enterprise software and services companies, venue operators and financial services companies.

- *Carrier offload services.* We offer services to carriers to move traffic from their licensed cellular networks onto our Wi-Fi networks.
- *Comes With Boingo.* We offer access to our entire network of approximately 1.5 million hotspot locations to financial institutions and other enterprise customers who then offer them as a loyalty incentive to their customers.
- *Wi-Fi roaming and software services.* We offer roaming services across our entire network of approximately 1.5 million hotspot locations to our partners who can then provide mobile Internet services to their customers at these locations. Our software solution, which provides one-click access to our global footprint of hotspots, has been rebranded for wholesale partners, in addition to being marketed under the Boingo brand. In combination with our back-end system infrastructure, it creates a global roaming solution for operators, carriers, other service providers and other businesses.
- *Turn-key solutions.* We offer our venue partners the ability to implement a turn-key Wi-Fi solution through a Wi-Fi network infrastructure that we install, manage and operate. Our turn-key solutions include a variety of service models that are supported through a mix of wholesale Wi-Fi, military, retail, and advertising revenue.

Retail. We enable individuals to purchase Internet access at our managed and operated hotspots and select partner locations around the world. We offer a selection of recurring monthly subscriptions and single-use access plans. Our most common plans are the \$9.95 monthly subscription for up to four connected devices, and the single-use Boingo AsYouGo at \$7.95 per day or \$4.95 per hour. Our

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single-use access plans provide unlimited access on a single device at a specific hotspot for a defined period of time, tolled from the time the user first logs on to the network. We will continue to launch other flexible plans to meet the evolving needs of our customers and venues.

Advertising. Our Wi-Fi platform provides a valuable opportunity for advertisers to reach consumers with sponsored Wi-Fi access, promotional programs and display advertising. We provide brands and advertisers the opportunity to sponsor wireless connectivity to individuals at locations where we manage and operate the Wi-Fi network and locations where we solely provide authorized access to a partner's Wi-Fi network through sponsored access and promotional programs. Our advertising solution is easily integrated into Wi-Fi networks not directly managed by Boingo.

Our Network

Over the past 16 years, we've built a global network of wireless networks that we estimate reaches more than a billion consumers annually. We operate 38 DAS networks containing 23,500 DAS nodes, and believe we are the largest operator of indoor DAS networks in the world. Our Wi-Fi network—which includes our managed and operated locations and our roaming networks—includes approximately 1.5 million commercial Wi-Fi hotspots in more than 100 countries around the world.

Boingo hotspot locations by region as of December 31, 2017 included:

Region	Airport	Café / Retail	Convention Center	Hotel	Other(1)	Total
North America	61	113,067	172	2,712	131,312	247,324
Latin America	87	5,317	13	253	6,860	12,530
Europe, Middle East and Africa	268	44,844	404	10,772	243,148	299,436
Asia	277	257,239	1,870	41,681	636,727	937,794
Total	693	420,467	2,459	55,418	1,018,047	1,497,084

(1) Includes schools and universities, offices, hospitals and public spaces.

We also operate Wi-Fi and IPTV networks at 62 U.S. Army, Air Force, and Marine bases around the world.

Marketing and Business Development

Our marketing and business development efforts are designed to cost effectively expand our footprint of venues where we can deploy DAS, Wi-Fi and small cell networks, secure more carrier contracts, attract and retain new military and retail customers, and identify business partners that could leverage our network to provide mobile Internet services to their customers. We focus on efficient customer acquisition through our online presence, social media, public relations, influencer marketing, experiential and event marketing, market research, and other promotional activities.

We seek to maximize customer lifetime value by managing subscriber acquisition cost, extending customer life and determining appropriate pricing. We use information about subscriber behavior to help us retain customers and determine premium offerings. Our segmentation is focused at the product level, so that we provide the right product, plan and price for our military and retail customers. Our consumer plans are available for essentially all Wi-Fi enabled devices and are priced on a month-to-month or per-use basis.

We issue regular press releases announcing important partnerships and product developments and continually update our website with information about our network and services. We leverage our social media accounts, website and blog to further promote Boingo's product availability and applicability for

military men and women, travelers, digital elite and consumers on-the-go. Our executive team speaks at industry events, trade shows and conferences.

Development

Our development efforts are focused primarily on supporting our networks and the businesses that run across these networks. These efforts include developing web applications for ease of connecting to our managed and operated locations and aggregate partner networks, integrating our software client with our wholesale partners, continuing to adapt our technology to new operating systems and platforms, continuing to develop an advertising system and business and operations support system for monetizing network service, continuing to develop an IPTV platform for delivering IPTV services to our military bases and optimizing our networks and backend systems for roaming and carrier offload. Our development model is based on Agile development practices so any deviations can be promptly corrected to improve reliability in our network or services and enhance customer satisfaction. For the years ended December 31, 2017, 2016 and 2015, development and technology expenses were \$26.8 million, \$22.1 million and \$19.1 million, respectively.

Technology

Over the past 16 years, we have developed proprietary systems that include the Boingo software client and software development kit ("SDK"); authentication, authorization and tracking systems; mediation and billing systems; IPTV management and delivery platform; free user monetization media and advertising platform; and a real-time operational support and software configuration and messaging infrastructure.

Boingo Software Client and SDK

The Boingo software client and SDK are installed on Wi-Fi enabled devices such as smartphones, laptops and tablets to enable our customers and our partners' customers to access our network. The key features of the Boingo software client include:

- *Simple user interface.* The Boingo software client provides individuals with an uncomplicated, user-friendly interface designed to streamline the Wi-Fi network connection process. The software finds hotspots and monitors the availability of Wi-Fi hotspots in the Boingo network, presents a notification message of the hotspot identified and allows one-click user connections. In some devices, connection to a Boingo Wi-Fi hotspot occurs in the background, providing the user with a seamless, notification-free connectivity experience.
- *Support for all major operating system platforms.* The Boingo software client and SDK support the Android, iOS, Mac OS and Windows operating systems, which represents the majority of all devices connecting to our managed and operated venues.
- *Automatic updates.* The Boingo software client automatically receives identification information for new hotspot locations as they are added to the Boingo network, including any information needed to automatically identify and login to the network. Location information, allowing a user to find Boingo hotspots from the client, is also automatically updated. On all but embedded platforms, software updates are also automatically offered to a user when available.
- *Custom branding and flexible integration alternatives.* We offer wholesale customers the ability to integrate the Boingo software client into their products and services as a SDK. Additionally, we offer wholesale customers the option to utilize a custom, rebranded reference design of the software client used in our retail customer offering.

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Authentication, Authorization and Tracking System

Our proprietary authentication, authorization and tracking system enables the reliable, scalable and secure initiation and termination of user Wi-Fi sessions on our network. This system authenticates our network users across a wide variety of hotspots and network operators, through a normalized authentication protocol. Through the authorization process, custom business rules ensure user access based on specific service parameters such as location, type of device, service plan and account information. Our system also captures duration, data traffic, location, and type of device. We normalize and process this data from disparate providers for our use and for our wholesale partners. This system has been enhanced to include support for secure Next Generation Hotspot roaming, which leverages Passpoint-certified devices and network hardware to establish seamless secure connections for customers.

Mediation and Billing System

Our mediation and billing system records and analyzes individual usage sessions required to bill for Wi-Fi usage. Users are charged based on variables such as pricing plan, device type, location, time and amount of use. Our system consolidates usage session information, determines the user identity and applies the appropriate aggregation and flagging to ensure proper usage processing. Our system handles exceptions automatically. Exceptions that cannot be solved automatically are brought to the attention of the operations staff for rectification of any discrepancies. The billing system provides billing based on roaming relationship, user type, device type and account type. Our military and retail customer mediation and billing is handled by the same infrastructure used for wholesale customer and billing, resulting in efficiencies of scale and operation.

IPTV Management and Delivery Platform

Our IPTV system enables us to deliver content to our military subscribers. The Boingo digital rights management ("DRM") system allows for live linear commercial content to be delivered securely through our encrypted network links that connect our primary IPTV data center and the military bases. The IPTV central content management system allows for regional content delivery and multiple programming bundle offers. To enhance the viewing experience for mobile and tablet devices, the Boingo IPTV delivery system uses HTTP Live Streaming distribution protocol that will accommodate playing content at different network speeds by dynamically reducing content size.

Free User Monetization Media and Advertising Platform

The Boingo Media platform enables brand advertisers to reach a captive audience through high engagement Wi-Fi sponsorships in premium locations worldwide. It delivers engaging advertising experiences, and our partners can place their messaging in the right context to their target audience. It also allows a combination of branding with direct response in a single high-impact format. Frequent travelers can be reached in a way they appreciate—by receiving free Wi-Fi access when they need it most.

Software Configuration and Messaging System

Our software configuration system provides real-time network configuration updates for thousands of networks and over 20 detection and login methodologies used by the Boingo software client to access our network. Our software configuration system automatically registers new network definitions and login methodologies to allow individuals to connect to our hotspot locations. All supported platforms use a single configuration, providing a high level of operational and test efficiency. Our messaging system enables real-time customer notification and system interaction at login, based on

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location, network, user, account type, device and usage. This approach enables us and our partners to deliver custom marketing or service messages.

Operations

We provide significant operational support for our managed and operated wireless infrastructure and the related technical systems in our network. For our managed and operated networks, we design, build, monitor and maintain the network. For roaming partners, we monitor network and related system uptime and report issues so that they can be quickly remedied. We have service level agreements with our roaming partners specifying minimum network uptime requirements and specified quality of service levels for different services that run across the wireless network infrastructure.

Our Wi-Fi deployments are based on the IEEE 802.11a, b, g, n and ac standards and operate in the 2.4 GHz and 5 GHz unlicensed spectrum bands. We design, build, and operate DAS and small cell networks that provide 2G, 3G, and 4G-LTE services across multiple licensed-frequency bands for all major telecom operators.

Customers

We generate revenue primarily from our wholesale partners (including DAS customers) and military and retail customers. Our DAS customers are telecom operators who pay us one-time build-out fees and recurring access fees for our DAS network, enabling their cellular customers to access these networks. Our wholesale Wi-Fi customers pay usage-based network access fees to allow their customers access to our global Wi-Fi network and other wholesale Wi-Fi partners pay us to provide Wi-Fi services in their venue locations under a service provider arrangement. Our wholesale customer relationships are generally governed by multi-year contracts. We acquire our wholesale customers through our business development efforts. Our military and retail customers either purchase month-to-month subscription plans that automatically renew, or single-use access to our network. We acquire our military and retail customers primarily from users passing through our managed and operated locations, where we generally have exclusive multi-year agreements. We also generate revenue from advertisers that seek to reach visitors seeking Wi-Fi access at our managed and operated network locations with online advertising, promotional and sponsored programs. For the years ended December 31, 2017, 2016 and 2015, entities affiliated with AT&T Inc. accounted for 11%, 12% and 17%, respectively, of total revenue. For each of the years ended December 31, 2017 and 2016, entities affiliated with Sprint Corporation accounted for 11% of total revenue. For the year ended December 31, 2017, entities affiliated with Verizon Communications Inc. accounted for 11% of total revenue. For the year ended December 31, 2017, entities affiliated with T-Mobile USA, Inc. accounted for 11% of total revenue. The loss of these groups and the customers could have a material adverse impact on our consolidated statements of operations.

Key Business Metrics

In addition to monitoring traditional financial measures, we also monitor our operating performance using key performance indicators. Our key performance indicators follow:

	Year Ended December 31,		
	2017	2016	2015
	(in thousands)		
DAS nodes	23.5	19.2	10.9
Subscribers—military	130	107	57
Subscribers—retail	188	195	204
Connects	223,960	142,802	105,335

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DAS nodes. This metric represents the number of active DAS nodes as of the end of the period. A DAS node is a single communications endpoint, typically an antenna, which transmits or receives radio frequency signals wirelessly. This measure is an indicator of the reach of our DAS network.

Subscribers—military and *Subscribers—retail.* These metrics represent the number of paying customers who are on a month-to-month subscription plan at a given period end.

Connects. This metric shows how often individuals connect to our global Wi-Fi network in a given period. The connects include wholesale and retail customers in both customer pay locations and customer free locations where we are a paid service provider or receive sponsorship or promotion fees. We count each connect as a single connect regardless of how many times that individual accesses the network at a given venue during their 24 hour period. This measure is an indicator of paid activity throughout our network.

Customer Support

We provide support services to our military, retail, and enterprise customers 24 hours per day, 7 days per week, 365 days per year. Support is available by phone, chat, email, or social media channels like Twitter and Facebook. Our website contains a comprehensive knowledge base that includes answers to frequently asked questions for self-help, and we provide video support on our YouTube channel. Tier 1 support is provided by a third-party provider, while Tier 2 and social media support is managed by our internal customer care team.

Competition

The market for mobile Internet services and solutions is fragmented and competitive. We believe the principal competitive factors in our industry include the following:

- price;
- quality of service;
- venue exclusivity;
- ease of access and use;
- bundled service offerings;
- geographic reach; and
- brand name recognition.

Direct and indirect competitors include telecom operators, cable companies, self-managed venue networks and smaller wireless Internet service providers. Some of these competitors have substantially greater resources, larger customer bases, longer operating histories and greater name recognition than we have. They may offer bundled data services with primary service offerings that we do not generally offer such as landline and cellular telephone service, and cable or satellite television. Many of our competitors are also partners from whom we receive revenue when their customers access our network.

We believe that we compete favorably based on our ability to deliver end-to-end solutions, our neutral host business model, brand recognition, geographic coverage, network reliability, quality of service, ease of use, and cost.

Intellectual Property

Our ongoing success will depend in part upon our ability to protect our core technology and intellectual property. To accomplish this, we rely on a combination of intellectual property rights, including trade secrets, patents, copyrights and trademarks, as well as contractual restrictions.

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We have nine issued U.S. patents, two of which expire in 2022, and the other seven of which expire between 2030 and 2035. We have two patent applications pending in the United States and one patent application pending in Europe. We have two issued Japanese patents and two issued Chinese patents, each of which has a maximum term that expires in 2027.

Our registered trademarks in the United States and the European Union include "Boingo", "Boingo Wi-Finder", and "Don't just go. Boingo.", and in the United States, "Boingo Broadband", "Cloudnine 9 Media", "Concourse Communications", and "AWG-WIFI". We own additional registrations and have filed other trademark applications in the United States and other countries.

In addition to the foregoing protections, we control access to, and use of, our proprietary software and other confidential information through the use of internal and external controls, including contractual protections with employees, contractors, customers and partners. Our software is protected by United States and international copyright laws.

Employees

As of December 31, 2017, we had 334 employees, including 131 in operations, 91 in development and technology, 69 in sales and marketing and 43 in general and administrative. All of our employees are full-time employees except for two part-time employees. We have seven international employees who are covered by a collective bargaining agreement. We have never experienced any employment related work stoppages and consider relations with our employees to be good. As of December 31, 2017, we also had arrangements with a third-party call center provider that provided us with approximately 53 full-time equivalent contractors for military, retail and enterprise customer support service and similar functions.

Financial Information about Segments and Geographic Areas

Reference to our segments and the geographic areas where we operate is contained in Note 2 to our accompanying consolidated financial statements included in Part II, Item 8 of this report.

Available Information

Our filings with the United States Securities and Exchange Commission or SEC, including this Annual Report on Form 10-K, quarterly reports on Form 10-Q, and current reports on Form 8-K are available free of charge through the Investor Relations section of our website at <http://www.boingo.com> and are accessible as soon as reasonably practicable after being electronically filed with or furnished to the SEC. The information on, or that can be accessed through, our website is not part of this Annual Report on Form 10-K.

Copies of this report are also available free of charge from Boingo Corporate Investor Communications, 10960 Wilshire Boulevard, 23rd Floor, Los Angeles, California 90024. In addition, our Corporate Governance Guidelines, Code of Business Conduct and Ethics and written charters of the committees of the Board of Directors are accessible through the Corporate Governance tab in the Investor Relations section of our website and are available in print to any stockholder who requests a copy.

You may read and copy materials that we file with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Washington, DC 20549. Information on the operation of the Public Reference Room is available by calling the SEC at 1-800-SEC-0330. The SEC maintains a website that contains reports and other information we file, and proxy statements to be filed with the SEC. The address of the SEC's website is <http://www.sec.gov>.

Item 1A. Risk Factors

Investing in our 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 report on Form 10-K, including our accompanying consolidated financial statements and the related notes, before deciding whether to purchase shares of our common stock. If any of the following risks actually occur, our business, financial condition, results of operations and prospects could be materially and adversely affected. The price of our common stock could decline and you could lose part or all of your investment.

Risks Related to Our Business

A significant portion of our revenue is dependent on our relationships with our venue and network partners, and if these relationships are impaired or terminated, or if our partners do not perform as expected, our business and results of operations could be materially and adversely affected.

We depend on our relationships with venue partners, particularly key venue partners and military bases, in order to manage and operate DAS, small cell, and Wi-Fi networks. These relationships generate a significant portion of our revenue and allow us to generate wholesale revenues and new military and retail customers. Our agreements with our venue partners, telecom operators, and wholesale customers are for defined periods and of varying durations. In order to maintain our relationships with venue partners, we may need to upgrade our networks or make other changes to our products and services we provide such venue partners, which would require significantly higher initial capital expenditures than we have historically incurred, and if we are unsuccessful, our relationships could be impaired. If our venue partners terminate or fail to renew these agreements, our ability to generate and retain wholesale, military and retail customers would be diminished, which might result in a significant disruption of our business and adversely affect our operating results. Further, any delays in our ability to complete the upgrade of our networks or build-out new networks can adversely affect our operating results.

We depend on our relationships with network partners to allow users to roam across networks that we do not manage or operate. A significant portion of our revenue depends on maintaining these relationships with network partners. Some network partners may compete with us for retail customers and may decide to terminate our partnerships and instead develop competing retail products and services. Our network partner agreements are for defined periods and of varying durations. If our network partners terminate these agreements, or fail to renew these agreements, our ability to retain retail customers could be diminished and our network reach could be reduced, which could result in a significant disruption of our business and adversely affect our operating results.

Our operating results may fluctuate unexpectedly, which makes them difficult to predict and may cause us to fail to meet the expectations of investors, adversely affecting our stock price.

We operate in a highly dynamic industry and our future quarterly operating results may fluctuate significantly. Our revenue and operating results may vary from quarter-to-quarter due to many factors, many of which are not within our control. As a result, comparing our operating results on a period-to-period basis may not be meaningful. Further, it is difficult to accurately forecast our revenue, margin and operating results, and if we fail to match our expected results or the results expected by financial analysts, the trading price of our common stock may be adversely affected.

Factors that contribute to fluctuations in our operating results from quarter-to-quarter include those described in this risk factor section including:

- our gain or loss of a key venue partner, military partner, or wholesale partner;
- the rate at which individuals adopt and continue to use our solutions;

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- the timing and success of new technology introductions by us or our competitors;
- the number of air travel passengers;
- the growing prevalence of free Wi-Fi models and our ability to adapt and compete with free Wi-Fi;
- intellectual property disputes; and
- general economic conditions in our domestic and foreign markets.

Due to these and other factors, quarter-to-quarter comparisons of our historical operating results should not be relied upon as accurate indicators of our future performance.

Our business depends upon demand for connected services that rely on wireless network infrastructure. Our ability to adapt to the speed of changes and anticipate market adoption of new technologies may adversely impact our business.

Our future success depends upon growing demand for wireless connected services. The demand for wireless connectivity may decrease or may grow more slowly than expected. Any such decrease in the demand or slowing rate of growth could have a material adverse effect on our business. The continued demand for wireless connectivity services depends on the continued proliferation of smartphones, tablets and other wireless connection enabled devices. Our revenue is derived from the demand from consumers for internet connectivity, including our military and retail offerings, and from our telecom, venue and other wholesale partners attempting to provide consumers with greater connectivity. We may face challenges as we seek to increase the revenue generated from the usage on smartphones, tablets and other wireless connected devices.

A portion of our business depends on the continued integration of Wi-Fi as a standard feature in wireless connected devices. If Wi-Fi ceases to be a standard feature in wireless connected devices, or if the rate of integration of Wi-Fi on devices decreases or is slower than expected, the market for our services may be substantially diminished.

Competing technologies pose a risk to the continued use of Wi-Fi as a mobile wireless connectivity technology. The introduction and market acceptance of emerging wireless technologies such as 4G/LTE, 5G, LTE-U and Super Wi-Fi, could cause significant disruption to our Wi-Fi business, which may result in a loss of customers, users and revenue. If users find emerging wireless technologies to be sufficiently fast, convenient or cost effective, we may not be able to compete effectively, and our ability to attract or retain users will be impaired. Additionally, one or more of our partners may deploy emerging wireless technologies that could reduce the partner's need to work with us, and may result in significant loss of revenue and reduction of the Wi-Fi hotspots in our network.

We deliver value to our users by providing simple access to Wi-Fi hotspots, regardless of whether we manage and operate the hotspot, or the hotspot is operated by a partner. As a result, our business depends on our ability to anticipate and quickly adapt to changing technological standards and advances. If technological standards change and we fail to adapt accordingly, our business and revenue may be adversely affected. Furthermore, the proliferation of new mobile devices and operating platforms poses challenges for our research and development efforts. If we are unable to create simple solutions for a particular device or operating platform, we will be unable to effectively attract users of these devices or operating platforms and our business will be adversely affected.

The U.S. government may modify, curtail or terminate one or more of our contracts.

We have dedicated a significant amount of resources to building out broadband and IPTV networks for troops stationed on military bases pursuant to our contracts with the U.S. government. Military revenue comprises a substantial part of our overall revenue and the U.S. government may

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modify, curtail or terminate its contracts with us, either at its convenience or for default based on performance. Any such modification, curtailment, or termination of one or more of our government contracts could have a material adverse effect on our earnings, cash flow and/or financial position.

We may not maintain recent rates of revenue growth.

Although our revenue has increased substantially over the last few years, we may not be able to maintain historical rates of revenue growth. We believe that our continued growth will depend, among other factors, on successfully implementing our business strategies, including our ability to:

- attract new users, convert users of our single-use services into subscribers and keep existing subscribers actively using our services;
- develop new sources of revenue from our users and partners;
- react to changes in the way individuals access and use the mobile Internet;
- expand into new markets;
- increase the awareness of our brand;
- retain our existing partners and attract new partners; and
- provide our users with a superior experience, including customer support and payment experiences.

However, we cannot guarantee that we will successfully implement any of these business strategies.

Negotiations with prospective or existing partners can be lengthy and unpredictable, which may cause our operating results to vary.

Our negotiations with prospective or existing venue partners, including large venues like airports, transportation hubs, stadiums, arenas, military bases, universities, convention centers, office campuses and other partners, to acquire Wi-Fi locations to operate or to acquire roaming rights on partners' networks, or for new partners to implement our solutions or to extend or amend current arrangements, can be lengthy, and in some cases can last over 12 months. Because of the lengthy negotiation cycle, the time required to reach a final or amended agreement with a partner is unpredictable and may lead to variances in our operating results from quarter to quarter. Negotiations with prospective and existing partners also require substantial time, effort and resources. We may ultimately fail in our negotiations, resulting in costs to our business without any associated benefits.

We may be unsuccessful in expanding into new venue types, which could harm the growth of our business, operating results and financial condition.

We are negotiating with existing and prospective partners to expand our managed and operated Wi-Fi network and small cell footprint in venue types where we historically have had only a limited presence. Expansion into these venue types, which may include shopping malls, stadiums, hospitals, retail stores and quick service restaurants, may require significantly higher initial capital expenditures than we have historically incurred. In contrast to Wi-Fi network build-outs at venues such as airports, where telecom operators typically pay the substantial expense of laying cable or fiber, we may be required to incur the initial capital expense of access points and related hardware and cabling at tens of thousands of quick serve restaurant locations and hundreds of shopping malls, hospitals, retail stores and stadium locations. We may not be able to execute on our strategy or there may not be returns on these investments in the near future or at all. As a result, our business, financial condition and results of operations could be materially and adversely affected.

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We operate relatively new businesses in a rapidly evolving industry, so an investment in our company involves more risk than an investment in a more mature company in an established industry.

We derive nearly all of our revenue from mobile Internet services, which are new and highly dynamic businesses, which face significant challenges. You should consider our business and prospects in light of the risks, uncertainties and difficulties we will encounter as an emerging company in a new and rapidly evolving market. We may not be able to address these risks, uncertainties and difficulties successfully, which could materially harm our business and operating results.

Our failure to properly maintain our customers' confidential information and protect our network against security breaches, including cyber-security breaches, could harm our business and operating results.

Advances in computer capabilities, new discoveries in the field of cryptography or other cyber-security developments may result in a compromise or breach of the technology we use to protect user transaction data and cyber-security attacks are becoming more sophisticated. Cyber-security risks such as malicious software and attempts to gain unauthorized access to data are rapidly evolving and could lead to disruptions in our network, unauthorized release of confidential or otherwise protected information or corruption of data. Any compromises of our security could damage our reputation and brand and expose us to possible liability such as litigation claims or fines, which would substantially harm our business and operating results. We have incurred costs and may need to expend significant additional resources to appropriately protect against security breaches or to address problems caused by breaches.

Many countries, such as European Union member countries as a result of the 2006 E.U. Data Retention Directive, are introducing, or have already introduced into local law some form of traffic and user data retention requirements, which are generally applicable to providers of electronic communications services. Retention periods and data types vary from country to country, and the various local data protection and other authorities may implement traffic and user retention requirements regarding certain data in different and potentially overlapping ways. Although the constitutionality of the 2006 E.U. Data Retention Directive has been questioned, we may be required to comply with data retention requirements in one or more jurisdictions, or we may be required to comply with these requirements in the future as a result of changes or modifications to the Boingo solution or changes or modifications to the technological infrastructure on which the Boingo solution is based. Failure to comply with these retention requirements may result in the imposition of costly penalties. Compliance with these retention requirements can be difficult and costly from a legal, operational and technical perspective and could harm our business and operational results.

System failures could harm our business.

Although we seek to reduce the possibility of disruptions or other outages, our business may be disrupted by problems with our technology and systems, such as an access point failure at one of our managed and operated wireless infrastructure networks, or a backhaul disruption. We have experienced system failures from time to time, and any interruption in the ability of users to access our solution could harm our business and reputation.

Our systems may be vulnerable to damage or interruption from telecommunications failures, computer denial-of-service attacks, power loss, computer viruses, earthquakes, floods, fires, terrorist attacks and similar events. Some of our systems are not fully redundant, and our disaster recovery planning is not sufficient for all eventualities. Our systems may also be damaged by break-ins, sabotage, and acts of vandalism. Despite any precautions we may take, the occurrence of a natural disaster or other unanticipated problems could result in lengthy interruptions in the availability of the Boingo solution. We do not carry business interruption insurance to compensate us for all losses that may result from service interruptions caused by system failures. If we are unable to resolve service

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interruptions quickly, our ability to acquire and retain customers will be impaired and our operating results and business could be adversely affected.

We may be unsuccessful in expanding our international operations, which could harm the growth of our business, operating results and financial condition.

Our ability to expand internationally involves various risks, including the need to invest significant resources in unfamiliar markets, and the possibility that there may not be returns on these investments in the near future or at all. In addition, we have incurred and expect to continue to incur expenses before we generate any material revenue in these new markets. Our expansion plans will require significant management attention and resources. We have limited experience in selling our solutions in international markets or in conforming to local cultures, standards or policies. We may not be able to compete successfully in these international markets. Our ability to expand will also be limited by the demand for mobile Internet in international markets. Different privacy, censorship and liability standards and regulations and different intellectual property laws in foreign countries may cause our business and operating results to suffer.

Any future international operations may fail to succeed due to risks inherent in foreign operations, including:

- different technological solutions for mobile Internet than those used in North America;
- varied, unfamiliar and unclear legal and regulatory restrictions;
- unexpected changes in international regulatory requirements and tariffs;
- legal, political, social or systemic restrictions on the ability of U.S. companies to do business in foreign countries;
- currency fluctuations;
- Foreign Corrupt Practices Act compliance and related risks;
- difficulties in staffing and managing foreign operations;
- difficulties in enforcing contracts and collecting accounts receivable, and longer payment cycles, especially in emerging markets;
- reduced protection for intellectual property rights in some countries; and
- potential adverse tax consequences.

Some of our business partners also have international operations and are subject to the risks described above. Even if we are able to successfully manage the risks of international operations, our business may be adversely affected if our business partners are not able to successfully manage these risks.

As a result of these obstacles, we may find it difficult or prohibitively expensive to expand internationally or we may be unsuccessful in our attempt to do so, which could harm our business, operating results and financial condition.

Our industry is competitive and if we do not compete successfully, we could lose market share, experience reduced revenue or suffer losses.

The market for commercial wireless infrastructure solutions is competitive and impacted by technological change, and we expect competition with our current and potential competitors to intensify in the future. In particular, some of our competitors have taken steps or may decide to more

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aggressively compete against us, particularly in the market for venue build-outs of Wi-Fi, DAS, and small cell solutions.

Our competitors, many of whom are also our partners, include a variety of telecom operators and network operators, including Verizon, AT&T, T-Mobile, Sprint, Comcast, Charter, Altice and local operators. These and other competitors have developed or may develop technologies that compete directly with our solutions. Many of our competitors are substantially larger than we are and have substantially longer operating histories. We may not be able to fund or invest in certain areas of our business to the same degree as our competitors. Many have substantially greater product development and marketing budgets and other financial and personnel resources than we do. Some also have greater name and brand recognition and a larger base of subscribers or users than we have. In addition, our competitors may provide services that we generally do not, such as cellular, local exchange and long distance services, voicemail and digital subscriber line. Users that desire these services may choose to also obtain mobile wireless connectivity services from a competitor that provides these additional services rather than from us.

Furthermore, we rely on several of our competitors as partners in roaming agreements. The roaming agreements provide that our retail customers and our wholesale partners' customers may use the Wi-Fi networks of our partners. One or more of our partners may deploy competing technologies that could reduce the partner's need to work with us under a roaming agreement. If our partners decide to terminate our roaming agreements, our global network of wireless networks may be reduced, which may result in a significant disruption to our business.

Competition could increase our selling and marketing expenses and related customer acquisition costs. We may not have the financial resources, technical expertise or marketing and support capabilities to continue to compete successfully. A failure to respond to established and new competitors may adversely impact our business and operating results.

We rely on our credit facility to fund a significant portion of our capital expenditures and other capital needs. If we are unable to achieve compliance with the credit facility covenants, or interest rates increase significantly, or we are unable to renew our credit facility on favorable terms, or at all, our business would be negatively impacted.

In November 2014, we entered into a Credit Agreement (the "Credit Agreement") and related agreements with Bank of America, N.A. acting as agent for lenders named therein. The Credit Agreement places restrictions on our ability to take certain actions and sets standards for minimum financial performance. In addition to maintaining compliance with the covenants set forth in the Credit Agreement, our ability to increase the amount available for borrowing under our revolving line of credit depends on our ability to meet certain financial targets. If we fail to comply with the terms and conditions of this Credit Agreement, then the line of credit may be withdrawn, we may be required to immediately repay any outstanding obligation, and the additional funds will not be available to us to fund our capital needs.

Additionally, the Credit Agreement expires in November 2018. Market conditions in the U.S. credit markets may negatively impact our ability to renew the Credit Agreement on favorable terms upon its expiration. If we are unable to renew the Credit Agreement on favorable terms, or at all, our ability to fund our operations may be impaired, which would have a material adverse effect on our results of operations.

The growth of free Wi-Fi networks may compete with our paid mobile Wi-Fi Internet solutions.

Many venues offer free mobile Wi-Fi as an incentive or value-added benefit to their customers. Free Wi-Fi may reduce retail customer demand for our services, and put downward pressure on the prices we charge our retail customers. In addition, telecom operators may offer free mobile Wi-Fi as

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part of a home broadband or other service contract, which also may force down the prices we charge our retail customers. If we are unable to effectively offset this downward pressure on our prices by being a Wi-Fi service provider or sufficiently grow our DAS and small cell business, or if we are unable to acquire and retain retail customers, we will have lower profit margins and our operating results and financial condition may be adversely impacted.

The regulation of Internet communications, products and services is currently uncertain, which poses risks for our business from changes in laws, regulations, and interpretation or enforcement of existing laws or regulations.

The current regulatory environment for Internet communications, products and services is uncertain. Many laws and regulations were adopted prior to the advent of the Internet and related technologies and often do not contemplate or address the specific issues associated with the Internet and related technologies. The scope of laws and regulations applicable to the Internet remains uncertain and is subject to statutory or interpretive change. We cannot be certain that we, our partners or our users are currently in compliance with regulatory or other legal requirements in the numerous countries in which our service is used. Our failure or the failure of our partners, users and others with whom we transact business, or to whom we license the Boingo solution, to comply with existing or future regulatory or other legal requirements could materially adversely affect our business, financial condition and results of operations. Regulators may disagree with our interpretations of existing laws or regulations or the applicability of existing laws or regulations to our business, and existing laws, regulations and interpretations may change in unexpected ways.

We believe that the Boingo solution is on the forefront of wireless infrastructure connectivity, and therefore it may face greater regulatory scrutiny than other communications products and services. We cannot be certain what positions regulators may take regarding our compliance with, or lack of compliance with, current and future legal and regulatory requirements or what positions regulators may take regarding any past or future actions we have taken or may take in any jurisdiction. Regulators may determine that we are not in compliance with legal and regulatory requirements, and impose penalties, or we may need to make changes to the Boingo solution, which could be costly and difficult. Any of these events would adversely affect our operating results and business.

If we lose key personnel or are unable to attract and retain personnel on a cost effective basis, our business could be harmed.

Our performance is substantially dependent on the continued services and performance of our senior management and our highly qualified team of engineers, many of whom have numerous years of experience and specialized expertise in our business. If we are not successful in hiring and retaining highly qualified engineers, we may not be able to extend or maintain our engineering and technological expertise and our future product and service development efforts could be adversely affected. Additionally, the process of attracting and retaining suitable replacements for any executive officers or any of our highly qualified engineers we lose in the future would result in transition costs and would divert the attention of other members of our senior management from our existing operations. Additionally, such a loss could be negatively perceived in the capital markets. If we lose members of our senior management, this may significantly delay or prevent the achievement of our strategic objectives and adversely affect our operating results.

Our future success also depends on our ability to identify, attract, hire, train, retain and motivate highly skilled managerial, operations, business development and marketing personnel. We have in the past maintained a rigorous, highly selective and time-consuming hiring process. We believe that our approach to hiring has significantly contributed to our success to date. However, our highly selective hiring process has made it more difficult for us to hire a sufficient number of qualified employees, and, as we grow, our hiring process may prevent us from hiring the personnel we need in a timely manner.

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Moreover, the cost of living in the Los Angeles area, where our corporate headquarters is located, has been an impediment to attracting new employees in the past, and we expect that this will continue to impair our ability to attract and retain employees in the future. If we fail to attract, integrate and retain the necessary personnel, we may not be able to grow effectively and our business could suffer significantly.

Worldwide economic conditions, and their impact on travel and consumer spending, may adversely affect our business, operating results and financial condition.

Our business is impacted by travel and consumer spending, because users seek to access the mobile Internet while they are on-the-go, and because spending on Internet access is often a consumer discretionary spending decision. Factors that tend to negatively impact levels of travel include high unemployment, high energy prices, low business and consumer confidence, the fear of terrorist attacks, war and other macroeconomic factors. Economic conditions that tend to negatively impact levels of discretionary consumer spending include high unemployment, high consumer debt, reductions in net worth, depressed real estate markets, increased taxation, high energy prices, high interest rates, low consumer confidence and other macroeconomic factors. If the global economic recovery is slower than expected, or if it weakens, our military and retail customer base, new military and retail customer acquisition and usage-based revenue could be materially harmed, and our results of operations would be adversely affected.

We rely on a third-party customer support service provider for the majority of our customer support calls. If this service provider experiences operational difficulties or disruptions, our business could be adversely affected.

We depend on a third-party customer support service provider to handle most of our routine military and retail customer support cases. While we maintain limited customer support operations in our Los Angeles headquarters, if our relationship with our customer support service provider terminates unexpectedly, or if our customer service provider experiences operational difficulties, we may not be able to respond to customer support calls in a timely manner and the quality of our customer service would be adversely affected. This could harm our reputation and brand image and make it difficult for us to attract and retain users. In addition, the loss of the customer support service provider would require us to identify and contract with alternative sources, which could prove time-consuming and expensive.

Material defects or errors in our software could harm our reputation and brand, result in significant costs to us and impair our ability to sell the Boingo solution.

The software underlying the Boingo solution is inherently complex and may contain material defects or errors, particularly when the software is first introduced or when new versions or enhancements are released. We have from time to time found defects or errors in our software, and defects or errors in our existing software may be detected in the future. Any defects or errors that cause interruptions to the availability of our services could result in:

- a reduction in sales or delay in market acceptance of the Boingo solution;
- sales credits or refunds to our users and wholesale partners;
- loss of existing users and difficulty in attracting new users;
- diversion of development resources;
- harm to our reputation and brand image; and
- increased insurance costs.

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The costs incurred in correcting any material defects or errors in our software may be substantial and could harm our operating results.

If we are not successful in developing our mobile application for new devices and platforms, or if those solutions are not widely adopted, our results of operations and business could be adversely affected.

As new mobile devices and platforms are developed, we may encounter problems in developing products for such new mobile devices and platforms, and we may need to devote significant resources to the creation, support, and maintenance of such products. In addition, if we experience difficulties integrating our mobile applications into mobile devices, or if we face increased costs to distribute our mobile applications, our future growth and our results of operations could suffer.

If we fail to maintain relationships with providers of mobile operating systems or mobile application download stores, our business could be adversely affected.

We rely on the integration of our software into mobile operating systems to allow mobile devices to connect to our global network of wireless networks. If problems arise with our relationships with providers of mobile operating systems or mobile application download stores, such as the Apple App Store and Google Play, or if our mobile application receives unfavorable treatment compared to the promotion and placement of competing applications, such as the order of our products in the mobile application download stores, we may fail to attract or retain customers or partners, and our business could be adversely affected.

Our business depends on strong brands, and if we do not cost effectively develop, maintain and enhance our brand, our financial condition and operating results could be harmed.

We believe that the Boingo brand is a critical part of our business and that developing and maintaining awareness of our brand is important to achieving widespread acceptance of the Boingo solution, and is an important element in attracting and retaining customers and partners. We continue to seek new ways to promote our brand through our managed and operated hotspots. We intend to enhance our brand through low-cost co-marketing arrangements with our partners and through periodic promotional and sponsorship activities and by continuing to leverage the reach of social media to interact with our customers. In order to maintain strong relationships with our venue and network partners, we may have to reduce the visibility of the Boingo brand or make other decisions that do not promote and maintain the Boingo brand, such as our custom branding alternatives that we offer to wholesale clients. If we fail to promote and maintain the Boingo brand, or if we incur significant expenses to promote the brand and are still unsuccessful in maintaining a strong brand, our financial condition and operating results could be harmed.

Additionally, we believe that developing this brand in a cost effective manner is important in meeting our expected margins. Brand promotion activities may not result in increased revenue, and any increased revenue resulting from these promotion activities may not offset the expenses we incurred in building our brand. If we fail to cost effectively build and maintain our brand, we may fail to attract or retain customers or partners, and our financial condition and results of operations could be harmed.

Risks Related to Our Intellectual Property

Claims by others that we infringe their proprietary technology could harm our business.

In recent years there has been significant litigation involving intellectual property rights in many technology-based industries, including the wireless communications industry. While we have not been specifically targeted, companies similar to us have been subject to patent lawsuits. As we face increasing competition and gain an increasingly high profile, the possibility of intellectual property rights claims against us grows. We may be subject to third-party claims in the future. The costs of

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supporting these litigations and disputes are considerable, and there can be no assurance that a favorable outcome will be obtained. We may be required to settle these litigations and disputes on terms that are unfavorable to us, given the complex technical issues and inherent uncertainties in intellectual property litigation. Claims that the Boingo solution infringes third-party intellectual property rights, regardless of their merit or resolution, could also divert the efforts and attention of our management and technical personnel. The terms of any settlements or judgments may require us to:

- cease distribution and back-end operation of the Boingo solution;
- pay substantial damages for infringement;
- expend significant resources to develop non-infringing solutions;
- license technology from the third-party claiming infringement, which may not be available on commercially reasonable terms, or at all;
- cross-license our technology to a competitor to resolve an infringement claim, which could weaken our ability to compete with that competitor; or
- pay substantial damages to our partners to discontinue their use of or to replace infringing solutions sold to them with non-infringing solutions.

Any of these unfavorable outcomes could have a material adverse effect on our business, financial condition and results of operations.

If we are unable to protect our intellectual property rights, our competitive position could be harmed, or we could be required to incur significant expenses to enforce our rights.

Our business depends on our ability to protect our proprietary technology. We rely on trade secret, patent, copyright and trademark laws and confidentiality agreements with employees and third parties, all of which offer only limited protection. We own nine patents and have applications for two additional patents pending in the United States. Despite our efforts, the steps we have taken to protect our proprietary rights may not be adequate to prevent the use or misappropriation of our proprietary information or infringement of our intellectual property rights. Our ability to police the use, misappropriation or infringement of our intellectual property is uncertain, particularly in countries other than the United States. Further, we do not know whether any of our pending patent applications will result in the issuance of patents or whether the examination process will require us to narrow our claims. Even if patents are issued, they may be contested, circumvented, or invalidated in the future. Moreover, the rights granted under any issued patents may not provide us with complete proprietary protection or any competitive advantages, and, as with any technology, competitors may be able to develop similar or superior technologies on their own now or in the future. Protecting against the unauthorized use of our solutions, trademarks, and other proprietary rights is expensive, difficult and, in some cases, impossible. Litigation may be necessary in the future to enforce or defend our intellectual property rights, to protect our trade secrets, or to determine the validity and scope of the proprietary rights of others. Litigation could result in substantial costs and diversion of management resources, either of which could harm our business. Furthermore, many of our current and potential competitors have the ability to dedicate substantially greater resources to enforce their intellectual property rights than we do. Accordingly, despite our efforts, if the protection of our proprietary rights is inadequate to prevent use or misappropriation by third parties, the value of our brand and other intangible assets may be diminished and competitors may be able to more effectively mimic our service and methods of operations. Any of these events would have a material adverse effect on our business, financial condition and results of operations.

Our use of open source software could limit our ability to commercialize the Boingo solution.

We have incorporated open source software into the Boingo solution. Although we closely monitor our use of open source software, we are subject to the terms of open source licenses that have not been interpreted by U.S. or foreign courts, and there is a risk that in the future these licenses could be construed in a manner that imposes unanticipated conditions or restrictions on our ability to commercialize the Boingo solution. In that event, we could be required to seek licenses from third parties or to re-engineer our software in order to continue offering the Boingo solution, or to discontinue operations, any of which could materially adversely affect our business.

We utilize unlicensed spectrum in certain of our offerings, which is subject to intense competition, low barriers of entry and slowdowns due to multiple users.

We presently utilize unlicensed spectrum to provide our Wi-Fi Internet solutions. Unlicensed or "free" spectrum is available to multiple users and may suffer bandwidth limitations, interference and slowdowns if the number of users exceeds traffic capacity. The availability of unlicensed spectrum is not unlimited and others do not need to obtain permits or licenses to utilize the same unlicensed spectrum that we currently, or may in the future, utilize. The inherent limitations of unlicensed spectrum could potentially threaten our ability to reliably deliver our services. Moreover, the prevalence of unlicensed spectrum creates low barriers to entry in our industry.

Risks Related to Ownership of Our Common Stock

The market price of our common stock may be volatile, which could result in substantial losses for investors.

Fluctuations in market price and volume are particularly common among securities of technology companies. As a result, you may be unable to sell your shares of common stock at or above the price you paid. The market price of our common stock may fluctuate significantly in response to the factors described in this risk factor section as well as the following factors, among others, many of which are beyond our control:

- general market conditions;
- domestic and international economic factors unrelated to our performance;
- actual or anticipated fluctuations in our quarterly operating results;
- changes in or failure to meet publicly disclosed expectations as to our future financial performance;
- changes in securities analysts' estimates of our financial performance or lack of research and reports by industry analysts;
- changes in market valuations or earnings of similar companies;
- announcements by us or our competitors of significant products, contracts, acquisitions, or strategic partnerships;
- developments or disputes concerning patents or proprietary rights, including increases or decreases in litigation expenses associated with intellectual property lawsuits we may initiate, or in which we may be named as defendants;
- termination or potential termination of a relationship with a venue partner;
- failure to complete significant sales;
- any future sales of our common stock or other securities; and

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- additions or departures of key personnel.

If securities or industry analysts publish misleading or unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock depends in part on the research and reports that securities or industry analysts publish about us or our business. If one or more of these analysts downgrades our stock or publishes misleading or unfavorable research about our business, our stock price would likely decline. If one or more of these analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our stock could decrease, which could cause our stock price or trading volume to decline. Announcements by analysts that may have a significant impact on the market price of our common stock may relate to:

- our operating results or forecasts;
- new issuances of equity, debt or convertible debt by us;
- developments in our relationships with corporate customers;
- announcements by our customers or competitors;
- changes in regulatory policy or interpretation;
- governmental investigations;
- changes in the industries in which we operate;
- changes in the ratings of our stock by rating agencies or securities analysts;
- our acquisitions of complementary businesses; or
- our operational performance.

As a public company, we are subject to financial and other reporting and corporate governance requirements that may be difficult for us to satisfy, and may divert resources and management attention from operating our business.

We are required to file annual, quarterly and other reports with the SEC. We must prepare and timely file financial statements that comply with SEC reporting requirements. We are also subject to other reporting and corporate governance requirements, under the listing standards of the NASDAQ Stock Market, or NASDAQ, which imposes significant compliance obligations upon us. We are required, among other things, to:

- prepare and file periodic reports, and distribute other stockholder communications, in compliance with the federal securities laws and NASDAQ rules; and
- evaluate and maintain our system of internal control over financial reporting, and report on management's assessment thereof, in compliance with rules and regulations of the SEC and the Public Company Accounting Oversight Board. Further, we are required to obtain an opinion on the effectiveness of our internal control over financial reporting as of December 31st each year from our independent registered public accounting firm.

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If we fail to comply with the rules of Section 404 of the Sarbanes-Oxley Act of 2002 related to accounting controls and procedures, or, if we discover material weaknesses and deficiencies in our internal control and accounting procedures, our financial results may be adversely effected and we may be subject to sanctions by regulatory authorities and our stock price could decline.

Section 404 of the Sarbanes-Oxley Act (the "Act") requires that we evaluate and determine the effectiveness of our internal control over financial reporting and requires an attestation and report by our external auditing firm on our internal control over financial reporting. We believe our system and process evaluation and testing comply with the management certification and auditor attestation requirements of Section 404. We cannot be certain, however, that we will be able to satisfy the requirements in Section 404 in all future periods, especially as we grow our business. If we are not able to continue to meet the requirements of Section 404 in a timely manner or with adequate compliance, we may be subject to sanctions or investigation by regulatory authorities, such as the SEC or the NASDAQ Stock Market. Any such action could adversely affect our financial results or investors' confidence in us and could cause our stock price to fall. Moreover, if we are not able to comply with the requirements of Section 404 in a timely manner, or if we or our independent registered public accounting firm identifies deficiencies in our internal controls that are deemed to be material weaknesses, we may be required to incur significant additional financial and management resources to achieve compliance.

If we need additional capital in the future, it may not be available on favorable terms, or at all.

We may require additional capital from equity or debt financing in the future to fund our operations, or respond to competitive pressures or strategic opportunities. We may not be able to secure timely additional financing on favorable terms, or at all. The terms of additional financing may place limits on our financial and operating flexibility. If we raise additional funds through further issuances of equity, convertible debt securities or other securities convertible into equity, our existing stockholders could suffer significant dilution in their percentage ownership of our company, and any new securities we issue could have rights, preferences and privileges senior to those of holders of our common stock. Additionally, the Credit Agreement expires in November 2018 and if we are unable to renew the Credit Agreement on favorable terms, or at all, our ability to fund our operations may be impaired, which would have a material adverse effect on our results of operations. If we are unable to obtain adequate financing or financing on terms satisfactory to us, if and when we require it, our ability to grow or support our business and to respond to business challenges and opportunities could be significantly limited.

The price of our common stock may continue to be volatile, which could lead to losses by investors and costly securities litigation, which could divert management's attention and adversely affect our results of operations.

The stock market in general and market prices for the securities of technology companies like ours in particular, have from time to time experienced volatility that often has been unrelated to the operating performance of the underlying companies. A certain degree of stock price volatility can also be attributed to being an emerging company in an evolving industry. These broad market and industry fluctuations may adversely affect the market price of our common stock, regardless of our operating performance. In several recent situations where the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. If any of our stockholders were to bring a lawsuit against us, the defense and disposition of the lawsuit could be costly and divert the time and attention of our management and harm our operating results.

Investors may experience dilution of their ownership interests because of the future issuance of additional shares of our capital stock.

We are authorized to issue 100,000,000 shares of common stock and 5,000,000 shares of preferred stock. As of December 31, 2017, there were approximately 40,995,000 shares of our common stock issued and outstanding and no shares of preferred stock outstanding. In addition, as of December 31, 2017, we had approximately 3,324,000 unvested restricted stock units, approximately 1,282,000 exercisable stock options, and approximately 3,863,000 shares available for grant under the 2011 Plan.

In the future, we may issue additional authorized but previously unissued equity securities resulting in the dilution of the ownership interests of our present stockholders. We may also issue additional shares of our capital stock or other securities that are convertible into or exercisable for our capital stock in connection with hiring or retaining employees or for other business purposes, including future sales of our securities for capital raising purposes. The future issuance of any such additional shares of capital stock may create downward pressure on the trading price of our common stock.

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

We are 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 may discourage, delay, or prevent a change in our management or control over us that stockholders may consider favorable. Institutional shareholder representative groups, shareholder activists and others may disagree with our corporate governance provisions or other practices, such as those listed below. We generally will consider recommendations of institutional shareholder representative groups, but we will make decisions based on what our board and management believe to be in the best long term interests of our company and stockholders. These groups could make recommendations to our stockholders against our practices or our board members if they disagree with our positions. Our amended and restated certificate of incorporation and amended and restated bylaws include provisions that:

- authorize the issuance of "blank check" preferred stock that could be issued by our board of directors to thwart a takeover attempt;
- establish a classified board of directors (that is being phased out over the next two years), which prevents, until the 2020 annual meeting of stockholders when all directors will be elected annually, the ability of a stockholder to launch a proxy contest to replace the entire board of directors;
- require that until the expiration of the term of any director elected to serve a three-year term, such directors may only be removed from office for cause and only upon a majority stockholder vote;
- provide that vacancies on the board of directors, including newly-created directorships, may be filled only by a majority vote of directors then in office;
- limit who may call special meetings of stockholders;
- prohibit stockholder action by written consent, thereby requiring all actions to be taken at a meeting of the stockholders; and
- require supermajority stockholder voting to effect certain amendments to our amended and restated certificate of incorporation and amended and restated bylaws.

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Our business could be negatively affected as a result of a potential proxy contest for the election of directors at our annual meeting or other shareholder activism.

In 2016, we were subjected to a proxy contest, which resulted in the negotiation of changes to the board of directors and considerable costs were incurred. A future proxy contest would most likely require us to incur significant legal fees and proxy solicitation expenses and require significant time and attention by management and our board of directors. The potential of a proxy contest or other shareholder activism could interfere with our ability to execute our strategic plan, give rise to perceived uncertainties as to our future direction, result in the loss of potential business opportunities or make it more difficult to attract and retain qualified personnel, any of which could materially and adversely affect our business and operating results.

We have incurred substantial losses in past and current years and may incur additional losses in the future.

As of December 31, 2017 our accumulated deficit was \$132.0 million. We generated a net loss in 2017 and we are also currently investing in our future growth through expanding our network and buildouts, investing in our software, and consideration of future business acquisitions. As a result, we will incur higher depreciation and other operating expenses, as well as potential acquisition costs, that may negatively impact our ability to achieve profitability in future periods unless and until these growth efforts generate enough revenue to exceed their operating costs and cover our additional overhead needed to scale our business for this anticipated growth. The current global financial condition may also impact our ability to achieve profitability if we cannot generate sufficient revenue to offset the increased costs. In addition, costs associated with the acquisition and integration of any acquired companies may also negatively impact our ability to achieve profitability. Finally, given the competitive and evolving nature of the industry in which we operate, we may not be able to achieve or increase profitability.

We do not intend to pay dividends on our common stock and, consequently, your ability to achieve a return on your investment will depend on appreciation in the price of our common stock.

We do not intend to declare and pay dividends on our capital stock for the foreseeable future. We currently intend to invest our future earnings, if any, to fund our growth. Therefore, you are not likely to receive any dividends on your common stock for the foreseeable future and the success of an investment in shares of our common stock will depend upon any future appreciation in their value.

Changes in accounting standards and their interpretations could adversely affect our operating results.

U.S. GAAP are subject to interpretation by the Financial Accounting Standards Board, or FASB, the Public Company Accounting Oversight Board, or PCAOB, the SEC, and various other bodies that promulgate and interpret appropriate accounting principles. These principles and related implementation guidelines and interpretations can be highly complex and involve subjective judgments. A change in these principles or interpretations, including the implementation of ASU 2014-09, *Revenue from Contracts with Customers*, could have a significant effect on our reported financial results, and could affect the reporting of transactions completed before or after the announcement of a change.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

As of December 31, 2017, we leased approximately 52,000 square feet of space for our corporate headquarters in Los Angeles, CA. As of December 31, 2017, we also leased an approximately 13,200

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additional square feet in aggregate office space in Brea, California; San Francisco, California; Oak Brook, Illinois; Lake Success, New York; New York, New York; McKinney, Texas; Detroit, Michigan; Sao Paulo, Brazil; and Dubai, United Arab Emirates. We believe that our office facilities will be adequate for the foreseeable future.

Item 3. Legal Proceedings

From time to time, we may be involved in or subject to claims, suits, investigations and proceedings arising out of the normal course of business. We are not currently a party to any litigation that we believe could have a material adverse effect on our business, financial position, results of operations or cash flows.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

Market Information

Our common stock is traded on the NASDAQ Global Market under the symbol "WIFI." The following table sets forth the high and low sales prices of our common stock based on closing prices as reported by the NASDAQ Global Market for the periods indicated.

	2017	
	High	Low
First quarter	\$ 13.28	\$ 10.91
Second quarter	\$ 16.93	\$ 12.82
Third quarter	\$ 21.90	\$ 14.33
Fourth quarter	\$ 25.27	\$ 21.01

	2016	
	High	Low
First quarter	\$ 7.72	\$ 5.52
Second quarter	\$ 8.92	\$ 6.65
Third quarter	\$ 10.28	\$ 8.20
Fourth quarter	\$ 12.75	\$ 9.44

Registered Stockholders

As of March 1, 2018, there were 23 stockholders of record of our common stock. Stockholders of record do not include a substantially greater number of "street name" holders or beneficial holders of our common stock whose shares are held of record by banks, brokers and other financial institutions.

Dividends

We have never declared or paid cash dividends on our common stock, and currently do not anticipate paying cash dividends in the foreseeable future. Any future determination to pay dividends on our common stock, if permissible, will be at the discretion of our board of directors and will depend upon, among other factors, our financial condition, operating results, current and anticipated cash needs, plans for expansion and other factors that our board of directors may deem relevant.

Recent Sales of Unregistered Securities; Use of Proceeds from Sale of Registered Securities

We did not sell any equity securities not registered under the Securities Act during the year ended December 31, 2017.

Issuer Purchases of Equity Securities

On April 1, 2013, the Company approved a stock repurchase program to repurchase up to \$10,000,000 of the Company's common stock in the open market, exclusive of any commissions, markups or expenses. The stock repurchased will be retired and will resume the status of authorized but unissued shares of common stock. The Company did not repurchase any of our common stock during the years ended December 31, 2017 and 2016. As of December 31, 2017, the remaining approved amount for repurchases was approximately \$5,180,000.

Equity Compensation Plan Information

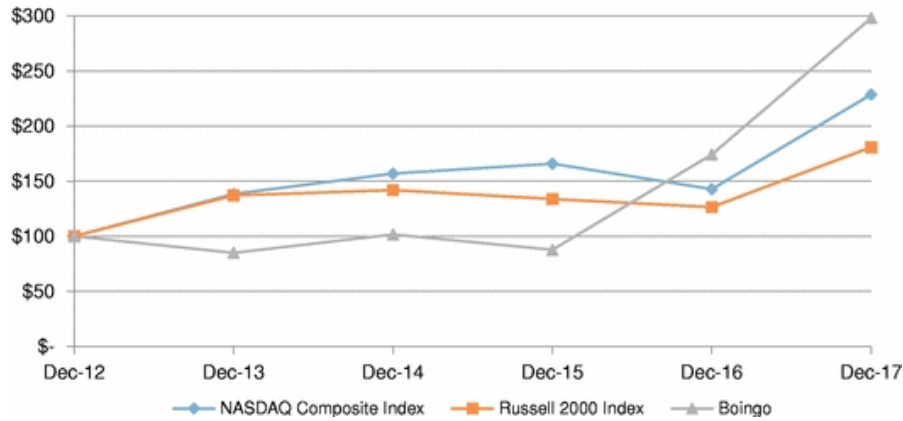
On March 13, 2017, the Company filed a registration statement on Form S-8 to register 1,735,286 shares representing additional shares authorized as of January 2, 2017 under the Evergreen Provision of the 2011 Equity Incentive Plan. On January 1, 2018, an additional 1,844,781 shares under the Evergreen Provision of the 2011 Equity Incentive Plan were authorized and the Company is filing a registration statement on Form S-8 to register these additional shares on or around the date hereof.

Performance Measurement Comparison

The following performance graph shows the total stockholder return of an investment of \$100 in cash made on December 31, 2012 in each of (i) our common stock, (ii) a broad equity market index, the securities comprising the Nasdaq Composite Index, and (iii) issuers with similar market capitalizations, the securities comprising the Russell 2000 index.

The performance graph assumes that \$100 was invested on December 31, 2012 in our common stock and in each index, and that all dividends were reinvested. No dividends have been declared nor paid on our common stock. The comparisons in the graph below are required by the SEC and are not intended to forecast or be indicative of possible future performance of our common stock.

COMPARISON OF 60 MONTHS CUMULATIVE TOTAL RETURN*
Among Boingo Wireless, Inc., The NASDAQ Composite Index and The Russell 2000 Index**



	12/31/12	12/31/13	12/31/14	12/31/15	12/31/16	12/31/17
NASDAQ Composite Index	\$ 100.00	\$ 138.32	\$ 156.85	\$ 165.84	\$ 142.73	\$ 228.63
Russell 2000 Index	\$ 100.00	\$ 137.00	\$ 141.84	\$ 133.74	\$ 126.39	\$ 180.79
Boingo	\$ 100.00	\$ 84.90	\$ 101.59	\$ 87.68	\$ 174.14	\$ 298.01

* The material in this section is not "soliciting material" and is not deemed "filed" with the SEC. It is not to be incorporated by reference into any filing of Boingo Wireless, Inc. made under the Securities Act of 1933, as amended, or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing, except to the extent we specifically incorporate this section by reference.

** We chose the Russell 2000 index because it is comprised of issuers with similar market capitalizations. We do not believe that we can reasonably identify a peer group of issuers or an industry or line-of-business index.

ITEM 6. SELECTED FINANCIAL DATA

The following selected consolidated financial data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 and our accompanying consolidated financial statements in Part II, Item 8 of this report.

The consolidated statements of operations data set forth below for years 2017, 2016 and 2015 and the consolidated balance sheets data as of the end of years 2017 and 2016 are derived from, and qualified by reference to, the audited consolidated financial statements included in Item 8 of this report. The consolidated statements of operations data for years 2014 and 2013 and the consolidated balance sheets data as of the end of years 2015, 2014 and 2013 are derived from the audited financial statements previously filed with the SEC on Form 10-K. The results of businesses acquired in a business combination are included in the Company's consolidated financial statements from the date of the acquisition.

Prior to August 4, 2015, we had a 70% ownership of Concourse Communications Detroit, LLC. On August 4, 2015, we purchased the remaining 30% ownership interest from the non-controlling interest owners for \$1,150,000. We accounted for this transaction as an acquisition of the remaining interest of an entity that had already been majority-owned by the Company. The purchase resulted in a reduction to additional paid-in capital of \$1,150,000, representing excess purchase price over the

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carrying amount of the non-controlling interests. Prior to this purchase, we had a controlling interest in this subsidiary, and therefore, this subsidiary had been and will continue to be consolidated with the Company's operations.

On October 31, 2013, we acquired all outstanding stock of Electronic Media Systems, Inc. and all membership interests in its subsidiary, Advanced Wireless Group, LLC, not otherwise owned by Electronic Media Systems, Inc. such that we became the beneficial owner of all membership interests of Advanced Wireless Group, LLC (collectively, "AWG"). AWG operated public Wi-Fi in seventeen U.S. airports including Los Angeles International, Charlotte/Douglas International, Miami International, Minneapolis-St. Paul International, Detroit Metropolitan Airport, and Boston's Logan International. We have included the operating results of AWG in our consolidated financial statements since October 31, 2013. The acquisition was accounted for under the acquisition method of accounting. The total purchase price was \$17.5 million, which included cash paid at closing, net equity adjustments, holdback consideration paid, and the fair value of additional contingent consideration that would be due and payable upon the successful extension of a specified airport Wi-Fi contract. During the year ended December 31, 2014, we finalized our purchase price allocation for our acquisition of AWG. The consolidated balance sheets data as of December 31, 2013 and the consolidated statement of operations for 2013 have been retrospectively adjusted to reflect the final purchase price allocation for the AWG acquisition including a \$28,000 decrease in goodwill, a \$147,000 increase in accrued expenses and other liabilities, and a \$175,000 increase in income tax expenses and accumulated deficit.

On February 22, 2013, we acquired all outstanding stock of Endeka Group, Inc. ("Endeka"). Endeka provided commercial wireless broadband and IPTV services at certain military bases, as well as Wi-Fi services to certain federal law enforcement training facilities. We have included the operating results of Endeka in our consolidated financial statements since February 22, 2013. The acquisition was accounted for under the acquisition method of accounting. The total purchase price was \$6.5 million, which included cash paid at closing, holdback consideration paid, and the fair value of additional contingent consideration.

AWG and Endeka have been integrated into our product offerings; therefore, it is not practical to disclose actual and pro forma financial results since the acquisitions.

We early adopted Financial Accounting Standards Board ("FASB") Accounting Standards Update ("ASU") 2016-09, *Compensation—Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting*, as of January 1, 2016. As a result of this adoption, we recorded \$6,933,000 and \$589,000 of net deferred tax assets related to our federal and state net operating losses for excess windfall tax benefits, respectively, as of January 1, 2016. We established a full valuation allowance against those deferred tax assets as of January 1, 2016 based on the determination that it was more likely than not that those deferred tax assets would not be realized. We also elected to change our accounting policy to account for forfeitures when they occur on a modified retrospective basis. The change in our accounting policy resulted in a \$94,000 increase to additional paid-in capital and accumulated deficit as of January 1, 2016.

We early adopted FASB ASU 2015-17, *Balance Sheet Classification of Deferred Taxes*, on a retrospective basis as of December 31, 2015. As a result, we reclassified \$787,000 and \$1,192,000 from current deferred tax assets to noncurrent deferred tax liabilities as of December 31, 2014 and 2013, respectively, as the deferred tax assets and liabilities were related to the same tax-paying jurisdictions.

The consolidated statement of operations for the year 2013 includes certain out-of-period adjustments that decreased net loss attributable to common stockholders by \$217,000. The impact of

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these out-of-period adjustments are not considered material, individually and in the aggregate, to any of the current or prior annual periods.

	Year Ended December 31,				
	2017	2016	2015	2014	2013
	(in thousands, except per share amounts)				
Consolidated Statements of Operations Data:					
Revenue	\$ 204,369	\$ 159,344	\$ 139,626	\$ 119,297	\$ 106,746
Costs and operating expenses:					
Network access	90,702	69,112	62,988	59,411	47,245
Network operations	47,615	42,307	33,537	25,475	18,402
Development and technology	26,754	22,126	19,147	14,879	11,432
Selling and marketing	20,933	18,729	19,653	16,382	14,244
General and administrative	35,568	29,719	22,356	17,460	15,067
Amortization of intangible assets	3,498	3,448	3,576	3,716	2,250
Total costs and operating expenses	<u>225,070</u>	<u>185,441</u>	<u>161,257</u>	<u>137,323</u>	<u>108,640</u>
Loss from operations	(20,701)	(26,097)	(21,631)	(18,026)	(1,894)
Interest and other (expense) income, net	(153)	(459)	(66)	(41)	37
Loss before income taxes	(20,854)	(26,556)	(21,697)	(18,067)	(1,857)
Income tax (benefit) expense	(2,078)	427	481	700	1,461
Net loss	(18,776)	(26,983)	(22,178)	(18,767)	(3,318)
Net income attributable to non-controlling interests	590	348	114	754	650
Net loss attributable to common stockholders	<u>\$ (19,366)</u>	<u>\$ (27,331)</u>	<u>\$ (22,292)</u>	<u>\$ (19,521)</u>	<u>\$ (3,968)</u>
Net loss per share attributable to common stockholders:					
Basic	\$ (0.49)	\$ (0.72)	\$ (0.60)	\$ (0.55)	\$ (0.11)
Diluted	\$ (0.49)	\$ (0.72)	\$ (0.60)	\$ (0.55)	\$ (0.11)
Other Financial Data:					
Operating cash flows	\$ 97,728	\$ 115,205	\$ 98,575	\$ 21,207	\$ 20,671
Investing cash flows	(74,458)	(107,331)	(101,502)	(39,199)	(40,403)
Financing cash flows	(16,054)	(3,121)	8,843	(480)	(11,068)
Adjusted EBITDA(1)	68,916	40,798	29,636	20,300	23,802

	As of December 31,				
	2017	2016	2015	2014	2013
	(in thousands)				
Consolidated Balance Sheets Data:					
Cash and cash equivalents	\$ 26,685	\$ 19,485	\$ 14,718	\$ 8,849	\$ 27,338
Marketable securities	—	—	—	1,614	32,962
Working capital	(63,146)	(31,388)	(31,802)	(14,489)	31,748
Total assets	384,309	380,981	341,012	218,615	214,323
Deferred revenue, net of current portion	149,168	152,719	106,825	27,267	21,591
Long-term debt	—	15,875	16,750	2,625	—
Long-term portion of capital leases and notes payable	6,747	4,612	2,336	581	733
Total liabilities	285,279	282,435	228,977	91,185	73,890
Total stockholders' equity	99,030	98,546	112,035	127,430	140,433

- (1) We define Adjusted EBITDA as net loss attributable to common stockholders plus depreciation and amortization of property and equipment, stock-based compensation expense, amortization of intangible assets, income tax (benefit) expense, interest and other expense (income), net, non-controlling interests, and excludes charges or gains that are non-recurring, infrequent, or unusual.

We believe that Adjusted EBITDA is useful to investors and other users of our financial statements in evaluating our operating performance because it provides them with an additional tool to compare business performance across companies and across periods. We believe that:

- Adjusted EBITDA provides investors and other users of our financial information consistency and comparability with our past financial performance, facilitates period-to-period comparisons of operations and facilitates comparisons with other companies, many of which use similar non-generally accepted accounting principles in the United States ("GAAP") financial measures to supplement their GAAP results; and
- it is useful to exclude (i) non-cash charges, such as depreciation and amortization of property and equipment, amortization of intangible assets and stock-based compensation, from Adjusted EBITDA because the amount of such expenses in any specific period may not directly correlate to the underlying performance of our business operations, and these expenses can vary significantly between periods as a result of full amortization of previously acquired tangible and intangible assets or the timing of new stock-based awards and (ii) settlement expense related to a claim from one of our venue partners and charges related to our contested proxy election for the 2016 annual meeting of stockholders because they represent non-recurring charges and are not indicative of the underlying performance of our business operations.

We use Adjusted EBITDA in conjunction with traditional GAAP measures as part of our overall assessment of our performance, for planning purposes, including the preparation of our annual operating budget and quarterly forecasts, to evaluate the effectiveness of our business strategies and to communicate with our board of directors concerning our financial performance.

We do not place undue reliance on Adjusted EBITDA as our only measure of operating performance. Adjusted EBITDA should not be considered as a substitute for other measures of financial performance reported in accordance with GAAP. There are limitations to using non-GAAP financial measures, including that other companies may calculate these measures differently than we do.

We compensate for the inherent limitations associated with using Adjusted EBITDA through disclosure of these limitations, presentation of our financial statements in accordance with GAAP

and reconciliation of Adjusted EBITDA to the most directly comparable GAAP measure, net loss attributable to common stockholders.

The following provides a reconciliation of net loss attributable to common stockholders to Adjusted EBITDA:

	Year Ended December 31,				
	2017	2016	2015	2014	2013
	(in thousands)				
Net loss attributable to common stockholders	\$ (19,366)	\$ (27,331)	\$ (22,292)	\$ (19,521)	\$ (3,968)
Depreciation and amortization of property and equipment	69,097	49,202	38,293	27,446	18,940
Stock-based compensation expense	14,215	12,805	9,398	7,164	4,506
Amortization of intangible assets	3,498	3,448	3,576	3,716	2,250
Income tax (benefit) expense	(2,078)	427	481	700	1,461
Interest and other expense (income), net	153	459	66	41	(37)
Non-controlling interests	590	348	114	754	650
Contested proxy election expense	—	1,440	—	—	—
Settlement expense	2,807	—	—	—	—
Adjusted EBITDA	<u>\$ 68,916</u>	<u>\$ 40,798</u>	<u>\$ 29,636</u>	<u>\$ 20,300</u>	<u>\$ 23,802</u>

ITEM 7. 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 together with "Selected Consolidated Financial Data" and our audited consolidated financial statements and accompanying notes included elsewhere in this filing. This discussion contains forward-looking statements, based on current expectations and related to our plans, estimates, beliefs and anticipated future financial performance. These statements involve risks and uncertainties and our actual results may differ materially from those anticipated in these forward-looking statements as a result of many factors, including those set forth under "Risk Factors," "Forward-Looking Statements" and elsewhere in this filing.

Overview

We believe we are the leading global provider of neutral-host commercial mobile Wi-Fi Internet solutions and indoor DAS services in the world. Our software applications and solutions enable individuals to access our extensive global Wi-Fi networks that cover approximately 1.5 million hotspots. We operate 38 DAS networks containing approximately 23,500 nodes. Our offerings provide compelling cost and performance advantages to our customers and partners.

We grew revenue from \$159.3 million in 2016 to \$204.4 million in 2017, an increase of 28.3%. We grew revenue from \$139.6 million in 2015 to \$159.3 million in 2016, an increase of 14.1%. We generated a net loss attributable to common stockholders of \$19.4 million in 2017 compared to \$27.3 million in 2016. Adjusted EBITDA increased from \$40.8 million in 2016 to \$68.9 million in 2017, an increase of 68.9%. For a discussion of Adjusted EBITDA and a reconciliation of net loss attributable to common stockholders to Adjusted EBITDA, see footnote 1 to "Selected Financial Data" in Part II, Item 6.

The proliferation of smartphones, tablets, laptops, wearables, and other Wi-Fi enabled devices—in conjunction with the increased consumption of high-bandwidth activities like video, online gaming, streaming, cloud-based applications and mobile apps—has created a demand for high-speed, high-bandwidth Internet access in public places both large and small. These data intensive activities are driving a global surge in mobile Internet data traffic that is expected to increase nearly seven-fold between 2016 and 2021, according to Cisco's 2017 Visual Networking Index. We believe these trends present us with opportunities to generate significant growth in revenue and profitability.

Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America ("GAAP") and rules and regulations of the United States Securities and Exchange Commission ("SEC") requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, as well as the disclosure of contingent assets and liabilities, at the date of the financial statements. Such estimates and assumptions also affect the reported amounts of revenues and expenses during the reporting period. Although we believe these estimates are reasonable, actual results could differ from these estimates. On a regular basis, we evaluate our assumptions, judgments and estimates. We also discuss our critical accounting policies and estimates with the Audit Committee of the Board of Directors.

We believe that the assumptions and estimates associated with revenue recognition, goodwill, measuring recoverability of long-lived assets, stock-based compensation and income taxes have the greatest potential impact on our consolidated financial statements. Therefore, we believe the accounting policies discussed below are paramount to understanding our historical and future performance, as these policies relate to the more significant areas involving our management's judgments, assumptions and estimates.

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Revenue Recognition

We generate revenue from several sources including: (i) DAS customers that are telecom operators under long-term contracts for access to our DAS at our managed and operated locations, (ii) military and retail customers under subscription plans for month-to-month network access that automatically renew, and military and retail single-use access from sales of hourly, daily or other single-use access plans, (iii) arrangements with wholesale Wi-Fi customers that provide software licensing, network access, and/or professional services fees, and (iv) display advertisements and sponsorships on our walled garden sign-in pages. Software licensed by our wholesale Wi-Fi platform services customers can only be used during the term of the service arrangements and has no utility to them upon termination of the service arrangement.

We recognize revenue when an arrangement exists, services have been rendered, fees are fixed or determinable, no significant obligations remain related to the earned fees and collection of the related receivable is reasonably assured. Revenue is presented net of any sales and value added taxes.

Revenue generated from access to our DAS networks consists of build-out fees and recurring access fees under certain long-term contracts with telecom operators. Build-out fees paid upfront are generally deferred and recognized ratably over the term of the estimated customer relationship period, once the build-out is complete. Periodically, we install and sell Wi-Fi and DAS networks to customers where we do not have service contracts or remaining obligations beyond the installation of those networks and we recognize build-out fees for such projects as revenue when the installation work is completed and the network has been accepted by the customer. Minimum monthly access fees for usage of the DAS networks are non-cancellable and generally escalate on an annual basis. These minimum monthly access fees are recognized ratably over the term of the telecom operator agreement. The initial term of our contracts with telecom operators generally range from five to twenty years and the agreements generally contain renewal clauses. Revenue from DAS network access fees in excess of the monthly minimums is recognized when earned.

Subscription fees from military and retail customers are paid monthly in advance and revenue is deferred for the portions of monthly recurring subscription fees collected in advance. We provide refunds for our military and retail services on a case-by-case basis. These amounts are not significant and are recorded as contra-revenue in the period the refunds are made. Subscription fee revenue is recognized ratably over the subscription period. Revenue generated from military and retail single-use access is recognized when access is provided.

Services provided to wholesale Wi-Fi partners generally contain several elements including: (i) a term license to use our software to access our Wi-Fi network, (ii) access fees for Wi-Fi network usage, and/or (iii) professional services for software integration and customization and to maintain the Wi-Fi service. The term license, monthly minimum network access fees and professional services are billed on a monthly basis based upon predetermined fixed rates. Once the term license for integration and customization are delivered, the fees from the arrangement are recognized ratably over the remaining term of the service arrangement. The initial term of the license agreements is generally between one to three years and the agreements generally contain renewal clauses. Revenue for Wi-Fi network access fees in excess of the monthly minimum amounts is recognized when earned. All elements within existing service arrangements are generally delivered and earned concurrently throughout the term of the respective service arrangement.

In instances where the minimum monthly Wi-Fi and DAS network access fees escalate over the term of the wholesale service arrangement, an unbilled receivable is recognized when performance is within our control and when we have reasonable assurance that the unbilled receivable balance will be collected.

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We adopted the provisions of ASU 2009-13, *Revenue Recognition (Topic 605)—Multiple-Deliverable Revenue Arrangements*, on a prospective basis on January 1, 2011. For multiple-deliverable arrangements entered into prior to January 1, 2011 that are accounted for under FASB ASC 605-25, *Revenue Recognition—Multiple-Deliverable Revenue Arrangements*, we defer recognition of revenue for the full arrangement and recognize all revenue ratably over the term of the estimated customer relationship period for DAS arrangements and the wholesale service period for Wi-Fi platform service arrangements, as we do not have evidence of fair value for the undelivered elements in the arrangement. For multiple-deliverable arrangements entered into or materially modified after January 1, 2011 that are accounted for under ASC 605-25, we evaluate whether or not separate units of accounting exist and then allocate the arrangement consideration to all units of accounting based on the relative selling price method using estimated selling prices if vendor specific objective evidence and third-party evidence is not available. We recognize the revenue associated with the separate units of accounting upon completion of such services or ratably over the term of the estimated customer relationship period for DAS arrangements and the wholesale service period for Wi-Fi platform service arrangements.

Advertising revenue is generated from advertisements on our managed and operated or partner networks. In determining whether an arrangement exists, we ensure that a binding arrangement is in place, such as a standard insertion order or a fully executed customer-specific agreement. Obligations pursuant to our advertising revenue arrangements typically include a minimum number of units or the satisfaction of certain performance criteria. Advertising and other revenue is recognized when the services are performed.

Goodwill

Goodwill represents the excess of purchase price over fair value of net assets acquired. Goodwill is not amortized but instead is tested annually for impairment, or more frequently when events or changes in circumstances indicate that fair value of the reporting unit has been reduced to less than its carrying value. We perform our impairment test annually as of December 31st. Entities have the option to first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the goodwill impairment test described in ASC 350, *Intangibles—Goodwill and Other*. If, after assessing qualitative factors, an entity determines it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then performing the impairment test is unnecessary. The impairment loss, if any, is measured by comparing the implied fair value of the reporting unit goodwill with the carrying amount of goodwill.

At December 31, 2017 and 2016, we tested our goodwill for impairment using a market based approach and no impairment was identified as the fair value of our sole reporting unit was substantially in excess of its carrying amount. To date, we have not recorded any goodwill impairment charges.

Measuring Recoverability of Long-Lived Assets

Our long-lived assets are depreciated and amortized over the estimated useful lives of the related asset type using the straight-line method. The estimated useful lives for property and equipment are as follows:

Software	2 to 5 years
Computer equipment	3 to 5 years
Furniture, fixtures and office equipment	3 to 5 years
Leasehold improvements	The shorter of the estimated useful life or the remaining term of the agreements, generally ranging from 2 to 18 years

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We perform an impairment review of long-lived assets held and used whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors we consider important that could trigger an impairment review include, but are not limited to, significant under-performance relative to projected future operating results, significant changes in the manner of our use of the acquired assets or our overall business and/or product strategies and significant industry or economic trends. When we determine that the carrying value of a long-lived asset may not be recoverable based upon the existence of one or more of these indicators, we determine the recoverability by comparing the carrying amount of the asset to net future undiscounted cash flows that the asset is expected to generate or other indices of fair value. We would then recognize an impairment charge equal to the amount by which the carrying amount exceeds the fair market value of the asset.

Stock-based Compensation

Stock-based compensation consists of stock options and restricted stock units ("RSUs"), which are granted to employees and non-employees. We recognize compensation expense equal to the grant date fair value on a straight-line basis, net of forfeitures, over the employee requisite service period. We recognize stock-based compensation expense for performance-based RSUs when we believe that it is probable that the performance objectives will be met. The grant date fair value of our stock option awards is determined using the Black-Scholes option pricing model.

Income Taxes

Income taxes are provided based on the liability method, which results in income tax assets and liabilities arising from temporary differences. Temporary differences are differences between the tax basis of assets and liabilities and their reported amounts in the financial statements that will result in taxable or deductible amounts in future years. The liability method requires the effect of tax rate changes on current and accumulated deferred income taxes to be reflected in the period in which the rate change was enacted. The liability method also requires that deferred tax assets be reduced by a valuation allowance unless it is more likely than not that the assets will be realized.

We may recognize the tax benefit from uncertain tax positions only if it is at least 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 financial statements from such a position should be measured based on the largest benefit that has a greater than 50% likelihood of being realized upon settlement with the taxing authorities.

We establish valuation allowances when necessary to reduce deferred tax assets to the amounts expected to be realized. We evaluate the need for, and the adequacy of, valuation allowances based on the expected realization of our deferred tax assets. The factors used to assess the likelihood of realization include historical earnings, our latest forecast of taxable income and available tax planning strategies that could be implemented to realize the net deferred tax assets.

Our effective tax rates are primarily affected by changes in our valuation allowances, the amount of our taxable income or losses in the various taxing jurisdictions in which we operate, the amount of federal and state net operating losses and tax credits, the extent to which we can utilize these net operating loss carryforwards and tax credits and certain benefits related to stock option activity.

Recent Accounting Pronouncements

Information regarding recent accounting pronouncements is contained in Note 2 "Significant Accounting Policies" to the accompanying consolidated financial statements included in Part II, Item 8, which is incorporated herein by this reference.

Key Business Metrics

In addition to monitoring traditional financial measures, we also monitor our operating performance using key performance indicators. Our key performance indicators follow:

	Year Ended December 31,		
	2017	2016	2015
	(in thousands)		
DAS nodes	23.5	19.2	10.9
Subscribers—military	130	107	57
Subscribers—retail	188	195	204
Connects	223,960	142,802	105,335

DAS nodes. This metric represents the number of active DAS nodes as of the end of the period. A DAS node is a single communications endpoint, typically an antenna, which transmits or receives radio frequency signals wirelessly. This measure is an indicator of the reach of our DAS network. We are experiencing strong customer demand from telecom operators to gain access to our DAS networks; accordingly, we expect to continue to invest in securing, building out and upgrading our DAS networks to meet this demand.

Subscribers—military and Subscribers—retail. These metrics represent the number of paying customers who are on a month-to-month subscription plan at a given period end. Military subscribers have increased as we deploy our service on new military bases. We also expect to see modest increases in military subscribers as we increase signups for new customers on existing military bases through targeted marketing and by continuing to build the Boingo brand in the military vertical. Retail subscribers have continued to decline as we have expanded our product offerings and enhanced our focus on our wholesale and advertising service offerings.

Connects. This metric shows how often individuals connect to our global Wi-Fi network in a given period. The connects include wholesale and retail customers in both customer pay locations and customer free locations where we are a paid service provider or receive sponsorship or promotion fees. We count each connect as a single connect regardless of how many times that individual accesses the network at a given venue during their 24 hour period. This measure is an indicator of paid activity throughout our network.

Key Components of our Results of Operations

Revenue

Our revenue consists of DAS revenue, military revenue, retail revenue, wholesale Wi-Fi revenue, and advertising and other revenue.

DAS. We generate revenue from telecom operator partners that pay us network build-out fees, inclusive of network upgrades, and access fees for our DAS and small cell networks.

Military and retail. We generate revenue from sales to military and retail individuals of month-to-month network access subscriptions that automatically renew, primarily through charge card transactions. We also generate revenue from sales of hourly, daily or other single-use access to military and retail individuals primarily through charge card transactions.

Wholesale—Wi-Fi. We generate revenue from wholesale Wi-Fi partners that license our software and pay usage-based monthly network access fees to allow their customers to access our global Wi-Fi network. Usage-based network access fees may be measured in minutes, connects, megabytes or gigabytes, and in most cases are subject to minimum volume commitments. Other wholesale Wi-Fi partners pay us monthly fees to provide a Wi-Fi infrastructure that we install, manage and operate at their venues for their customers under a service provider arrangement.

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Advertising and other. We generate revenue from advertisers that seek to reach visitors to our landing pages at our managed and operated network locations with online advertising, promotional and sponsored programs and at locations where we solely provide authorized access to a partner's Wi-Fi network through sponsored access and promotional programs. In addition, we receive revenue from customers in certain venues where we manage and operate the Wi-Fi network.

For the years ended December 31, 2017, 2016 and 2015, entities affiliated with AT&T Inc. accounted for 11%, 12% and 17%, respectively, of total revenue. For each of the years ended December 31, 2017 and 2016, entities affiliated with Sprint Corporation accounted for 11% of total revenue. For the year ended December 31, 2017, entities affiliated with Verizon Communications Inc. accounted for 11% of total revenue. For the year ended December 31, 2017, entities affiliated with T-Mobile USA, Inc. accounted for 11% of total revenue. The loss of these groups and the customers could have a material adverse impact on our consolidated statements of operations.

Costs and Operating Expenses

We classify our costs and operating expenses as network access, network operations, development and technology, selling and marketing, general and administrative, and amortization of intangible assets. Network access costs consist primarily of payments to venues and network partners in our network. Other costs and operating expenses primarily consist of personnel costs, costs for contracted labor and development, marketing, legal, accounting and consulting services, and other professional service fees. Personnel costs include salaries, bonuses, stock-based compensation and employee benefits. Facilities costs are generally allocated based on headcount. Depreciation and amortization expenses associated with specifically identifiable property and equipment are allocated to the appropriate expense categories.

Network access. Network access costs consist of revenue share payments to venue owners where our managed and operated hotspots are located, usage-based fees to our roaming network partners for access to their networks, depreciation of equipment related to network build-out projects in our managed and operated locations, sale of equipment, and bandwidth and other Internet connectivity expenses in our managed and operated locations.

Network operations. Network operations expenses consist of costs for our customer service department and for our operations staff who design, build, monitor and maintain our networks. Also included are expenses for our customer service provider that handles customer care inquiries and expenses for network operations contractors, equipment depreciation, and software and hardware maintenance fees.

Development and technology. Development and technology expenses consist of costs for our product development and engineering departments, developers and our information systems services staff, depreciation of our equipment and internal-use software, cloud computing, and hardware and software maintenance fees.

Selling and marketing. Selling and marketing expenses consist of costs for our business development and marketing employees and executives, travel and entertainment, and marketing programs.

General and administrative. General and administrative expenses consist of costs for our executive, finance and accounting, legal and human resources personnel, as well as legal, accounting, tax and other professional service fees. Also included are other corporate expenses such as charge card processing fees and bad debt expense.

Amortization of intangible assets. Amortization of intangible assets consists primarily of acquired venue contracts, technology and non-compete agreements.

Interest and Other (Expense) Income, Net

Interest and other (expense) income, net, primarily consist of interest income and expense.

Income Tax (Benefit) Expense

We established a full valuation allowance as a result of our assessment that it was more likely than not that certain federal and state deferred tax assets would not be realized and we have continued to maintain the full valuation allowance as of December 31, 2017 and 2016.

Non-controlling Interests

Non-controlling interests are comprised of minority holdings by third parties in our subsidiaries Chicago Concourse Development Group, LLC ("CCDG") and Boingo Holding Participacoes Ltda. ("BHPL").

We are generally required to pay a portion of allocated net profits less capital expenditures of the preceding year to the non-controlling interest holders of CCDG. The limited liability company agreement for CCDG does not have a term. CCDG can be dissolved upon the unanimous agreement of the members, upon the sale of CCDG, upon declaration of bankruptcy, or upon the termination of the license agreement between CCDG and the City of Chicago.

We attributed profits and losses to the non-controlling interest in BHPL under the terms of the limited liability company agreement in proportion to their holdings. The limited liability company agreement with BHPL does not have a term. We, by resolution of the members, may distribute profits against retained earnings or profit reserves existing on the most recent annual balance sheet or may draw up financial statements and distribute profits in shorter periods. BHPL can be dissolved by resolution of the members and as otherwise provided for by law.

Results of Operations

The following tables set forth our results of operations for the specified periods.

	Year Ended December 31,		
	2017	2016	2015
	(in thousands)		
Consolidated Statements of Operations Data:			
Revenue	\$ 204,369	\$ 159,344	\$ 139,626
Costs and operating expenses:			
Network access	90,702	69,112	62,988
Network operations	47,615	42,307	33,537
Development and technology	26,754	22,126	19,147
Selling and marketing	20,933	18,729	19,653
General and administrative	35,568	29,719	22,356
Amortization of intangible assets	3,498	3,448	3,576
Total costs and operating expenses	<u>225,070</u>	<u>185,441</u>	<u>161,257</u>
Loss from operations	(20,701)	(26,097)	(21,631)
Interest and other expense, net	(153)	(459)	(66)
Loss before income taxes	(20,854)	(26,556)	(21,697)
Income tax (benefit) expense	(2,078)	427	481
Net loss	(18,776)	(26,983)	(22,178)
Net income attributable to non-controlling interests	590	348	114
Net loss attributable to common stockholders	<u>\$ (19,366)</u>	<u>\$ (27,331)</u>	<u>\$ (22,292)</u>
Depreciation and amortization expense included in the above line items:			
Network access	\$ 42,435	\$ 27,013	\$ 22,666
Network operations	16,382	13,966	9,058
Development and technology	9,247	7,207	5,441
General and administrative	1,033	1,016	1,128
Total	<u>\$ 69,097</u>	<u>\$ 49,202</u>	<u>\$ 38,293</u>
Stock-based compensation expense included in the above line items:			
Network operations	\$ 2,174	\$ 2,144	\$ 1,504
Development and technology	1,068	1,070	731
Selling and marketing	2,060	1,842	3,411
General and administrative	8,913	7,749	3,752
Total	<u>\$ 14,215</u>	<u>\$ 12,805</u>	<u>\$ 9,398</u>

Depreciation and amortization expense

Depreciation expense increased \$19.9 million, or 40.4%, in 2017, as compared to 2016, and depreciation expense increased \$10.9 million, or 28.5%, in 2016, as compared to 2015, primarily due to increased depreciation and amortization expense from our increased fixed assets for our DAS build-out projects, Wi-Fi networks, and software development in those periods.

Stock-based compensation expense

Stock-based compensation expense increased \$1.4 million, or 11.0%, in 2017, as compared to 2016, primarily due to stock-based compensation expense related to our performance-based RSUs. Stock-

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based compensation expense increased \$3.4 million, or 36.3%, in 2016, as compared to 2015, primarily due to additional stock-based compensation expenses for RSUs granted in 2015 and 2016. In 2016, our Compensation Committee determined to adjust its practice of making annual long-term equity grants and instead adopted a compensation cycle whereby it granted equity awards to our Chief Executive Officer and Chief Financial Officer covering the number of shares it might otherwise have granted in 2016 through 2018, with "cliff" vesting dates in 2019. These grants were made to focus our Chief Executive Officer and Chief Financial Officer on the Company's overall long-term corporate and strategic goals, eliminate intervening quarterly vesting dates that force them to sell shares in the market to cover taxes triggered upon vesting, and strengthen the Company's ability to retain our senior management team over the next three years. As a result of these larger-than-usual RSU grants, the Compensation Committee does not intend to grant additional equity awards to our Chief Executive Officer and Chief Financial Officer until 2019.

We issue RSUs that vest over a specified service period. We also issue performance-based RSUs to executive personnel. We recognize stock-based compensation expense for performance-based RSUs when we believe that it is probable that the performance objectives will be met and based on the expected achievement levels. In 2017, 2016, and 2015, we capitalized \$0.7 million, \$0.7 million and \$0.8 million, respectively, of stock-based compensation expense.

At December 31, 2017, the total remaining stock-based compensation expense for unvested RSU awards is approximately \$13,391,000 which is expected to be recognized over a weighted average period of 2.8 years.

The following table sets forth our results of operations for the specified periods as a percentage of our revenue for those periods.

	Year Ended December 31,		
	2017	2016	2015
	(as a percentage of revenue)		
Consolidated Statements of Operations Data:			
Revenue	100.0%	100.0%	100.0%
Costs and operating expenses:			
Network access	44.4	43.4	45.1
Network operations	23.3	26.6	24.0
Development and technology	13.1	13.9	13.7
Selling and marketing	10.2	11.8	14.1
General and administrative	17.4	18.7	16.0
Amortization of intangible assets	1.7	2.2	2.6
Total costs and operating expenses	<u>110.1</u>	<u>116.4</u>	<u>115.5</u>
Loss from operations	(10.1)	(16.4)	(15.5)
Interest and other expense, net	(0.1)	(0.3)	0.0
Loss before income taxes	(10.2)	(16.7)	(15.5)
Income tax (benefit) expense	(1.0)	0.3	0.3
Net loss	(9.2)	(16.9)	(15.9)
Net income attributable to non-controlling interests	0.3	0.2	0.1
Net loss attributable to common stockholders	<u>(9.5)%</u>	<u>(17.2)%</u>	<u>(16.0)%</u>

Years ended December 31, 2017 and 2016

Revenue

	Year Ended December 31,			
	2017	2016	Change	% Change
	(in thousands, except percentages)			
Revenue:				
DAS	\$ 80,552	\$ 58,182	\$ 22,370	38.4
Military	55,129	39,975	15,154	37.9
Wholesale—Wi-Fi	31,529	22,221	9,308	41.9
Retail	24,926	26,636	(1,710)	(6.4)
Advertising and other	12,233	12,330	(97)	(0.8)
Total revenue	<u>\$ 204,369</u>	<u>\$ 159,344</u>	<u>\$ 45,025</u>	28.3
Key business metrics:				
DAS nodes	23.5	19.2	4.3	22.4
Subscribers—military	130	107	23	21.5
Subscribers—retail	188	195	(7)	(3.6)
Connects	223,960	142,802	81,158	56.8

DAS. DAS revenue increased \$22.4 million, or 38.4%, in 2017, as compared to 2016, due to a \$20.5 million increase from new build-out projects in our managed and operated locations and a \$1.9 million increase in access fees from our telecom operators. DAS build-out revenues in 2017 and 2016 include \$0.2 million and \$0.5 million, respectively, of short-term build projects that include sales of equipment that were completed during those periods.

Military. Military revenue increased \$15.2 million, or 37.9%, in 2017, as compared to 2016 due to a \$19.2 million increase in military subscriber revenue, which was driven primarily by the increase in military subscribers and a 1.7% increase in the average monthly revenue per military subscriber in 2017 compared to 2016. The increase was partially offset by a \$4.0 million decrease in military single-use revenue.

Wholesale—Wi-Fi. Wholesale Wi-Fi revenue increased \$9.3 million, or 41.9%, in 2017, as compared to 2016, due to a \$7.3 million increase in partner usage based fees and a \$2.0 million increase in fees primarily earned from our venue partners who pay us to provide a Wi-Fi infrastructure that we install, manage and operate at their venues.

Retail. Retail revenue decreased \$1.7 million, or 6.4%, in 2017, as compared to 2016, primarily due to a \$1.6 million decrease in retail single-use revenue.

Advertising and other. Advertising and other revenue decreased \$0.1 million, or 0.8%, in 2017, as compared to 2016, due to a \$0.7 million decrease in advertising sales at our managed and operated locations, which was partially offset by a \$0.6 million increase in revenues from other service agreements.

Costs and Operating Expenses

	Year Ended December 31,			
	2017	2016	Change	% Change
	(in thousands, except percentages)			
Costs and operating expenses:				
Network access	\$ 90,702	\$ 69,112	\$ 21,590	31.2
Network operations	47,615	42,307	5,308	12.5
Development and technology	26,754	22,126	4,628	20.9
Selling and marketing	20,933	18,729	2,204	11.8
General and administrative	35,568	29,719	5,849	19.7
Amortization of intangible assets	3,498	3,448	50	1.5
Total costs and operating expenses	<u>\$ 225,070</u>	<u>\$ 185,441</u>	<u>\$ 39,629</u>	21.4

Network access. Network access costs increased \$21.6 million, or 31.2%, in 2017, as compared to 2016. The increase is primarily due to a \$15.4 million increase in depreciation expense related to our increased fixed assets from our DAS build-out projects, a \$5.2 million increase in revenue share paid to venues in our managed and operated locations, and a \$0.8 million increase from customer usage at partner venues.

Network operations. Network operations expenses increased \$5.3 million, or 12.5%, in 2017, as compared to 2016, due to a \$2.4 million increase in depreciation expense related to our increased fixed assets, a \$1.5 million increase in personnel related expenses, and a \$1.3 million increase in other expenses. Other expenses for 2017 and 2016 include \$0.9 million and \$0.1 million, respectively, of impairment losses primarily related to construction in progress projects that were abandoned.

Development and technology. Development and technology expenses increased \$4.6 million, or 20.9%, in 2017, as compared to 2016, due to a \$2.0 million increase in depreciation expense related to our increased fixed assets, a \$1.8 million increase in personnel related expenses, and a \$0.8 million increase in cloud computing expenses.

Selling and marketing. Selling and marketing expenses increased \$2.2 million, or 11.8%, in 2017, as compared to 2016, primarily due to a \$1.6 million increase in personnel related expenses, a \$0.3 million increase in marketing and advertising expenses, and a \$0.2 million increase in other consulting expenses.

General and administrative. General and administrative expenses increased \$5.8 million, or 19.7%, in 2017, as compared to 2016, due to a \$2.8 million settlement expense accrual related to a claim from one of our venue partners recorded in 2017, a \$2.6 million increase in personnel related expenses, which was inclusive of a \$1.2 million increase in stock-based compensation, a \$1.5 million increase in professional fees and consulting expenses, and a \$0.7 million increase in bad debt expenses. The increases were partially offset by \$1.4 million of costs we incurred in 2016 on our contested proxy election for the 2016 annual meeting of stockholders and a \$0.4 million decrease in other expenses.

Amortization of intangible assets. Amortization of intangible assets expense remained relatively consistent in 2017, as compared to 2016.

Interest and Other Expense, Net

There were no significant changes in interest and other expense, net, in 2017, as compared to 2016. We capitalized \$0.8 million of interest expense in each of the years ended December 31, 2017 and 2016.

Income Tax (Benefit) Expense

In December 2017, the Tax Cuts and Jobs Act ("TCJA") was enacted in the U.S. TCJA amended the Internal Revenue Code of 1986 and included the following key provisions, which are generally effective for tax years beginning after December 31, 2017, that are determined to have a significant impact on our effective tax rate:

- Reduction of the corporate federal tax rate to 21%;
- Permanent repeal of the alternative minimum tax regime with refunds of excess carryforwards;
- For any net operating losses ("NOLs") generated in tax years beginning after December 31, 2017, repeals carryback ability but permits indefinite carryforward subject to a limitation of utilization to 80% of taxable income;
- For executive compensation in excess of \$1 million, changes covered employees to principal executive officer, principal financial officer, and three other highest paid officers; eliminates the "last day of the tax year" language for determination of a covered employee; removes exceptions for commissions and performance-based compensation; and employees that are covered persons remain covered persons for all future years;
- Permits 100% bonus depreciation for eligible property placed in-service after September 27, 2017 and before January 1, 2023;
- Disallows interest expense in excess of 30% of adjusted taxable income, which excludes deductions for depreciation, amortization, or depletion for taxable years beginning after December 31, 2017 and before January 1, 2022 only, but permits indefinite carryforward; and
- Expands income exclusions and/or deduction limitations for certain fringe benefits that we may offer to our employees.

We have completed our assessment of the impact of TCJA on our consolidated financial statements as of December 31, 2017 and have recorded the impact of the enactment of TCJA in our consolidated financial statements for the year ended December 31, 2017. In 2017, we recorded an income tax benefit of \$2.1 million, or an effective tax rate of 10.0%, which is inclusive of a \$1.3 million income tax benefit resulting from the reduction of the corporate federal tax rate as well as a \$1.7 million income tax benefit provided by the indefinite carryforward of NOLs, which are expected to be available to recover our deferred tax liabilities that have an indefinite reversal pattern. In 2016, we recorded an income tax expense of \$0.4 million, or an effective tax rate of 1.6%.

Our future effective tax rate depends on various factors, such as our level of future taxable income, tax legislation and credits and the geographic compositions of our pre-tax income. We do not expect to incur any significant income taxes until such time that we reverse our valuation allowance against our federal and state deferred tax assets upon return to sustained profitability.

Non-controlling Interests

There were no significant changes in non-controlling interests in 2017, as compared to 2016.

Net Loss Attributable to Common Stockholders

Our net loss in 2017 decreased as compared to 2016, primarily as a result of the \$45.0 million increase in revenues and the \$2.5 million change in our income taxes, which were partially offset by the \$39.6 million increase in costs and operating expenses. Our diluted net loss per share decreased primarily as a result of the decrease in our net loss.

Adjusted EBITDA

Adjusted EBITDA was \$68.9 million in 2017, an increase of 68.9% from \$40.8 million recorded in 2016. As a percent of revenue, Adjusted EBITDA was 33.7% in 2017, up from 25.6% of revenue in 2016. The Adjusted EBITDA increase was due primarily to the \$19.9 million increase in depreciation and amortization expense, the \$8.0 million decrease in our net loss attributable to common stockholders, and the \$1.4 million increase in stock-based compensation expenses in 2017 compared to 2016. The changes were partially offset by the \$2.5 million change in our income taxes in 2017 compared to 2016. Adjusted EBITDA in 2017 excludes \$2.8 million of settlement expense accrual related to a claim from one of our venue partners. Adjusted EBITDA in 2016 excludes \$1.4 million of expenses that we incurred on our contested proxy election for the 2016 annual meeting of stockholders. We define Adjusted EBITDA as net loss attributable to common stockholders plus depreciation and amortization of property and equipment, stock-based compensation expense, amortization of intangible assets, income tax (benefit) expense, interest and other expense, non-controlling interests, and excludes charges or gains that are non-recurring, infrequent, or unusual. For a discussion of Adjusted EBITDA and a reconciliation of net loss attributable to common stockholders to Adjusted EBITDA, see footnote 1 to "Selected Financial Data" in Part II, Item 6.

Years ended December 31, 2016 and 2015

Revenue

	Year Ended December 31,			
	2016	2015	Change	% Change
	(in thousands, except percentages)			
Revenue:				
DAS	\$ 58,182	\$ 46,455	\$ 11,727	25.2
Military	39,975	19,898	20,077	100.9
Wholesale—Wi-Fi	22,221	21,923	298	1.4
Retail	26,636	31,763	(5,127)	(16.1)
Advertising and other	12,330	19,587	(7,257)	(37.1)
Total revenue	<u>\$ 159,344</u>	<u>\$ 139,626</u>	<u>\$ 19,718</u>	14.1
Key business metrics:				
DAS nodes	19.2	10.9	8.3	76.1
Subscribers—military	107	57	50	87.7
Subscribers—retail	195	204	(9)	(4.4)
Connects	142,802	105,335	37,467	35.6

DAS. DAS revenue increased \$11.7 million, or 25.2%, in 2016, as compared to 2015, due to an \$8.9 million increase from new build-out projects in our managed and operated locations and a \$2.8 million increase in access fees from our telecom operators. DAS build-out revenues in 2016 and 2015 include \$0.5 million and \$1.0 million, respectively, of short-term build projects that include sales of equipment that were completed during those periods. DAS access fees for 2015 include \$0.4 million of one-time fees that were paid for early termination rights.

Military. Military revenue increased \$20.1 million, or 100.9%, in 2016, as compared to 2015 due to a \$16.9 million increase in military subscriber revenue, which was driven primarily by the increase in military subscribers and a 5.5% increase in the average monthly revenue per military subscriber in 2016 compared to 2015, and a \$3.2 million increase in military single-use revenue.

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Wholesale—Wi-Fi. Wholesale Wi-Fi revenue increased \$0.3 million, or 1.4%, in 2016, as compared to 2015, primarily due to a \$0.7 million increase in partner usage based fees, which was partially offset by a \$0.5 million decrease in wholesale service provider revenue.

Retail. Retail revenue decreased \$5.1 million, or 16.1%, in 2016, as compared to 2015, due to a \$4.0 million decrease in retail subscriber revenue, which was driven primarily by the decrease in retail subscribers and a 1.5% decrease in the average monthly revenue per retail subscriber, and a \$1.1 million decrease in retail single-use revenue.

Advertising and other. Advertising and other revenue decreased \$7.3 million, or 37.1%, in 2016, as compared to 2015, primarily due to a \$7.9 million decrease in advertising sales at our managed and operated locations resulting from a decline in the number of premium ad units sold.

Costs and Operating Expenses

	Year Ended December 31,			
	2016	2015	Change	% Change
	(in thousands, except percentages)			
Costs and operating expenses:				
Network access	\$ 69,112	\$ 62,988	\$ 6,124	9.7
Network operations	42,307	33,537	8,770	26.2
Development and technology	22,126	19,147	2,979	15.6
Selling and marketing	18,729	19,653	(924)	(4.7)
General and administrative	29,719	22,356	7,363	32.9
Amortization of intangible assets	3,448	3,576	(128)	(3.6)
Total costs and operating expenses	<u>\$ 185,441</u>	<u>\$ 161,257</u>	<u>\$ 24,184</u>	15.0

Network access. Network access costs increased \$6.1 million, or 9.7%, in 2016, as compared to 2015. The increase is primarily due to a \$4.3 million increase in depreciation expense related to our increased fixed assets from our DAS build-out projects, a \$2.3 million increase in revenue share paid to venues in our managed and operated locations and a \$0.9 million increase in bandwidth and other direct costs. The increases were partially offset by a \$0.7 million decrease from customer usage at partner venues and a \$0.7 million decrease in other cost of revenue. Other costs of revenue in 2016 and 2015 included \$0.3 million and \$1.0 million, respectively, of costs directly related to our short-term DAS projects that were completed during those periods.

Network operations. Network operations expenses increased \$8.8 million, or 26.2%, in 2016, as compared to 2015, primarily due to a \$4.9 million increase in depreciation expense related to our increased fixed assets, a \$2.3 million increase in personnel related expenses resulting primarily from increased headcount, a \$1.0 million increase in consulting expenses, and a \$0.3 million increase in hardware and software maintenance expenses.

Development and technology. Development and technology expenses increased \$3.0 million, or 15.6%, in 2016, as compared to 2015, primarily due to a \$1.8 million increase in depreciation expense related to our increased fixed assets, a \$0.7 million increase in cloud computing, hardware and software maintenance expenses, and a \$0.4 million increase in consulting expenses.

Selling and marketing. Selling and marketing expenses decreased \$0.9 million, or 4.7%, in 2016, as compared to 2015, due to a \$1.4 million decrease in personnel related expenses which was primarily due to a management reorganization that included the elimination of the position of President in January 2016. The decrease was partially offset by a \$0.3 million increase in consulting expenses and a \$0.2 million increase in marketing and advertising expenses.

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General and administrative. General and administrative expenses increased \$7.4 million, or 32.9%, in 2016, as compared to 2015, primarily due to a \$5.4 million increase in personnel related expenses, which is inclusive of a \$4.0 million increase in stock-based compensation, resulting from increased headcount and the change in the structure and grant cycle of the RSUs granted to our Chief Executive Officer and Chief Financial Officer in 2016, \$1.4 million expended on our contested proxy election for the 2016 annual meeting of stockholders, and a \$0.6 million increase in professional fees.

Amortization of intangible assets. Amortization of intangible assets expense remained relatively consistent in 2016, as compared to 2015.

Interest and Other Expense, Net

Interest and other expense, net, increased \$0.4 million in 2016, as compared to 2015, primarily due to increased interest expense incurred. In 2016 and 2015, we capitalized \$0.8 million and \$0.6 million, respectively, of interest expense.

Income Tax Expense

Income tax expense and our effective tax rate remained relatively consistent in 2016 and 2015.

Non-controlling Interests

Non-controlling interests increased \$0.2 million, or 205.3% in 2016, as compared to 2015 primarily as a result of increased net income for a subsidiary, which was driven primarily by changes in the revenue mix to higher margin businesses and decreased operating expenses.

Net Loss Attributable to Common Stockholders

Our net loss for 2016 increased as compared to 2015, primarily as a result of the \$24.2 million increase in costs and operating expenses, the \$0.4 million increase in interest and other expense, net, and the \$0.2 million increase in non-controlling interests. Cost increases were partially offset by the \$19.7 million increase in revenues. Our diluted net loss per share increased primarily as a result of the increase in our net loss.

Adjusted EBITDA

Adjusted EBITDA was \$40.8 million in 2016, an increase of 37.7% from \$29.6 million recorded in 2015. As a percent of revenue, Adjusted EBITDA was 25.6% in 2016, up from 21.2% of revenue in 2015. The Adjusted EBITDA increase was due primarily to the \$10.8 million increase in depreciation and amortization expense, \$3.4 million increase in stock-based compensation expenses, a \$0.4 million increase in interest and other expense, net, and a \$0.2 million increase in non-controlling interests. The increases were partially offset by the \$5.0 million increase in our net loss attributable to common stockholders in 2016 compared to 2015. Our net loss attributable to common stockholders includes \$1.4 million expended on our contested proxy election for the annual meeting of stockholders in 2016, which have been excluded from Adjusted EBITDA. We define Adjusted EBITDA as net loss attributable to common stockholders plus depreciation and amortization of property and equipment, stock-based compensation expense, amortization of intangible assets, income tax (benefit) expense, interest and other expense, non-controlling interests, and excludes charges or gains that are non-recurring, infrequent, or unusual. For a discussion of Adjusted EBITDA and a reconciliation of net loss attributable to common stockholders to Adjusted EBITDA, see footnote 1 to "Selected Financial Data" in Part II, Item 6.

Liquidity and Capital Resources

We have financed our operations primarily through cash provided by operating activities and borrowings under our credit facility. Our primary sources of liquidity as of December 31, 2017 consisted of \$26.7 million of cash and cash equivalents and \$69.8 million available for borrowing under our credit facility, \$8.2 million of which is reserved for our outstanding Letter of Credit Authorization agreements.

Our principal uses of liquidity have been to fund our operations, working capital requirements, capital expenditures and acquisitions. We expect that these requirements will be our principal needs for liquidity over the near term. Our capital expenditures in 2017 were \$73.3 million, of which \$45.4 million was reimbursed through revenue for DAS build-out projects from our telecom operators.

We have entered into a Credit Agreement (the "Credit Agreement") and related agreements, as amended with Bank of America, N.A. acting as agent for lenders named therein, including Bank of America, N.A. and Silicon Valley Bank, and Citizens Bank, N.A. (the "Lenders"), for a secured credit facility in the form of a revolving line of credit up to \$69.8 million, which was increased from \$46.5 million in February 2016, with an option to increase the available amount to \$86.5 million upon the satisfaction of certain conditions (the "Revolving Line of Credit") and a term loan of \$3.5 million (the "Term Loan" and together with the Revolving Line of Credit, the "Credit Facility"). Both the Term Loan and Revolving Line of Credit mature on November 21, 2018. Amounts borrowed under the Revolving Line of Credit and Term Loan will bear, at our election, a variable interest at LIBOR plus 2.5% - 3.5% or Lender's Prime Rate plus 1.5% - 2.5% per year and we will pay a fee of 0.375% - 0.5% per year on any unused portion of the Revolving Line of Credit. As of December 31, 2017, \$0.9 million was outstanding under the Term Loan and there were no amounts outstanding under the Revolving Line of Credit. The Term Loan requires quarterly payments of interest and principal, amortizing fully over the four-year-term such that it is repaid in full on the maturity date of November 21, 2018. For the year ended December 31, 2017, interest rates for our Credit Facility ranged from 3.5% to 3.8%. Repayment of amounts borrowed under the Credit Facility may be accelerated in the event that we are in violation of the representation, warranties and covenants made in the Credit Agreement, including certain financial covenants set forth therein, and under other specific default events including, but not limited to, non-payment or inability to pay debt, breach of cross default provisions, insolvency provisions, and change in control. Additionally, the Credit Agreement expires in November 2018. Market conditions in the U.S. credit markets may negatively impact our ability to renew the Credit Agreement on favorable terms upon its expiration. If we are unable to renew the Credit Agreement on favorable terms, or at all, our ability to fund our operations may be impaired.

We are subject to customary covenants, including a minimum quarterly consolidated leverage ratio, a maximum quarterly consolidated fixed charge coverage ratio, and monthly liquidity minimums. We were in compliance with all such financial covenants as of December 31, 2017 and through the date of this report. We are subject to certain non-financial covenants, and we were also in compliance with all such non-financial covenants as of December 31, 2017 and through the date of this report. The Credit Facility provides us with significant additional flexibility and liquidity to pursue our strategic objectives for capital expenditures and acquisitions that we may pursue from time to time.

We believe that our existing cash and cash equivalents, cash flow from operations and availability under the Credit Facility will be sufficient to fund our operations and planned capital expenditures for at least the next 12 months from the date of issuance of our financial statements. There can be no assurance, however, that future industry-specific or other developments, general economic trends, or other matters will not adversely affect our operations or our ability to meet our future cash requirements. Our future capital requirements will depend on many factors, including our rate of revenue growth and corresponding timing of cash collections, the timing and size of our managed and operated location expansion efforts, the timing and extent of spending to support product development

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efforts, the timing of introductions of new solutions and enhancements to existing solutions and the continuing market acceptance of our solutions. We expect our capital expenditures in 2018 will range from \$25.0 million to \$35.0 million, excluding capital expenditures for DAS build-out projects, which are typically reimbursed through revenue from our telecom operator customers. We anticipate the majority of our 2018 capital expenditures will be used to build out and upgrade Wi-Fi networks at our managed and operated venues and to build and upgrade our residential broadband and IPTV networks for troops stationed on military bases pursuant to our contracts with the U.S. government. The U.S. government may modify, curtail or terminate its contracts with us, either at its convenience or for default based on performance. Any such modification, curtailment, or termination of one or more of our government contracts could have a material adverse effect on our earnings, cash flow and/or financial position. We may also enter into acquisitions of complementary businesses, applications or technologies, which could require us to seek additional equity or debt financing. Additional funds may not be available on terms favorable to us, or at all.

The following table sets forth cash flow data for the periods indicated therein:

	Year Ended December 31,		
	2017	2016	2015
	(in thousands)		
Net cash provided by operating activities	\$ 97,728	\$ 115,205	\$ 98,575
Net cash used in investing activities	(74,458)	(107,331)	(101,502)
Net cash (used in) provided by financing activities	(16,054)	(3,121)	8,843

Net Cash Provided by Operating Activities

In 2017, we generated \$97.7 million of net cash from operating activities, a decrease of \$17.5 million from 2016. The decrease is primarily due to a \$46.0 million non-cash change in our operating assets and liabilities and a \$2.9 million change in our deferred income taxes. The change was partially offset by a \$19.9 million increase in depreciation and amortization expenses related to our recent increased fixed assets from our DAS build-out projects, Wi-Fi networks, and software development, a \$8.2 million decrease in our net loss, a \$1.4 million increase in stock-based compensation expenses, a \$0.7 million increase in bad debt expenses, and a \$1.1 million increase in impairment losses and losses on disposal of fixed assets, net.

In 2016, we generated \$115.2 million of net cash from operating activities, an increase of \$16.6 million from 2015. The increase is primarily due to a \$7.4 million change in our operating assets and liabilities, a \$10.8 million increase in depreciation and amortization expenses related to our recent increased fixed assets from our DAS build-out projects, Wi-Fi networks, and software development, and a \$3.4 million increase in stock-based compensation expenses. The increases were partially offset by the \$4.8 million increase in our net loss.

In 2015, we generated \$98.6 million of net cash from operating activities, an increase of \$77.4 million from 2014. The increase is primarily due to a \$68.1 million change in our operating assets and liabilities, a \$10.7 million increase in depreciation and amortization expenses, a \$2.2 million increase in stock-based compensation expenses, and a \$0.7 million change in fair value of our contingent consideration liabilities. The increases were partially offset by the \$3.4 million increase in our net loss and the \$0.7 million decrease in impairment losses.

Net Cash Used in Investing Activities

In 2017, we used \$74.5 million in investing activities, a decrease of \$32.9 million from 2016. The decrease is primarily due to a \$34.0 million decrease in purchases of property and equipment, which was partially offset by \$1.2 million of cash paid for a caching technology intangible asset, which we acquired in November 2016.

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In 2016, we used \$107.3 million in investing activities, an increase of \$5.8 million from 2015. This increase is due to a \$4.2 million increase in purchases of property and equipment related to our recent increased fixed assets from our DAS build-out projects, Wi-Fi networks, and software development, and a \$1.6 million decrease in cash provided by net proceeds from sales of marketable securities.

In 2015, we used \$101.5 million in investing activities, an increase of \$62.3 million from 2014. This increase is primarily due to a \$32.2 million increase in purchases of property and equipment and a \$29.7 million decrease in cash provided by net proceeds from sales of marketable securities.

Net Cash (Used in) Provided by Financing Activities

In 2017, we used \$16.1 million of cash in financing activities, an increase of \$12.9 million from 2016. This change is primarily due to a \$10.4 million increase in payments on our Credit Facility, a \$5.0 million decrease in proceeds from our Credit Facility, a \$2.0 million increase in cash used to pay federal, state, and local employment payroll taxes related to our RSUs that vested during the period, and a \$2.0 million increase in cash paid for our capital leases and notes payable. The changes were partially offset by a \$6.3 million increase in proceeds from exercise of stock options.

In 2016, we used \$3.1 million of cash for financing activities compared to \$8.8 million in cash provided by financing activities in 2015. This change is primarily due to a \$14.8 million decrease in net proceeds from our Credit Facility, a \$1.4 million increase in cash paid for capital leases and notes payable, and a \$0.3 million decrease in cash used to pay federal, state, and local employment payroll taxes related to our RSUs that vested during the period. These changes were partially offset by a \$1.6 million increase in proceeds from exercise of stock options, \$2.8 million of non-recurring payments made in 2015 related to business combinations, and a \$0.2 million decrease in payments to our non-controlling interests.

In 2015, we received \$8.8 million of cash provided by financing activities compared to \$0.5 million in cash used in financing activities in 2014. This change is primarily due to the \$11.5 million increase in net proceeds from our Credit Facility, a \$1.2 million decrease in acquisition related payments, a \$0.6 million decrease in deferred financing costs, and a \$0.2 million increase in proceeds from exercise of stock options. These changes were partially offset by \$1.6 million of holdback consideration payments made to the previous AWG shareholders, \$1.2 million in payments to acquire the remaining non-controlling interests in Concourse Communications Detroit, LLC from the non-controlling interest owners, a \$0.6 million increase in cash used to pay federal, state, and local employment payroll taxes related to our RSUs that vested during the period, and \$0.9 million in repayments made on our Term Loan during 2015.

Contractual Obligations and Commitments

The following table sets forth our contractual obligations and commitments as of December 31, 2017:

	Payments Due By Period				
	Total	Less than 1 Year	2 - 3 Years (in thousands)	4 - 5 Years	More than 5 Years
Venue revenue share minimums(1)	\$ 39,998	\$ 9,242	\$ 14,273	\$ 9,494	\$ 6,989
Operating leases for office space(2)	29,048	3,608	6,562	6,650	12,228
Open purchase commitments(3)	16,231	15,781	450	—	—
Credit Facility(4)	875	875	—	—	—
Capital leases and notes payable for equipment and software(5)	12,518	5,771	6,747	—	—
Total	<u>\$ 98,670</u>	<u>\$ 35,277</u>	<u>\$ 28,032</u>	<u>\$ 16,144</u>	<u>\$ 19,217</u>

- (1) Payments under exclusive long-term, non-cancellable contracts to provide wireless communications network access to venues such as airports. Expense is recorded on a straight-line basis over the term of the lease.
- (2) Office space under non-cancellable operating leases.
- (3) Open purchase commitments are for the purchase of property and equipment, supplies and services. They are not recorded as liabilities on our consolidated balance sheet as of December 31, 2017 as we have not received the related goods or services.
- (4) Long-term debt associated with our Credit Agreement with Bank of America N.A. Payments are based on contractual terms and intended timing of repayments of long-term debt.
- (5) Payments under non-cancellable capital leases and loans payable related to equipment, primarily for data communication and database software, and prepaid maintenance service purchases.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet financing arrangements and we do not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Transactions with Related Parties

Under our Audit Committee charter, our Audit Committee is responsible for reviewing and approving all related party transactions on a quarterly basis. In addition, our Board of Directors determines annually whether any related party relationships exist among the directors which would interfere with the judgment of individual directors in carrying out his responsibilities as director.

Inflation

Inflationary factors have not had a significant effect on our performance over the past several years. A significant increase in inflation may affect our future performance since we may not be able to recover the increases in our costs with similar increases in our prices.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to various market risks including: (i) interest rate risk and (ii) foreign currency exchange rate risk. The risk of loss is assessed based on the likelihood of adverse changes in fair values, cash flows or future earnings.

Interest rate risk. Our Revolving Line of Credit and Term Loan bears, at the Company's election, interest at a variable interest rate of LIBOR plus 2.5% - 3.5% or Lender's Prime Rate plus 1.5% - 2.5% per year. The interest rate on the Term Loan resets at the end of each three month period. Our use of variable rate debt exposes us to interest rate risk. A 100 basis point increase in the LIBOR or Lender's Prime Rate as of December 31, 2017 would not have a material impact on net loss and cash flow.

Foreign currency exchange rate risk. We are exposed to foreign currency exchange rate risk inherent in conducting business globally in numerous currencies, of which the most significant to our operations for the year ended December 31, 2017 was the Brazilian Real. We are primarily exposed to foreign currency fluctuations related to the operations of our subsidiary in Brazil whose financial statements are not denominated in the U.S. dollar. Our foreign operations are not material to our operations as a whole. As such, we currently do not enter into currency forward exchange or option contracts to hedge foreign currency exposures.

Item 8. Financial Statements and Supplementary Data

The information required by this Item is included in Part IV, Items 15(a)(1) and (2) of this Annual Report on Form 10-K.

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

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

The Company maintains a system of disclosure controls and procedures that are designed to provide reasonable assurance that information required to be disclosed in the reports that the Company files or submits under the Securities Exchange Act of 1934, as amended, or the Exchange Act, is processed, recorded, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms. These disclosure controls and procedures include, among other processes, controls and procedures designed to ensure that information required to be disclosed in the reports that the Company files or submits under the Exchange Act is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer (our principal executive officer and principal financial officer, respectively), as appropriate, to allow for timely decisions regarding required disclosure.

The Company carried out an evaluation, under the supervision and with the participation of management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures as of December 31, 2017 pursuant to Exchange Act Rule 13a-15. Based upon that evaluation, the Company's Chief Executive Officer and Chief Financial Officer have concluded that the Company's disclosure controls and procedures, as defined in Exchange Act Rule 13a-15(e) and 15d-15(e), were effective as of the end of the period covered by this Annual Report.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting at the Company. Our internal control over financial reporting is a process designed under the supervision of our Chief Executive Officer and Chief Financial Officer to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the Company's financial statements for external reporting purposes in accordance with GAAP. A company's internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and the directors of the Company; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

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

Under the supervision and with the participation of management, including the certifying officers, the Company conducted an evaluation of the effectiveness of the Company's internal control over financial reporting as of December 31, 2017 based on the framework in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Management's assessment included an evaluation of the design of the Company's internal control over financial reporting and testing of the operational effectiveness of its internal control over financial reporting.

Based on this assessment, management determined that, as of December 31, 2017, the Company maintained effective internal control over financial reporting. The effectiveness of the Company's internal control over financial reporting has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm. The Report of Independent Registered Public Accounting Firm is filed with this Annual Report on Form 10-K in a separate section following Part IV, as shown on the index under Item 15 of this Annual Report.

Changes in Internal Control over Financial Reporting

Throughout 2017, in order to facilitate the adoption of the new revenue recognition accounting standard on January 1, 2018, we implemented internal controls to help ensure we properly evaluated our customer contracts and assessed the impact to our consolidated financial statements. We expect to continue to implement additional internal controls related to the adoption of this standard in the first quarter of 2018.

There have been no other changes in the Company's internal control over financial reporting (as defined by Exchange Act Rule 13a-15(f) and 15d-15(f)) that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting during the quarter ended December 31, 2017.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by Item 10 will be included in the Company's definitive Proxy Statement under the caption "Directors, Executive Officers and Corporate Governance" and "Section 16(a) Beneficial Ownership Reporting Compliance," to be filed with the Commission within 120 days after the end of fiscal year 2017 pursuant to Regulation 14A, which information is incorporated herein by this reference.

Item 11. Executive Compensation

The Company maintains employee benefit plans and programs in which its executive officers are participants. Copies of certain of these plans and programs are set forth or incorporated by reference as Exhibits to this report. Information required by Item 11 will be included in the Company's definitive Proxy Statement under the captions "Director Compensation," "Executive Compensation," "Compensation Discussion and Analysis," and "Directors, Executive Officers and Corporate Governance," to be filed with the Commission within 120 days after the end of fiscal year 2017 pursuant to Regulation 14A, which information is incorporated herein by this reference.

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

The information required by Item 12 will be included in the Company's definitive Proxy Statement under the caption "Security Ownership of Certain Beneficial Owners and Management," to be filed with the Commission within 120 days after the end of fiscal year 2017 pursuant to Regulation 14A, which information is incorporated herein by this reference. The information required to be disclosed by Item 201(d) of Regulation S-K regarding our equity securities authorized for issuance under our equity incentive plans is incorporated herein by reference to the section entitled "Securities Authorized for Issuance under Equity Compensation Plans" in our definitive Proxy Statement for our Annual Meeting of Stockholders to be filed with the Commission within 120 days after the end of fiscal year 2017 pursuant to Regulation 14A.

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

The information required by Item 13 of Form 10-K regarding transactions with related persons, promoters and certain control persons, if any, will be included in the Company's definitive Proxy Statement under the caption "Certain Relationships and Related Party Transactions" to be filed with the Commission within 120 days after the end of fiscal year 2017 pursuant to Regulation 14A, which information is incorporated herein by this reference. The information required by Item 13 of Form 10-K regarding director independence will be included in the Company's definitive Proxy Statement under the caption "Directors, Executive Officers and Corporate Governance—Corporate Governance and Board Matters—Independence of the Board of Directors," to be filed with the Commission within 120 days after the end of fiscal year 2017 pursuant to Regulation 14A, which information is incorporated herein by this reference.

Item 14. Principal Accounting Fees and Services

The information required by Item 14 will be included in the Company's definitive Proxy Statement under the caption "Independent Registered Public Accounting Firm" to be filed with the Commission within 120 days after the end of fiscal year 2017 pursuant to Regulation 14A, which information is incorporated herein by this reference.

PART IV**Item 15. Exhibits**

(a) The following documents are filed as part of, or incorporated by reference into, this Annual Report on Form 10-K:

(1)(2) *Financial Statements.* The following consolidated financial statements of Boingo Wireless, Inc., and Report of Independent Registered Public Accounting Firm are included in a separate section of this Annual Report on Form 10-K beginning on page F-1.

<u>Description</u>	<u>Page Number</u>
Report of Independent Registered Public Accounting Firm	F-2
Consolidated Balance Sheets as of December 31, 2017 and 2016	F-4
Consolidated Statements of Operations for the Years Ended December 31, 2017, 2016 and 2015	F-5
Consolidated Statements of Comprehensive Income (Loss) for the Years Ended December 31, 2017, 2016 and 2015	F-6
Consolidated Statements of Stockholder's Equity for the Years Ended December 31, 2017, 2016 and 2015	F-7
Consolidated Statements of Cash Flows for the Years Ended December 31, 2017, 2016 and 2015	F-8
Notes to Consolidated Financial Statements	F-9

All financial statement schedules have been omitted because the required information is not applicable or not present in amounts sufficient to require submission of the schedule, or because the information required is included in our consolidated financial statements or the notes thereto.

(3) *Exhibits.* The exhibits listed under Item 15(b) hereof are filed with, or incorporated by reference into, this Annual Report on Form 10-K. Each management contract or compensatory plan or arrangement is identified separately in item 15(b) hereof.

(b) The following exhibits are filed as part of, or incorporated by reference into, this Annual Report on Form 10-K:

<u>Exhibit No.</u>	<u>Description</u>	<u>Incorporated by Reference</u>			<u>Filed Herewith</u>
		<u>Form</u>	<u>Date</u>	<u>Number</u>	
3.1	Amended and Restated Certificate of Incorporation.	S-1	03/21/2011	3.2	
3.2	Certificate of Amendment to the Certificate of Incorporation.	8-K	06/09/2017	3.1	
3.3	Amended and Restated Bylaws.	8-K	06/09/2017	3.2	
4.1	Amendment No. 1 to Amended and Restated Investor Rights Agreement, dated April 12, 2011.	S-1	04/13/2011	4.1	
4.2	Amended and Restated Investor Rights Agreement among the Registrant and certain stockholders, dated June 27, 2006.	S-1	01/14/2011	4.2	
10.1	Form of Indemnification Agreement to be entered into between the Registrant and each of its directors and officers.	S-1	03/21/2011	10.1	

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<u>Exhibit No.</u>	<u>Description</u>	<u>Incorporated by Reference</u>			<u>Filed Herewith</u>
		<u>Form</u>	<u>Date</u>	<u>Number</u>	
10.2	Amended and Restated 2001 Stock Incentive Plan.†	S-1	01/14/2011	10.2	
10.3	2001 Stock Incentive Plan Notice of Option Grant and Option Agreement.†	10-Q	08/04/2017	10.1	
10.4	Form of Vesting Extension Agreement.†	8-K	02/03/2016	99.1	
10.5	Amended and Restated 2011 Equity Incentive Plan.	10-Q	08/10/2015	10.1	
10.6	2011 Equity Incentive Plan Notice of Restricted Stock Unit Award and Restricted Stock Unit Agreement (Performance Stock Units).†	10-Q	08/04/2017	10.2	
10.7	2011 Equity Incentive Plan Notice of Restricted Stock Unit Award and Restricted Stock Unit Agreement.†	10-Q	08/04/2017	10.3	
10.8	Letter agreement between the Registrant and David Hagan, dated April 11, 2011.†	S-1	04/13/2011	10.5	
10.9	2010 Management Incentive Compensation Plan.†	S-1	01/14/2011	10.7	
10.10	Office Lease Agreement, dated April 2007, between CA-10960 Wilshire Limited Partnership and Registrant.	S-1	01/14/2011	10.8	
10.11	Lease Amendment dated August 19, 2014 between CA-10960 Wilshire Limited Partnership and Registrant.	10-Q	11/10/2014	10.1	
10.12	License Agreement for Wireless Communications Access System, dated November 17, 2005, between City of Chicago and Chicago Concourse Development Group, LLC.^	S-1	04/29/2011	10.9	
10.13	Consent to Change in Ownership and Amendment of Agreement, dated June 22, 2006, between City of Chicago and Chicago Concourse Development Group, LLC.	S-1	2/25/2011	10.9A	
10.14	Amendment Agreement, dated December 31, 2014 between the Registrant and the City of Chicago.^	10-K	03/16/2015	10.11	
10.15	Telecommunications Network Access Agreement, dated August 26, 1999, between The Port Authority of New York and New Jersey and New York Telecom Partners, LLC.^	S-1	04/29/2011	10.10	
10.16	Supplemental Agreement, dated March 28, 2001 between The Port Authority of New York and New Jersey and New York Telecom Partners, LLC.^	S-1	04/29/2011	10.10A	
10.17	Supplemental Agreement, dated June 30, 2002 between the Port Authority of New York and New Jersey and New York Telecom Partners, LLC.^	10-Q	11/10/2014	10.2	

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<u>Exhibit No.</u>	<u>Description</u>	<u>Incorporated by Reference</u>			<u>Filed Herewith</u>
		<u>Form</u>	<u>Date</u>	<u>Number</u>	
10.18	Supplemental Agreement, dated November 30, 2006 between the Port Authority of New York and New Jersey and New York Telecom Partners, LLC.^	10-Q	11/10/2014	10.3	
10.19	Letter, dated August 19, 2013, from New York Telecom Partners, LLC to The Port Authority of New York and New Jersey.#	10-Q	11/12/2013	10.17	
10.20	Supplemental Agreement, dated July 21, 2014 between the Port Authority of New York and New Jersey and New York Telecom Partners, LLC.^	10-Q	11/10/2014	10.4	
10.21	Management Incentive Compensation Plan.	S-1	03/21/2011	10.11	
10.22	Letter agreement between the Registrant and Peter Hovenier, dated April 1, 2013.†	8-K	04/02/2013	10.1	
10.23	Letter agreement between the Registrant and Dawn Callahan, dated January 1, 2013.†	10-K	03/17/2014	10.15	
10.24	Letter agreement between the Registrant and Tom Tracey, dated September 23, 2011.†	10-K	03/17/2014	10.16	
10.25	Letter agreement between the Registrant and Derek Peterson, dated January 30, 2013.†	10-K	03/17/2014	10.17	
10.26	Credit agreement between the Registrant and Bank of America, N.A.^	10-K	03/16/2015	10.24	
10.27	First Amendment to Credit Agreement.	10-Q	08/10/2015	10.2	
10.28	Notice of Restricted Stock Unit Award and Restricted Stock Unit Agreement (2016 Performance Stock Units) under 2011 Equity Incentive Plan.†	8-K	02/03/2016	99.2	
10.29	Joinder Agreement dated as of February 23, 2016, by and among the Registrant, Bank of America, N.A., Silicon Valley Bank and Citizens Bank, N.A.	8-K	02/25/2016	10.1	
10.30	Cooperation Agreement, dated June 1, 2016, by and among Boingo Wireless, Inc., each of Ides Capital Management LP, Ides Capital Opportunities Fund, LP, Ides Capital Advisors LLC, Ides Capital Partners LP, Ides Capital GP LLC, Dianne McKeever, Robert Longnecker, and each of Legion Partners, L.P. I, Legion Partners, L.P. II, Legion Partners, LLC, Legion Partners Asset Management, LLC, Legion Partners Holdings, LLC, Christopher S. Kiper, Bradley S. Vizi and Raymond White.	8-K	06/01/2016	10.1	
14.1	Code of Ethics and Business Conduct.	8-K	11/02/2017	14.1	
21.1	List of subsidiaries.				X

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Exhibit No.	Description	Incorporated by Reference			Filed Herewith
		Form	Date	Number	
23.1	Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm.				X
24.1	Power of Attorney (included in Signature Page)				X
31.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act.				X
31.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act.				X
32.1	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act.*				X
32.2	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act.*				X
101.INS	XBRL Instance Document				X
101.SCH	XBRL Taxonomy Extension Schema Document				X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document				X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document				X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document				X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document				X

* Furnished herewith.

^ Portions of this exhibit (indicated by asterisks) have been omitted pursuant to an order granting confidential treatment. These portions have been submitted separately to the Securities and Exchange Commission.

Portions of this exhibit (indicated by asterisks) have been omitted pursuant to a request for confidential treatment. These portions have been submitted separately to the Securities and Exchange Commission.

† Indicates a management contract or compensatory plan.

Item 16. Form 10-K Summary

Not applicable.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

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All schedules are omitted because they are not applicable or the required information is shown in the Company's consolidated financial statements or the related notes thereto.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Boingo Wireless, Inc.

Opinion on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Boingo Wireless, Inc. and its subsidiaries ("Company") as of December 31, 2017 and 2016, and the related consolidated statements of operations, comprehensive income (loss), stockholders' equity and cash flows for each of the three years in the period ended December 31, 2017, including the related notes (collectively referred to as the "consolidated financial statements"). We have also audited the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting 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 ("SEC") and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

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

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ PricewaterhouseCoopers LLP
Los Angeles, California
March 12, 2018

We have served as the Company's auditor since 2002, which includes periods before the Company became subject to SEC reporting requirements.

Boingo Wireless, Inc.
Consolidated Balance Sheets
(In thousands, except per share amounts)

	December 31,	
	2017	2016
Assets		
Current assets:		
Cash and cash equivalents	\$ 26,685	\$ 19,485
Accounts receivable, net	26,148	42,978
Prepaid expenses and other current assets	6,369	5,344
Total current assets	59,202	67,807
Property and equipment, net	262,359	250,765
Goodwill	42,403	42,403
Intangible assets, net	10,263	13,783
Other assets	10,082	6,223
Total assets	<u>\$ 384,309</u>	<u>\$ 380,981</u>
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	\$ 11,589	\$ 15,516
Accrued expenses and other liabilities	42,405	27,723
Deferred revenue	61,708	50,869
Current portion of long-term debt	875	1,094
Current portion of capital leases and notes payable	5,771	3,993
Total current liabilities	122,348	99,195
Deferred revenue, net of current portion	149,168	152,719
Long-term debt	—	15,875
Long-term portion of capital leases and notes payable	6,747	4,612
Deferred tax liabilities	1,004	3,208
Other liabilities	6,012	6,826
Total liabilities	285,279	282,435
Commitments and contingencies (Note 12)		
Stockholders' equity:		
Preferred stock, \$0.0001 par value; 5,000 shares authorized; no shares issued and outstanding	—	—
Common stock, \$0.0001 par value; 100,000 shares authorized; 40,995 and 38,562 shares issued and outstanding for 2017 and 2016, respectively	4	4
Additional paid-in capital	230,679	211,275
Accumulated deficit	(131,967)	(112,601)
Accumulated other comprehensive loss	(898)	(870)
Total common stockholders' equity	97,818	97,808
Non-controlling interests	1,212	738
Total stockholders' equity	99,030	98,546
Total liabilities and stockholders' equity	<u>\$ 384,309</u>	<u>\$ 380,981</u>

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

Boingo Wireless, Inc.
Consolidated Statements of Operations
(In thousands, except per share amounts)

	For the Years Ended December 31,		
	2017	2016	2015
Revenue	\$ 204,369	\$ 159,344	\$ 139,626
Costs and operating expenses:			
Network access	90,702	69,112	62,988
Network operations	47,615	42,307	33,537
Development and technology	26,754	22,126	19,147
Selling and marketing	20,933	18,729	19,653
General and administrative	35,568	29,719	22,356
Amortization of intangible assets	3,498	3,448	3,576
Total costs and operating expenses	<u>225,070</u>	<u>185,441</u>	<u>161,257</u>
Loss from operations	(20,701)	(26,097)	(21,631)
Interest and other expense, net	(153)	(459)	(66)
Loss before income taxes	(20,854)	(26,556)	(21,697)
Income tax (benefit) expense	(2,078)	427	481
Net loss	(18,776)	(26,983)	(22,178)
Net income attributable to non-controlling interests	590	348	114
Net loss attributable to common stockholders	<u>\$ (19,366)</u>	<u>\$ (27,331)</u>	<u>\$ (22,292)</u>
Net loss per share attributable to common stockholders:			
Basic	\$ (0.49)	\$ (0.72)	\$ (0.60)
Diluted	\$ (0.49)	\$ (0.72)	\$ (0.60)
Weighted average shares used in computing net loss per share attributable to common stockholders:			
Basic	39,824	38,025	36,849
Diluted	39,824	38,025	36,849

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

Boingo Wireless, Inc.
Consolidated Statements of Comprehensive Income (Loss)
(In thousands)

	<u>For the Years Ended December 31,</u>		
	<u>2017</u>	<u>2016</u>	<u>2015</u>
Net loss	\$ (18,776)	\$ (26,983)	\$ (22,178)
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustments	(19)	211	(604)
Comprehensive loss	(18,795)	(26,772)	(22,782)
Comprehensive income attributable to non-controlling interest	599	269	227
Comprehensive loss attributable to common stockholders	<u>\$ (19,394)</u>	<u>\$ (27,041)</u>	<u>\$ (23,009)</u>

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

Boingo Wireless, Inc.

Consolidated Statements of Stockholders' Equity

(In thousands)

	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Non- controlling Interest	Total Stockholder's Equity
Balance at December 31, 2014	36,267	\$ 4	\$ 189,725	\$ (62,884)	\$ (443)	\$ 1,028	\$ 127,430
Issuance of common stock under stock incentive plans	1,058	—	1,373	—	—	—	1,373
Shares withheld for taxes	—	—	(2,512)	—	—	—	(2,512)
Stock-based compensation expense	—	—	10,176	—	—	—	10,176
Purchase of non-controlling interest	—	—	(1,150)	—	—	—	(1,150)
Non-controlling interest distributions	—	—	—	—	—	(500)	(500)
Net loss	—	—	—	(22,292)	—	114	(22,178)
Other comprehensive loss	—	—	—	—	(717)	113	(604)
Balance at December 31, 2015	37,325	4	197,612	(85,176)	(1,160)	755	112,035
Issuance of common stock under stock incentive plans	1,237	—	2,984	—	—	—	2,984
Shares withheld for taxes	—	—	(2,827)	—	—	—	(2,827)
Stock-based compensation expense	—	—	13,412	—	—	—	13,412
Non-controlling interest distributions	—	—	—	—	—	(286)	(286)
Cumulative effect of a change in accounting principle	—	—	94	(94)	—	—	—
Net loss	—	—	—	(27,331)	—	348	(26,983)
Other comprehensive income	—	—	—	—	290	(79)	211
Balance at December 31, 2016	38,562	4	211,275	(112,601)	(870)	738	98,546
Issuance of common stock under stock incentive plans	2,433	—	9,244	—	—	—	9,244
Shares withheld for taxes	—	—	(4,872)	—	—	—	(4,872)
Stock-based compensation expense	—	—	15,032	—	—	—	15,032
Non-controlling interest distributions	—	—	—	—	—	(125)	(125)
Net loss	—	—	—	(19,366)	—	590	(18,776)
Other comprehensive loss	—	—	—	—	(28)	9	(19)
Balance at December 31, 2017	<u>40,995</u>	<u>\$ 4</u>	<u>\$ 230,679</u>	<u>\$ (131,967)</u>	<u>\$ (898)</u>	<u>\$ 1,212</u>	<u>\$ 99,030</u>

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

Boingo Wireless, Inc.
Consolidated Statements of Cash Flows
(In thousands)

	For the Years Ended		
	December 31,		
	2017	2016	2015
Cash flows from operating activities			
Net loss	\$ (18,776)	\$ (26,983)	\$ (22,178)
Adjustments to reconcile net loss including non-controlling interests to net cash provided by operating activities:			
Depreciation and amortization of property and equipment	69,097	49,202	38,293
Amortization of intangible assets	3,498	3,448	3,576
Bad debt expense	773	116	304
Other	86	—	—
Impairment loss and loss on disposal of fixed assets, net	1,158	66	242
Stock-based compensation	14,215	12,805	9,398
Change in deferred income taxes	(2,575)	303	320
Change in fair value of contingent consideration	—	—	(114)
Changes in operating assets and liabilities:			
Accounts receivable	16,046	526	(16,050)
Prepaid expenses and other assets	(841)	(835)	(3,459)
Accounts payable	(1,554)	(465)	3,845
Accrued expenses and other liabilities	9,313	6,017	4,569
Deferred revenue	7,288	71,005	79,829
Net cash provided by operating activities	<u>97,728</u>	<u>115,205</u>	<u>98,575</u>
Cash flows from investing activities			
Purchases of property and equipment	(73,308)	(107,271)	(103,116)
Proceeds from sales of marketable securities	—	—	1,614
Payments for asset acquisitions	(1,150)	(60)	—
Net cash used in investing activities	<u>(74,458)</u>	<u>(107,331)</u>	<u>(101,502)</u>
Cash flows from financing activities			
Proceeds from credit facility	—	5,000	20,000
Principal payments on credit facility	(16,094)	(5,656)	(5,875)
Proceeds from exercise of stock options	9,244	2,984	1,373
Debt issuance costs	—	(124)	(62)
Payments of capital leases and notes payable	(4,207)	(2,212)	(814)
Payments of withholding tax on net issuance of restricted stock units	(4,872)	(2,827)	(2,512)
Payment of holdback consideration	—	—	(1,600)
Payments to non-controlling interest	(125)	(286)	(500)
Purchase of non-controlling interests	—	—	(1,150)
Payment of other acquisition related consideration	—	—	(17)
Net cash (used in) provided by financing activities	<u>(16,054)</u>	<u>(3,121)</u>	<u>8,843</u>
Effect of exchange rates on cash.	(16)	14	(47)
Net increase in cash and cash equivalents	<u>7,200</u>	<u>4,767</u>	<u>5,869</u>
Cash and cash equivalents at beginning of year	19,485	14,718	8,849
Cash and cash equivalents at end of year	<u>\$ 26,685</u>	<u>\$ 19,485</u>	<u>\$ 14,718</u>
Supplemental disclosure of cash flow information			
Cash paid for interest	\$ 239	\$ 418	\$ 347
Cash paid for taxes, net of refunds	\$ 304	\$ 163	\$ 62
Supplemental disclosure of non-cash investing and financing activities			
Property and equipment costs in accounts payable, accrued expenses and other liabilities	\$ 20,554	\$ 16,976	\$ 45,417
Purchase of equipment and prepaid maintenance services under capital financing arrangements	\$ 7,944	\$ 6,629	\$ 3,839
Capitalized stock-based compensation included in property and equipment costs	\$ 696	\$ 727	\$ 778
Purchase of intangible asset	\$ —	\$ 1,150	\$ —

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

Boingo Wireless, Inc.

Notes to the Consolidated Financial Statements

(In thousands, except shares and per share amounts)

1. The business

Boingo Wireless, Inc. and its subsidiaries (collectively "we," "us," "our" or "the Company") is a leading global provider of wireless connectivity solutions for smartphones, tablets, laptops, wearables and other wireless-enabled consumer devices. Boingo Wireless, Inc. was incorporated in April 16, 2001 in the State of Delaware. We have a diverse monetization model that enables us to generate revenues from wholesale partnerships, retail sales, and advertising across these wireless networks. Wholesale offerings include distributed antenna systems ("DAS") or small cells, which are cellular extension networks, carrier offload, Wi-Fi roaming, value-added services, private label Wi-Fi, and location based services. Retail products include Wi-Fi and TV services for military servicemen and women living in the barracks of U.S. Army, Air Force and Marines bases around the world, and Wi-Fi subscriptions and day passes that provide access to approximately 1.5 million commercial hotspots worldwide. Advertising revenue is driven by Wi-Fi sponsorships at airports, hotels, cafes and restaurants, and public spaces. Our customers include some of the world's largest carriers, telecommunications service providers and global consumer brands, as well as troops stationed at military bases and Internet savvy consumers on the go.

2. Summary of significant accounting policies

Basis of presentation and consolidation

Our consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP").

The accompanying consolidated financial statements include our accounts and the accounts of our majority owned subsidiaries. We consolidate our 70% ownership of Chicago Concourse Development Group, LLC and our 75% ownership of Boingo Holding Participacoes Ltda. in accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 810, *Consolidation*. Other parties' interests in consolidated entities are reported as non-controlling interests. All intercompany balances and transactions have been eliminated in consolidation.

In January 2017, the FASB issued Accounting Standards Update ("ASU") 2017-04, *Intangibles-Goodwill and Other (Topic 350)*, which simplifies how an entity is required to test goodwill for impairment. An entity will no longer perform a hypothetical purchase price allocation to measure goodwill impairment. Instead, impairment will be measured using the difference between the carrying amount and the fair value of the reporting unit. The standard is effective for interim and annual periods beginning after December 15, 2019 with early adoption permitted for goodwill impairment tests with measurement dates after January 1, 2017. We elected to early adopt ASU 2017-04 as of January 1, 2017 and the adoption of this standard did not have a material impact on our consolidated financial statements.

In August 2016, the FASB issued ASU 2016-15, *Statement of Cash Flows (Topic 230)*, which adds or clarifies guidance to reduce diversity in how certain transactions are classified in the statement of cash flows. The standard is effective for interim and annual periods beginning after December 15, 2017 with early adoption permitted. The standard requires application using a retrospective transition method. We elected to early adopt ASU 2016-15 as of January 1, 2017 and the adoption of this standard did not have a material impact on our consolidated financial statements.

Boingo Wireless, Inc.

Notes to the Consolidated Financial Statements (Continued)

(In thousands, except shares and per share amounts)

2. Summary of significant accounting policies (Continued)

In March 2016, the FASB issued ASU 2016-09, *Compensation—Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting*, which simplifies several aspects of the accounting for share-based payments including the following: entities record all excess tax benefits and tax deficiencies as an income tax benefit or expense in the income statement; entities classify excess tax benefits as an operating activity in the statement of cash flows; entities elect an accounting policy to either estimate the number of forfeitures (current U.S. GAAP) or account for forfeitures when they occur; and entities can withhold up to the maximum individual statutory rate without classifying the awards as a liability with the cash paid to satisfy the statutory income tax withholding obligation classified as a financing activity in the statement of cash flows. The standard provides for prospective, retrospective, or modified retrospective adoption of each of the changes, and the standard is effective for public entities for interim and annual periods beginning after December 15, 2016. Early adoption is permitted and we elected to early adopt ASU 2016-09 as of January 1, 2016. As a result of this adoption, we recorded \$6,933 and \$589 of net deferred tax assets related to our federal and state net operating losses for excess windfall tax benefits, respectively, as of January 1, 2016. We established a full valuation allowance against those deferred tax assets as of January 1, 2016 based on the determination that it was more likely than not that those deferred tax assets would not be realized. We also elected to change our accounting policy to account for forfeitures when they occur on a modified retrospective basis. The change in our accounting policy resulted in a \$94 increase to additional paid-in capital and accumulated deficit as of January 1, 2016.

In August 2014, the FASB issued ASU 2014-15, *Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern*, which explicitly requires management to assess an entity's ability to continue as a going concern in connection with each annual and interim period. Management will assess if there is substantial doubt about an entity's ability to continue as a going concern within one year of the date the financial statements are issued. Disclosures will be required if conditions give rise to substantial doubt. The standard will be effective for the first annual period ending after December 15, 2016. Early adoption is permitted. We adopted this standard effective December 31, 2016. This standard did not have a material impact on our consolidated financial statements.

Use of estimates

The preparation of accompanying consolidated financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the dates of the accompanying consolidated financial statements, and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates. Assets and liabilities which are subject to significant judgment and the use of estimates include the allowance for doubtful accounts, recoverability of goodwill and long-lived assets, valuation allowances with respect to deferred tax assets, uncertain tax positions, useful lives associated with property and equipment, valuation and useful lives of intangible assets, and the valuation and assumptions underlying stock-based compensation and other equity instruments. On an ongoing basis, we evaluate our estimates compared to historical experience and trends, which form the basis for making judgments about the carrying value of assets and liabilities.

Boingo Wireless, Inc.

Notes to the Consolidated Financial Statements (Continued)

(In thousands, except shares and per share amounts)

2. Summary of significant accounting policies (Continued)

Concentrations of credit risk

Financial instruments that potentially subject us to significant concentrations of credit risk consist primarily of cash and cash equivalents and accounts receivable. We maintain our cash and cash equivalents with institutions with high credit ratings. We extend credit based upon the evaluation of the customer's financial condition and generally collateral is not required. We maintain an allowance for doubtful accounts based upon expected collectability of accounts receivable. We primarily estimate our allowance for doubtful accounts based on a specific review of significant outstanding accounts receivable. For the year ended December 31, 2017, four customers accounted for 44% of total revenue. For the year ended December 31, 2016, two customers accounted for 23% of total revenue. For the year ended December 31, 2015, one customer accounted for 17% of total revenue. At December 31, 2017, three customers accounted for 19%, 17% and 13% of the total accounts receivable, respectively. At December 31, 2016, three customers accounted for 26%, 18% and 17% of the total accounts receivable, respectively.

Cash and cash equivalents

Cash and cash equivalents include highly liquid investments that are readily convertible into known amounts of cash with original maturities of three months or less when acquired. At December 31, 2017 and 2016, cash equivalents consisted of money market funds.

Fair value of financial instruments

Fair value is defined as the price that would be received from selling an asset, or paid to transfer a liability, in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities required or permitted to be recorded at fair value, we consider the principal or most advantageous market in which it would transact, and we consider assumptions that market participants would use when pricing the asset or liability.

The accounting guidance for fair value measurement also requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The standard establishes a fair value hierarchy based on the level of independent, objective evidence surrounding the inputs used to measure fair value. A financial instrument's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement. The fair value hierarchy is as follows:

- Level 1—Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities.
- Level 2—Quoted prices for identical assets and liabilities in markets that are not active, quoted prices for similar assets and liabilities in active markets or financial instruments for which significant inputs are observable, either directly or indirectly.
- Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The carrying amount reflected in the accompanying consolidated balance sheets for cash and cash equivalents, accounts receivable, prepaid expenses and other current assets, other assets, accounts

Boingo Wireless, Inc.

Notes to the Consolidated Financial Statements (Continued)

(In thousands, except shares and per share amounts)

2. Summary of significant accounting policies (Continued)

payable, accrued expenses and other liabilities, and deferred revenue approximates fair value due to the short duration and nature of these financial instruments.

Property and equipment

Property and equipment are generally stated at historical cost, less accumulated depreciation and amortization. The Company's cost basis includes property and equipment acquired in business combinations that were initially recorded at fair value as of the date of acquisition. Maintenance and repairs are charged to expense as incurred and the cost of additions and betterments that increase the useful lives of the assets are capitalized. Depreciation and amortization is computed over the estimated useful lives of the related asset type using the straight-line method.

The estimated useful lives for property and equipment are as follows:

Software	2 to 5 years
Computer equipment	3 to 5 years
Furniture, fixtures and office equipment	3 to 5 years
Leasehold improvements	The shorter of the estimated useful life or the remaining term of the agreements, generally ranging from 2 to 18 years

Leasehold improvements are principally comprised of network equipment located at various managed and operated locations, primarily airports, under exclusive, long-term, non-cancelable contracts to provide wireless communication network access. We capitalize certain costs for our network equipment during the pre-construction period, which is the period during which costs are incurred to evaluate the site, and continue to capitalize costs until the network equipment is substantially completed and ready for use. Cost for network equipment includes capitalized interest.

Equipment and software under capital lease

We lease certain data communications equipment, other equipment and software under capital lease agreements. The assets and liabilities under capital lease are recorded at the lesser of the present value of aggregate future minimum lease payments, including estimated bargain purchase options, or the fair value of the asset under lease. Assets under capital lease are depreciated using the straight-line method over the estimated useful lives of the assets or the term of the lease agreements.

Software development costs

We capitalize costs associated with software developed or obtained for internal use when the preliminary project stage is completed and it is determined that the software will provide significantly enhanced capabilities and modifications. These capitalized costs are included in property and equipment and include external direct cost of services procured in developing or obtaining internal-use software and personnel and related expenses for employees who are directly associated with, and who devote time to internal-use software projects. Capitalization of these costs ceases once the project is substantially complete and the software is ready for its intended use. Once the software is ready for its

Boingo Wireless, Inc.

Notes to the Consolidated Financial Statements (Continued)

(In thousands, except shares and per share amounts)

2. Summary of significant accounting policies (Continued)

intended use, the costs are amortized over the useful life of the software. Post-configuration training and maintenance costs are expensed as incurred.

Long-lived assets

Intangible assets consist of acquired venue contracts, technology, advertiser relationships, non-compete agreements and patents and trademarks. We record intangible assets at fair value as of the date of acquisition and amortize these finite-lived assets over the shorter of the contractual life or the estimated useful life on a straight-line basis. We estimate the useful lives of acquired intangible assets based on factors that include the planned use of each acquired intangible asset, the expected pattern of future cash flows to be derived from each acquired intangible asset and contractual periods specified in the related agreements. As such, we account for each of the venue contracts individually. We include amortization of acquired intangibles in amortization of intangible assets in the accompanying consolidated statements of operations.

We perform an impairment review of long-lived assets held and used whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors we consider important that could trigger an impairment review include, but are not limited to: significant under-performance relative to projected future operating results, significant changes in the manner of our use of the acquired assets or our overall business and product strategies and significant industry or economic trends. When we determine that the carrying value of a long-lived asset may not be recoverable based upon the existence of one or more of these indicators, we determine the recoverability by comparing the carrying amount of the asset to net future undiscounted cash flows that the asset is expected to generate or other indices of fair value. We would then recognize an impairment charge equal to the amount by which the carrying amount exceeds the fair market value of the asset.

Goodwill

Goodwill represents the excess of the purchase price over the fair value of net assets acquired in connection with the acquisition of Concourse Communication Group, LLC in June 2006, Cloud 9 Wireless, Inc. in August 2012, Endeka Group, Inc. in February 2013, and Electronic Media Systems, Inc. and Advanced Wireless Group, LLC in October 2013.

We test goodwill for impairment in accordance with guidance provided by FASB ASC 350, *Intangibles—Goodwill and Other*. Goodwill is tested for impairment at least annually at the reporting unit level or whenever events or changes in circumstances indicate that goodwill might be impaired. Events or changes in circumstances which could trigger an impairment review include a significant adverse change in legal factors or in the business climate, an adverse action or assessment by a regulator, unanticipated competition, a loss of key personnel, significant changes in the manner of our use of the acquired assets or the strategy for our overall business, significant negative industry or economic trends, or significant underperformance relative to expected historical or projected future results of operations. We perform our impairment test annually as of December 31st.

Entities have the option to first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the goodwill impairment test described in

Boingo Wireless, Inc.

Notes to the Consolidated Financial Statements (Continued)

(In thousands, except shares and per share amounts)

2. Summary of significant accounting policies (Continued)

FASB ASC 350. If, after assessing qualitative factors, an entity determines it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then performing the impairment test is unnecessary. The impairment loss, if any, is measured by comparing the implied fair value of the reporting unit goodwill with the carrying amount of goodwill.

Currently, we have one reporting unit, one operating segment and one reportable segment. At December 31, 2017 and 2016, all of the goodwill was attributed to our reporting unit. We tested our goodwill for impairment using a market based approach and no impairment was identified as the fair value of our reporting unit was substantially in excess of its carrying amount. To date, we have not recorded any goodwill impairment charges.

Revenue recognition

We generate revenue from several sources including: (i) DAS customers that are telecom operators under long-term contracts for access to our DAS at our managed and operated locations, (ii) military and retail customers under subscription plans for month-to-month network access that automatically renew, and military and retail single-use access from sales of hourly, daily or other single-use access plans, (iii) arrangements with wholesale Wi-Fi customers that provide software licensing, network access, and/or professional services fees, and (iv) display advertisements and sponsorships on our walled garden sign-in pages. Software licensed by our wholesale platform services customers can only be used during the term of the service arrangements and has no utility to them upon termination of the service arrangement.

We recognize revenue when an arrangement exists, services have been rendered, fees are fixed or determinable, no significant obligations remain related to the earned fees and collection of the related receivable is reasonably assured. Revenue is presented net of any sales and value added taxes.

Revenue generated from access to our DAS networks consists of build-out fees and recurring access fees under certain long-term contracts with telecom operators. Build-out fees paid upfront are generally deferred and recognized ratably over the term of the estimated customer relationship period, once the build-out is complete. Periodically, we install and sell Wi-Fi and DAS networks to customers where we do not have service contracts or remaining obligations beyond the installation of those networks and we recognize build-out fees for such projects as revenue when the installation work is completed and the network has been accepted by the customer. Minimum monthly access fees for usage of the DAS networks are non-cancellable and generally escalate on an annual basis. These minimum monthly access fees are recognized ratably over the term of the telecom operator agreement. The initial term of our contracts with telecom operators generally range from five to twenty years and the agreements generally contain renewal clauses. Revenue from DAS network access fees in excess of the monthly minimums is recognized when earned.

Subscription fees from military and retail customers are paid monthly in advance and revenue is deferred for the portions of monthly recurring subscription fees collected in advance. We provide refunds for our military and retail services on a case-by-case basis. These amounts are not significant and are recorded as contra-revenue in the period the refunds are made. Subscription fee revenue is recognized ratably over the subscription period. Revenue generated from military and retail single-use access is recognized when access is provided.

Boingo Wireless, Inc.

Notes to the Consolidated Financial Statements (Continued)

(In thousands, except shares and per share amounts)

2. Summary of significant accounting policies (Continued)

Services provided to wholesale Wi-Fi partners generally contain several elements including: (i) a term license to use our software to access our Wi-Fi network, (ii) access fees for Wi-Fi network usage, and/or (iii) professional services for software integration and customization and to maintain the Wi-Fi service. The term license, monthly minimum network access fees and professional services are billed on a monthly basis based upon predetermined fixed rates. Once the term license for integration and customization are delivered, the fees from the arrangement are recognized ratably over the remaining term of the service arrangement. The initial term of the license agreements is generally between one to three years and the agreements generally contain renewal clauses. Revenue for Wi-Fi network access fees in excess of the monthly minimum amounts is recognized when earned. All elements within existing service arrangements are generally delivered and earned concurrently throughout the term of the respective service arrangement.

In instances where the minimum monthly Wi-Fi and DAS network access fees escalate over the term of the wholesale service arrangement, an unbilled receivable is recognized when performance is within our control and when we have reasonable assurance that the unbilled receivable balance will be collected.

We adopted the provisions of ASU 2009-13, *Revenue Recognition (Topic 605)—Multiple-Deliverable Revenue Arrangements*, on a prospective basis on January 1, 2011. For multiple-deliverable arrangements entered into prior to January 1, 2011 that are accounted for under ASC 605-25, *Revenue Recognition—Multiple-Deliverable Revenue Arrangements*, we defer recognition of revenue for the full arrangement and recognize all revenue ratably over the term of the estimated customer relationship period for DAS arrangements and the wholesale service period for Wi-Fi platform service arrangements, as we do not have evidence of fair value for the undelivered elements in the arrangement. For multiple-deliverable arrangements entered into or materially modified after January 1, 2011 that are accounted for under ASC 605-25, we evaluate whether or not separate units of accounting exist and then allocate the arrangement consideration to all units of accounting based on the relative selling price method using estimated selling prices if vendor specific objective evidence and third party evidence is not available. We recognize the revenue associated with the separate units of accounting upon completion of such services or ratably over the term of the estimated customer relationship period for DAS arrangements and the wholesale service period for Wi-Fi platform service arrangements.

Advertising revenue is generated from advertisements on our managed and operated or partner networks. In determining whether an arrangement exists, we ensure that a binding arrangement is in place, such as a standard insertion order or a fully executed customer-specific agreement. Obligations pursuant to our advertising revenue arrangements typically include a minimum number of units or the satisfaction of certain performance criteria. Advertising and other revenue is recognized when the services are performed.

Foreign currency translation

Our Brazilian subsidiary uses the Brazilian Real as its functional currency. Assets and liabilities of our Brazilian subsidiary are translated to U.S. dollars at period-end rates of exchange, and revenues and expenses are translated at average exchange rates prevailing for each month. The resulting translation adjustments are made directly to a separate component of other comprehensive loss, which is reflected in stockholders' equity in our consolidated balance sheets. As of December 31, 2017 and

Boingo Wireless, Inc.

Notes to the Consolidated Financial Statements (Continued)

(In thousands, except shares and per share amounts)

2. Summary of significant accounting policies (Continued)

December 31, 2016, the Company had \$(898) and \$(870), respectively, of cumulative foreign currency translation adjustments, net of tax, which was \$0 as of December 31, 2017 and December 31, 2016 due to the full valuation allowance established against our deferred tax assets, in accumulated other comprehensive loss.

Some of our subsidiaries also enter into transactions and have monetary assets and liabilities that are denominated in a currency other than the entities' respective functional currencies. Gains and losses from the revaluation of foreign currency transactions and monetary assets and liabilities are included in the consolidated statements of operations.

Network access

Network access costs consist primarily of revenue share payments to venue owners where our managed and operated hotspots are located, usage-based fees to our roaming network partners for access to their networks, depreciation of equipment related to network build-out projects in our managed and operated locations, and bandwidth and other Internet connectivity expenses in our managed and operated locations.

Advertising, marketing and promotion costs

Advertising production costs are expensed the first time the advertisement is run. No advertising production costs were capitalized for the years ended December 31, 2017, 2016 and 2015. All other costs of advertising, marketing and promotion are expensed as incurred. Advertising expenses charged to operations totaled \$2,245, \$1,925 and \$1,703 for the years ended December 31, 2017, 2016 and 2015, respectively.

Stock-based compensation

Our stock-based compensation consists of stock options, and restricted stock units ("RSU") granted to employees and non-employees. We have shifted our stock-based compensation from stock options to RSUs and no stock options have been granted since 2014.

We recognize stock-based compensation expense in accordance with guidance provided by FASB ASC 718, *Compensation—Stock Compensation*. We measure employee stock-based compensation cost at grant date, based on the estimated fair value of the award and recognize the cost on a straight-line basis, net of forfeitures, over the employee requisite service period. We estimate the fair value of stock options using a Black-Scholes option pricing model. The model requires input of assumptions regarding expected term, expected volatility, dividend yield, and a risk-free interest rate.

As stock-based compensation expense recognized in our accompanying consolidated statements of operations is based on awards ultimately expected to vest, the amount has been reduced for forfeitures. We early adopted the provisions of ASU 2016-09 on January 1, 2016 and elected to change our accounting policy to account for forfeitures when they occur on a modified retrospective basis. Prior to January 1, 2016, ASC 718 required forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Forfeitures were estimated based on our historical experience and future expectations.

Boingo Wireless, Inc.

Notes to the Consolidated Financial Statements (Continued)

(In thousands, except shares and per share amounts)

2. Summary of significant accounting policies (Continued)

Compensation expense for non-employee stock-based awards is recognized in accordance with ASC 718 and FASB ASC 505, *Equity*. Stock option awards issued to non-employees are accounted for at fair value using the Black-Scholes option pricing model. Management believes that the fair value of the stock options is more reliably measured than the fair value of the services received. We record compensation expense based on the then-current fair value of the stock options at each financial reporting date. Compensation recorded during the service period is adjusted in subsequent periods for changes in the stock options' fair value until the earlier of the date at which the non-employee's performance is complete or a performance commitment is reached, which is generally when the stock award vests.

Income taxes

We account for income taxes in accordance with FASB ASC 740, *Accounting for Income Taxes*, which requires the recognition of deferred tax assets and liabilities for the future consequences of events that have been recognized in our accompanying consolidated financial statements or tax returns. The measurement of the deferred items is based on enacted tax laws. In the event the future consequences of differences between financial reporting bases and the tax bases of our assets and liabilities result in a deferred tax asset, ASC 740 requires an evaluation of the probability of being able to realize the future benefits indicated by such asset. A valuation allowance related to a deferred tax asset is recorded when it is more likely than not that some portion or the entire deferred tax asset will not be realized. As part of the process of preparing our accompanying consolidated financial statements, we are required to estimate our income taxes in each of the jurisdictions in which we operate. We also assess temporary differences resulting from differing treatment of items, such as deferred revenue, for tax and accounting differences. We record a valuation allowance to reduce the deferred tax assets to the amount of future tax benefit that is more likely than not to be realized.

ASC 740 prescribes a recognition threshold and measurement methodology to recognize and measure an income tax position taken, or expected to be taken, in a tax return. The evaluation of a tax position is based on a two-step approach. The first step requires an entity to evaluate whether the tax position would "more likely than not" be sustained upon examination by the appropriate taxing authority. The second step requires the tax position be measured at the largest amount of tax benefit that is greater than 50% likely of being realized upon ultimate settlement. In addition, previously recognized benefits from tax positions that no longer meet the new criteria would no longer be recognized. Changes in recognition or measurement are reflected in the period in which the change occurs.

Non-controlling interests

Non-controlling interests are comprised of minority holdings in Chicago Concourse Development Group, LLC ("CCDG") and Boingo Holding Participacoes Ltda ("BHPL").

Under the terms of the LLC agreement for CCDG, we are generally required to distribute annually to the CCDG non-controlling interest holders 30% of allocated net profits less capital expenditures of the preceding year. For the years ended December 31, 2017, 2016 and 2015, we made distributions of \$125, \$286 and \$500, respectively, to non-controlling interest holders of CCDG.

Boingo Wireless, Inc.**Notes to the Consolidated Financial Statements (Continued)****(In thousands, except shares and per share amounts)****2. Summary of significant accounting policies (Continued)**

Under the terms of the LLC agreement for BHPL, we attributed profits and losses to the non-controlling interest in BHPL in proportion to their holdings. For the years ended December 31, 2017, 2016 and 2015, we made no distributions to the non-controlling interest holder of BHPL.

Net loss per share attributable to common stockholders

Basic net loss per share attributable to common stockholders is calculated by dividing loss attributable to common stockholders by the weighted average number of shares of common stock outstanding during the period. Diluted net loss per share attributable to common stockholders adjusts the basic weighted average number of shares of common stock outstanding for the potential dilution that could occur if stock options and RSUs were exercised or converted into common stock. Our common stockholders are not entitled to receive any dividends.

Segment and geographic information

We operate as one reportable segment; a service provider of wireless connectivity solutions across our managed and operated network and aggregated network for mobile devices such as laptops, smartphones, tablets and other wireless-enabled consumer devices. This single segment is consistent with the internal organization structure and the manner in which operations are reviewed and managed by our Chief Executive Officer, the chief operating decision maker.

All significant long-lived tangible assets are held in the United States of America. We do not disclose sales by geographic area because to do so would be impracticable.

The following is a summary of our revenue by primary revenue source:

	Year Ended December 31,		
	2017	2016	2015
Revenue:			
DAS	\$ 80,552	\$ 58,182	\$ 46,455
Military	55,129	39,975	19,898
Wholesale—Wi-Fi	31,529	22,221	21,923
Retail	24,926	26,636	31,763
Advertising and other	12,233	12,330	19,587
Total revenue	<u>\$ 204,369</u>	<u>\$ 159,344</u>	<u>\$ 139,626</u>

Recent accounting pronouncements

In May 2017, the FASB issued ASU 2017-09, *Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting*, which provides guidance on the types of changes to the terms or conditions of share-based payment awards to which an entity applies modification accounting under ASC 718. According to the new standard, an entity would not apply modification accounting if the fair value, vesting conditions and classification of the modified award is the same as the original award immediately before the original award is modified. The standard is effective for interim and annual periods beginning after December 15, 2017. Early adoption is permitted for all entities. The standard

Boingo Wireless, Inc.

Notes to the Consolidated Financial Statements (Continued)

(In thousands, except shares and per share amounts)

2. Summary of significant accounting policies (Continued)

will be applied prospectively to modifications that occur on or after the adoption date. We currently do not expect that this standard will have a material impact on our consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*, which requires lessees to recognize assets and liabilities for all leases with lease terms of more than 12 months on the balance sheet. Under the new guidance, the recognition, measurement, and presentation of expenses and cash flows arising from a lease by a lessee will depend on its classification as a finance or operating lease. The standard is effective for interim and annual periods beginning after December 15, 2018. Early adoption is permitted for all entities on a modified retrospective basis, with elective reliefs. We are currently evaluating the expected impact of this new standard.

In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers*, which replaces the existing accounting standards for revenue recognition with a single comprehensive five-step model, eliminating industry-specific accounting rules. The core principle is to recognize revenue upon the transfer of control of goods or services to a customer at an amount that reflects the consideration expected to be received. Since the issuance of ASU 2014-09, the FASB has amended several aspects of the new guidance. The standard, as amended, will be effective for us beginning January 1, 2018. An entity may choose to adopt the new standard either retrospectively or through a cumulative effect adjustment as of the start of the first period for which it applies the new standard. We plan to adopt the standard through a cumulative effect adjustment as of January 1, 2018. We are currently evaluating the effect that the standard will have on our consolidated financial statements and related disclosures. We are also completing our evaluation of the impact of the new standard on our accounting policies, processes, and system requirements. As part of the adoption of the new standard, we have identified changes to and modified certain of our accounting policies and practices and have accordingly added and/or modified certain controls. To date, we have not implemented any significant changes to our accounting systems. We are continuing to assess all potential impacts of the new standard. We currently believe that the most significant impact relates to the timing of revenue recognition and presentation of financial statement accounts related to our DAS customer contracts and, separately, the presentation of financial statement accounts related to our wholesale Wi-Fi contracts. Under the new standard, we expect to recognize revenue for our DAS contracts over the relevant service period or contract term based on the estimated transaction price allocated to each performance obligation identified. Due to the complexity of certain of our DAS contracts, the actual accounting treatment under the new standard for these arrangements may be dependent on contract-specific terms and therefore may vary in some instances. We will also present our DAS and wholesale Wi-Fi contracts in our consolidated balance sheet as either a contract asset or a contract liability with any unconditional rights to consideration presented separately as a receivable. We expect military, retail and advertising and other revenue will remain substantially unchanged.

Boingo Wireless, Inc.**Notes to the Consolidated Financial Statements (Continued)****(In thousands, except shares and per share amounts)****3. Cash and cash equivalents**

Cash and cash equivalents consisted of the following:

	December 31,	
	2017	2016
Cash and cash equivalents:		
Cash	\$ 24,430	\$ 17,246
Money market accounts	2,255	2,239
Total cash and cash equivalents	<u>\$ 26,685</u>	<u>\$ 19,485</u>

For the years ended December 31, 2017, 2016 and 2015, interest income was \$17, \$8 and \$66, respectively, which is included in interest and other expense, net in the accompanying consolidated statements of operations.

4. Accounts receivables, net and other receivables

Accounts receivable, net of allowances for doubtful accounts and other receivables consisted of the following:

	December 31,	
	2017	2016
Trade receivables, net of allowances	\$ 25,079	\$ 39,404
Unbilled access fees	274	21
Unbilled platform service arrangements	795	3,553
Accounts receivable, net	<u>\$ 26,148</u>	<u>\$ 42,978</u>
Unbilled access fees	\$ 817	\$ 867
Unbilled platform service arrangements	3	694
Non-current other receivables	<u>\$ 820</u>	<u>\$ 1,561</u>

Access fees are recorded under long-term contracts with our wholesale partners that are telecom operators for access to our DAS at our managed and operated locations. Platform service fees are recorded under long-term contracts with our wholesale Wi-Fi partners. These access and platform service fees escalate on an annual basis from which we receive fixed contractual payments and recognize revenue ratably over the term of the contracts.

Boingo Wireless, Inc.**Notes to the Consolidated Financial Statements (Continued)****(In thousands, except shares and per share amounts)****4. Accounts receivables, net and other receivables (Continued)**

Included in accounts receivables, net for the periods indicated was the allowance for doubtful accounts, which consisted of the following:

	<u>Allowance for Doubtful Accounts</u>
Balance, December 31, 2014	\$ 394
Additions charged to operations	304
Deductions from reserves, net	(93)
Balance, December 31, 2015	605
Additions charged to operations	116
Deductions from reserves, net	(279)
Balance, December 31, 2016	442
Additions charged to operations	773
Deductions from reserves, net	(352)
Balance, December 31, 2017	<u>\$ 863</u>

5. Accrued expenses and other liabilities

Accrued expenses and other liabilities consisted of the following:

	<u>December 31,</u>	
	<u>2017</u>	<u>2016</u>
Accrued construction in progress	\$ 12,661	\$ 6,753
Accrued customer liabilities	7,100	4,651
Revenue share	5,506	5,611
Salaries and wages	5,066	3,001
Accrued professional fees	1,979	1,183
Accrued taxes	1,897	1,761
Accrued partner network	1,799	1,022
Other	6,397	3,741
Total accrued expenses and other liabilities	<u>\$ 42,405</u>	<u>\$ 27,723</u>

Boingo Wireless, Inc.**Notes to the Consolidated Financial Statements (Continued)****(In thousands, except shares and per share amounts)****6. Property and equipment**

The following is a summary of property and equipment, at cost less accumulated depreciation and amortization:

	December 31,	
	2017	2016
Leasehold improvements	\$ 418,023	\$ 358,477
Software	42,281	33,349
Construction in progress	27,291	18,859
Computer equipment	13,245	10,878
Furniture, fixtures and office equipment	1,806	1,760
Total property and equipment	502,646	423,323
Less: accumulated depreciation and amortization	(240,287)	(172,558)
Total property and equipment, net	<u>\$ 262,359</u>	<u>\$ 250,765</u>

Included in property and equipment at December 31, 2017 and 2016 was equipment acquired under capital leases totaling \$12,714 and \$8,780, respectively, and related accumulated depreciation and amortization of \$3,744 and \$2,352, respectively.

Depreciation and amortization expense, which includes depreciation and amortization for property and equipment under capital leases, is allocated on a specific identification basis as follows on the accompanying consolidated statements of operations:

	For the Years Ended		
	December 31,		
	2017	2016	2015
Network access	\$ 42,435	\$ 27,013	\$ 22,666
Network operations	16,382	13,966	9,058
Development and technology	9,247	7,207	5,441
General and administrative	1,033	1,016	1,128
Total depreciation and amortization of property and equipment	<u>\$ 69,097</u>	<u>\$ 49,202</u>	<u>\$ 38,293</u>

During the years ended December 31, 2017, 2016, and 2015 we recognized \$882, \$54, and \$215, respectively, of impairment losses primarily related to construction in progress projects that were abandoned. During the year ended December 31, 2017, we also recognized \$276 of losses on disposals of property and equipment.

Boingo Wireless, Inc.

Notes to the Consolidated Financial Statements (Continued)

(In thousands, except shares and per share amounts)

7. Intangible assets

The following table sets forth the changes in our intangible assets balance, for all periods presented:

	Intangible Assets
Balance, December 31, 2015	\$ 16,055
Additions	1,210
Amortization expense	(3,470)
Impairment loss	(12)
Balance, December 31, 2016	13,783
Amortization expense	(3,520)
Balance, December 31, 2017	<u>\$ 10,263</u>

In November 2016, we acquired a caching technology intangible asset for \$1,250 which was valued at the date of acquisition based on Level 3 inputs. \$1,150 of the purchase price was paid in January 2017. The identifiable intangible asset was valued at fair value at \$1,210 using the cost savings and replacement cost methods using a discount rate of 20%. The remaining purchase price was expensed as it related to the settlement of a pre-existing contractual relationship. The caching technology has an estimated useful life of 4 years.

During 2016 we recorded impairment losses for certain patent applications that we abandoned.

Intangible assets at December 31, 2017 consist of the following:

	Historical Cost	Accumulated Amortization	Net
Venue contracts	\$ 22,061	\$ (13,835)	\$ 8,226
Non-compete agreements	3,590	(2,992)	598
Technology	2,410	(1,265)	1,145
Patents, trademarks and other	844	(550)	294
	<u>\$ 28,905</u>	<u>\$ (18,642)</u>	<u>\$ 10,263</u>

Intangible assets at December 31, 2016 consist of the following:

	Historical Cost	Accumulated Amortization	Net
Venue contracts	\$ 23,601	\$ (13,276)	\$ 10,325
Non-compete agreements	3,590	(2,274)	1,316
Technology	3,520	(1,742)	1,778
Advertiser relationships	70	(62)	8
Patents, trademarks and other	1,034	(678)	356
	<u>\$ 31,815</u>	<u>\$ (18,032)</u>	<u>\$ 13,783</u>

Boingo Wireless, Inc.**Notes to the Consolidated Financial Statements (Continued)****(In thousands, except shares and per share amounts)****7. Intangible assets (Continued)**

The decrease in our intangible assets cost and accumulated amortization balances from 2016 to 2017 related to the write-off of intangible assets that have expired.

Amortization expense for fiscal years 2018 through 2022 and thereafter is as follows:

<u>Year</u>	<u>Amortization Expense</u>
2018	\$ 2,674
2019	1,937
2020	1,832
2021	1,455
2022	1,261
Thereafter	1,104
	<u>\$ 10,263</u>

8. Fair value measurement

The following table sets forth our financial assets that are measured at fair value on a recurring basis:

<u>At December 31, 2017</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
Assets:				
Money market accounts	\$ 2,255	\$ —	\$ —	\$ 2,255
Total assets	<u>\$ 2,255</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 2,255</u>

<u>At December 31, 2016</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
Assets:				
Money market accounts	\$ 2,239	\$ —	\$ —	\$ 2,239
Total assets	<u>\$ 2,239</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 2,239</u>

9. Stockholders' equity

At December 31, 2017 and 2016, we are authorized to issue up to 100,000,000 shares of common stock. We are required to reserve and keep available out of our authorized but unissued shares of common stock such number of shares sufficient to effect the exercise of all outstanding common stock warrants, plus shares granted and available for grant under our Amended and Restated 2001 Stock Incentive Plan (the "2001 Plan") and 2011 Equity Incentive Plan (the "2011 Plan"), as amended. Refer to Note 14 for a discussion of the 2011 Plan amendments.

Boingo Wireless, Inc.**Notes to the Consolidated Financial Statements (Continued)****(In thousands, except shares and per share amounts)****9. Stockholders' equity (Continued)**

The amount of such shares of common stock reserved for these purposes is as follows:

	December 31, 2017	December 31, 2016
	(in thousands)	
Outstanding stock options under the 2001 Plan	155	1,090
Outstanding stock options under the 2011 Plan	1,128	1,994
Outstanding RSUs under the 2011 Plan	3,324	3,825
Shares available for grant under the 2011 Plan	3,863	2,576
Total	<u>8,470</u>	<u>9,485</u>

10. Credit Facility

We have entered into a Credit Agreement (the "Credit Agreement") and related agreements, as amended, with Bank of America, N.A. acting as agent for lenders named therein, including Bank of America, N.A., Silicon Valley Bank, and Citizens Bank, N.A. (the "Lenders"), for a secured credit facility in the form of a revolving line of credit of up to \$69,750, which was increased from \$46,500 in February 2016, with an option to increase the available amount to \$86,500 upon the satisfaction of certain conditions (the "Revolving Line of Credit") and a term loan of \$3,500 (the "Term Loan" and together with the Revolving Line of Credit, the "Credit Facility"). We may use borrowings under the credit facility for general working capital and corporate purposes. In general, amounts borrowed under the Credit Facility are secured by a lien against all of our assets, with certain exclusions.

As of December 31, 2017 and 2016, \$0 and \$15,000, respectively, was outstanding under the Revolving Line of Credit. The Revolving Line of Credit requires quarterly payments of interest and matures on November 21, 2018, but may be prepaid in whole or part at any time. Amounts borrowed under the Revolving Line of Credit and Term Loan will bear, at the Company's election, a variable interest at LIBOR plus 2.5% - 3.5% or Lender's Prime Rate plus 1.5% - 2.5% per year and we will pay a fee of 0.375% - 0.5% per year on any unused portion of the Revolving Line of Credit. As of December 31, 2017 and 2016, \$875 and \$1,969, respectively, was outstanding under the Term Loan. The Term Loan requires quarterly payments of interest and principal, amortizing fully over the four-year-term such that it is repaid in full on the maturity date of November 21, 2018, but may be prepaid in whole or part at any time. Repayment of amounts borrowed under the Credit Facility may be accelerated in the event that we are in violation of the representations, warranties and covenants made in the Credit Agreement, including certain financial covenants set forth therein, and under other specified default events including, but not limited to, non-payment or inability to pay debt, breach of cross default provisions, insolvency provisions, and change of control.

The Company is subject to customary financial and non-financial covenants, including a minimum quarterly consolidated leverage ratio, a maximum quarterly consolidated fixed charge coverage ratio, and monthly liquidity minimums. The Company was in compliance with all financial covenants as of December 31, 2017.

The Company incurred \$124 of additional debt issuance costs in February 2016 and \$62 of additional debt issuance costs in August 2015. Debt issuance costs are amortized on a straight-line basis

Boingo Wireless, Inc.

Notes to the Consolidated Financial Statements (Continued)

(In thousands, except shares and per share amounts)

10. Credit Facility (Continued)

over the term of the Credit Facility. Amortization expense related to debt issuance costs are included in interest and other expense in the accompanying consolidated statements of operations for the years ended December 31, 2017, 2016, and 2015. Amortization and interest expense capitalized amounted to \$773, \$823, and \$648 for the years ended December 31, 2017, 2016, and 2015, respectively. Amortization and interest expense recorded amounted to \$187 and \$309 for the years ended December 31, 2017 and 2016, respectively. Interest rates for our Credit Facility for the year ended December 31, 2017 ranged from 3.5% to 3.8%, and the interest rate was 3.8% at December 31, 2017.

As of December 31, 2017 and 2016, the carrying amount reflected in the accompanying consolidated balance sheets for the current portion of long-term debt and long-term debt approximates fair value (Level 2) based on the variable nature of the interest rates and lack of significant change in our credit risk.

11. Income taxes

The income tax (benefit) expense by jurisdiction consists of the following for the years ended December 31:

	<u>2017</u>	<u>2016</u>	<u>2015</u>
U.S. federal:			
Current	\$ (6)	\$ 55	\$ 27
Deferred	(2,787)	345	319
Total U.S. federal	<u>\$ (2,793)</u>	<u>\$ 400</u>	<u>\$ 346</u>
U.S. state and local:			
Current	\$ 503	\$ 69	\$ 134
Deferred	212	(42)	1
Total U.S. state and local	<u>\$ 715</u>	<u>\$ 27</u>	<u>\$ 135</u>

Income taxes differ from the amounts computed by applying the U.S. federal income tax rate to pretax income before income taxes as a result of the following for the years ended December 31:

	<u>2017</u>	<u>2016</u>	<u>2015</u>
Federal statutory rate	34.0%	34.0%	34.0%
State and local	9.6	2.2	4.1
Foreign rate differential	(0.7)	(0.4)	(0.5)
Stock options	0.4	(1.5)	(1.5)
Excess tax benefits from stock-based compensation	34.3	2.8	—
Non-controlling interests	1.1	0.6	0.5
Valuation allowance	(83.6)	(38.9)	(39.0)
Uncertain tax positions	0.6	(0.2)	(0.1)
Effect of U.S. tax reform law changes	14.7	—	—
Other	(0.4)	(0.2)	0.3
Income taxes	<u>10.0%</u>	<u>(1.6)%</u>	<u>(2.2)%</u>

Boingo Wireless, Inc.**Notes to the Consolidated Financial Statements (Continued)****(In thousands, except shares and per share amounts)****11. Income taxes (Continued)**

We have a foreign subsidiary in the United Kingdom, which has generated losses since inception resulting in a \$1,856 deferred tax asset with a corresponding valuation allowance as of December 31, 2017. We also have a majority owned foreign subsidiary in Brazil, which has generated losses since inception resulting in a \$521 deferred tax asset with a corresponding valuation allowance as of December 31, 2017. Foreign loss before income taxes was \$1,268, \$856, and \$1,381 for 2017, 2016, and 2015, respectively.

Deferred income tax reflects the tax effects of temporary differences that gave rise to significant portions of our deferred tax assets and liabilities and consisted of the following for the years ended December 31:

	2017	2016
Deferred tax assets:		
Net operating loss carryforwards	\$ 23,838	\$ 23,669
Outside basis differences for U.S. partnerships	14,306	16,121
Stock options	4,100	5,307
Deferred revenue	748	526
Deferred compensation	249	199
State taxes	78	49
Other	1,282	1,622
Valuation allowance	(34,990)	(36,331)
Net deferred tax assets	9,611	11,162
Deferred tax liabilities:		
Intangible assets	(3,632)	(5,658)
Property and equipment	(6,983)	(8,712)
Net deferred tax liabilities	(10,615)	(14,370)
Net deferred taxes	<u>\$ (1,004)</u>	<u>\$ (3,208)</u>

In December 2017, the Tax Cuts and Jobs Act ("TCJA") was enacted in the U.S. TCJA amended the Internal Revenue Code of 1986 and included the following key provisions, which are generally effective for tax years beginning after December 31, 2017, that are determined to have a significant impact on our effective tax rate:

- Reduction of the corporate federal tax rate to 21%;
- Permanent repeal of the alternative minimum tax regime with refunds of excess carryforwards;
- For any net operating losses ("NOLs") generated in tax years beginning after December 31, 2017, repeals carryback ability but permits indefinite carryforward subject to a limitation of utilization to 80% of taxable income;
- For executive compensation in excess of \$1 million, changes covered employees to principal executive officer, principal financial officer, and three other highest paid officers; eliminates the "last day of the tax year" language for determination of a covered employee; removes exceptions

Boingo Wireless, Inc.

Notes to the Consolidated Financial Statements (Continued)

(In thousands, except shares and per share amounts)

11. Income taxes (Continued)

for commissions and performance-based compensation; and employees that are covered persons remain covered persons for all future years;

- Permits 100% bonus depreciation for eligible property placed in-service after September 27, 2017 and before January 1, 2023;
- Disallows interest expense in excess of 30% of adjusted taxable income, which excludes deductions for depreciation, amortization, or depletion for taxable years beginning after December 31, 2017 and before January 1, 2022 only, but permits indefinite carryforward; and
- Expands income exclusions and/or deduction limitations for certain fringe benefits that we may offer to our employees.

We have completed our assessment of the impact of TCJA on our consolidated financial statements as of December 31, 2017 and have recorded the impact of the enactment of TCJA in our consolidated financial statements for the year ended December 31, 2017. In 2017, we recorded a \$1,274 income tax benefit resulting from the reduction of the corporate federal tax rate as well as a \$1,766 income tax benefit provided by the indefinite carryforward of NOLs, which are expected to be available to recover our deferred tax liabilities that have an indefinite reversal pattern.

As noted above, we adopted ASU 2016-09 as of January 1, 2016. As a result of the adoption of ASU 2016-09, excess windfall tax benefits and tax deficiencies related to our stock option exercises and RSU vestings are recognized as an income tax benefit or expense in our consolidated statements of operations in the period they are deducted on the income tax return. Prior to January 1, 2016, excess windfall tax benefits were not included as components of gross deferred tax assets and corresponding valuation allowance disclosures, as tax attributes related to those windfall tax benefits were not recognized until they resulted in a reduction of taxes payable.

In assessing the realizability of deferred tax assets, we consider whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. As of December 31, 2017 and 2016, we had federal net operating loss carryforwards of approximately \$82,461 and \$55,780, respectively, state net operating loss carryforwards of approximately \$73,934 and \$56,006, respectively, and foreign net operating loss carryforwards of \$10,811 and \$9,672, respectively. The federal net operating loss carryforwards will begin to expire in 2025, and our foreign net operating loss carryforwards have an indefinite life. Our state net operating loss carryforwards will begin to expire in 2032. Our ability to utilize certain of our net operating loss carryforwards may be limited in the event that a change in ownership, as defined in the Internal Revenue Code, occurs in the future.

Boingo Wireless, Inc.**Notes to the Consolidated Financial Statements (Continued)****(In thousands, except shares and per share amounts)****11. Income taxes (Continued)**

The following table sets forth the changes in the valuation allowance, for all periods presented:

	<u>Valuation Allowance</u>
Balance, December 31, 2014	\$ 12,470
Additions charged to operations	7,078
Decrease credited to operations	—
Balance, December 31, 2015	19,548
Additions charged to operations	16,783
Decrease credited to operations	—
Balance, December 31, 2016	36,331
Additions charged to operations	16,527
Effect of U.S. tax reform law changes	(17,868)
Decrease credited to operations	—
Balance, December 31, 2017	<u>\$ 34,990</u>

In reaching the determination of the valuation allowance, we have evaluated all significant available positive and negative evidence including, but not limited to, our three year cumulative results, trends in our business, expected future results and the character, amount and expiration periods of our net deferred tax assets. The underlying assumptions we used in forecasting future income required significant judgment and took into account our recent performance.

We recognized interest and penalties related to income tax matters in income taxes. Interest and penalties were not material during the years ended December 31, 2017, 2016, and 2015.

We identify, evaluate and measure all uncertain tax positions taken or to be taken on tax returns and record liabilities for the amount of these positions that may not be sustained, or may only partially be sustained, upon examination by the relevant taxing authorities. Although we believe that our estimates and judgments were reasonable, actual results may differ from these estimates. Some or all of these judgments are subject to review by the taxing authorities. As of December 31, 2017, we had \$0 in uncertain tax positions. As of December 31, 2016, we had \$380 in uncertain tax positions, \$84 of which is a reduction to deferred tax assets, which is presented net of uncertain tax positions, in the accompanying consolidated balance sheets. We accrue interest and penalties related to unrecognized tax benefits as a component of income taxes. As of December 31, 2016, we had accrued \$67 for related interest, net of federal income tax benefits, and penalties recorded in income tax expense on our consolidated statements of operations.

Boingo Wireless, Inc.**Notes to the Consolidated Financial Statements (Continued)****(In thousands, except shares and per share amounts)****11. Income taxes (Continued)**

A reconciliation of our unrecognized tax benefits, excluding interest and penalties, is as follows:

	<u>Uncertain Tax Positions</u>
Balance, December 31, 2015 and 2016	\$ 313
Additions for current period tax positions	—
Reversals during the current period	(313)
Balance, December 31, 2017	<u>\$ —</u>

Our annual income taxes and the determination of the resulting deferred tax assets and liabilities involve a significant amount of judgment. Our judgments, assumptions and estimates relative to current income taxes take into account current tax laws, their interpretation of current tax laws and possible outcomes of current and future audits conducted by foreign and domestic tax authorities. We operate within federal, state and international taxing jurisdictions and are subject to audit in these jurisdictions. These audits can involve complex issues which may require an extended period of time to resolve. We are subject to taxation in the United States and in various states. Our tax years 2014 and forward are subject to examination by the IRS and our tax years 2013 and forward are subject to examination by material state jurisdictions. However, due to prior year loss carryovers, the IRS and state tax authorities may examine any tax years for which the carryovers are used to offset future taxable income. We are currently subject to examination by the IRS for our 2015 tax year. Although the ultimate outcome is unknown, we believe that any adjustments that may result from examination is not likely to have a material adverse effect on our consolidated results of operations, financial position or cash flows.

12. Commitments and contingencies**Capital leases, notes payable, and operating leases**

We lease space in managed and operated locations, primarily airports, under exclusive long-term, non-cancellable contracts to provide Wi-Fi connectivity and cellular phone access to our DAS network. Our leases generally contain initial terms that range up to 20 years. The agreements generally contain renewal clauses and may include escalation clauses. Minimum rent expense is recorded on a straight-line basis over the term of the lease. Rent expense related to our leases for the years ended December 31, 2017, 2016 and 2015 was \$32,637, \$27,140 and \$25,099, respectively.

We lease equipment, primarily data communication equipment and database software under non-cancellable capital leases that will expire over the next three years. The leases are collateralized by the equipment under the lease. We also purchase data communication equipment under financing arrangements with a non-related third party. Our agreements are collateralized by the equipment and generally contain three year terms. Interest expense associated with these capital financing arrangements for the years ended December 31, 2017, 2016 and 2015 was \$302, \$158 and \$58, respectively. We also lease office space under non-cancellable operating leases and our long-term office leases may include escalation clauses, rent holidays, and/or leasehold improvement incentives. Rent expense for our leases of office facilities, which is recorded on a straight-line basis over the term of the lease, for the years ended December 31, 2017, 2016 and 2015 was \$2,936, \$2,993 and \$2,995, respectively.

Boingo Wireless, Inc.**Notes to the Consolidated Financial Statements (Continued)****(In thousands, except shares and per share amounts)****12. Commitments and contingencies (Continued)**

Future minimum obligations under non-cancellable operating and capital leases and notes payable at December 31, 2017 are as follows:

<u>Years ended December 31,</u>	<u>Capital Leases and Notes Payable</u>	<u>Operating Leases and Venue Guarantees</u>
2018	\$ 6,035	\$ 12,850
2019	4,701	10,758
2020	2,179	10,077
2021	—	7,650
2022	—	8,494
Thereafter	—	19,217
Minimum lease payments	12,915	\$ 69,046
Less: Amounts representing interest ranging from 2.0% to 7.7%	(397)	
Minimum lease payments	\$ 12,518	
Current portion	\$ 5,771	
Non-current portion	\$ 6,747	

As of December 31, 2017 and 2016, the carrying amount reflected in the accompanying consolidated balance sheets for the current portion of capital leases and notes payable of \$5,771 and \$3,993, respectively, and long-term portion of capital leases and notes payable of \$6,747 and \$4,612, respectively, approximates fair value (Level 2) based on the lack of significant change in our credit risk.

Letters of credit

We have entered into Letter of Credit Authorization agreements (collectively, "Letters of Credit"), which are issued under our Credit Agreement. The Letters of Credit are irrevocable and serve as performance guarantees that will allow our customers to draw upon the available funds if we are in default. As of December 31, 2017, we have Letters of Credit totaling \$8,204 that are scheduled to expire or renew over the next one year period. There have been no drafts drawn under these Letters of Credit as of December 31, 2017.

Legal proceedings

From time to time, we may be subject to claims, suits, investigations and proceedings arising out of the normal course of business. We are not currently a party to any litigation that we believe could have a material adverse effect on our business, financial position, results of operations or cash flows. Legal costs are expensed as incurred.

Boingo Wireless, Inc.

Notes to the Consolidated Financial Statements (Continued)

(In thousands, except shares and per share amounts)

12. Commitments and contingencies (Continued)

Indemnification

Indemnification provisions in our third-party service provider agreements provide that we will indemnify, hold harmless, and reimburse the indemnified parties on a case-by-case basis for losses suffered or incurred by the indemnified parties in connection with any claim by any third party as a result of our website, advertising, marketing, payment processing, collection or customer service activities. The maximum potential amount of future payments we could be required to make under these indemnification provisions is undeterminable. We have never paid a claim, nor have we been sued in connection with these indemnification provisions. At December 31, 2017 and 2016, we have not accrued a liability for these guarantees, because the likelihood of incurring a payment obligation in connection with these guarantees is not probable.

Employment contracts

As of December 31, 2017, we have entered into employment contracts with ten of our officers and other employees. These contracts generally provide for severance benefits, including salary continuation, if employment is terminated by us without cause or by the officer for good reason. In addition, in order to assure that they would continue to provide independent leadership consistent with our best interests in the event of an actual or threatened change in control, the contract also generally provides for certain protections in the event of such a change in control. These protections include the payment of certain severance benefits, including salary continuation, upon the termination of employment following a change in control.

Other matters

We have received a claim from one of our venue partners with respect to contractual terms on our revenue share payments. The claim asserts that we have underpaid revenue share payments and related interest by approximately \$4,600. We are currently in final settlement discussions with our venue partner. As of December 31, 2017, we have accrued for the probable and estimable losses that have been incurred, which have been recorded as general and administrative expenses in the consolidated statements of operations. We are not currently a party to any other claims that we believe could have a material adverse effect on our business, financial position, results of operations or cash flows.

13. Stock repurchases

On April 1, 2013, the Company approved a stock repurchase program to repurchase up to \$10,000 of the Company's common stock in the open market, exclusive of any commissions, markups or expenses. The stock repurchased will be retired and will resume the status of authorized but unissued shares of common stock. The Company did not repurchase any of our common stock during the years ended December 31, 2017, 2016, and 2015. As of December 31, 2017, the remaining approved amount for repurchases was approximately \$5,180.

14. Stock incentive plans

In March 2011, our board of directors approved the 2011 Plan. The 2011 Plan provides for the grant of incentive and non-statutory stock options, stock appreciation rights, restricted shares of our

Boingo Wireless, Inc.**Notes to the Consolidated Financial Statements (Continued)****(In thousands, except shares and per share amounts)****14. Stock incentive plans (Continued)**

common stock, stock units, and performance cash awards. As of January 1st of each year, the number of shares of common stock reserved for issuance under the 2011 Plan shall automatically be increased by a number equal to the lesser of (a) 4.5% of the total number of shares of common stock then outstanding, (b) 3,000,000 shares of common stock or (c) as determined by our board of directors. As of December 31, 2017, 13,739,820 shares of common stock were reserved for issuance. As of December 31, 2017, options to purchase 5,229,486 shares of common stock and 7,713,459 RSUs have been granted under the 2011 Plan.

At the 2015 Annual Meeting of Stockholders held on June 12, 2015, our stockholders approved the following amendments to our 2011 Equity Incentive Plan: (a) termination of the automatic "evergreen" share reserve increase feature after January 2018, so that no additional automatic annual share increases will occur thereafter; (b) remove the discretion to re-price any stock award; (c) implement more conservative "share counting" provisions, so that the following shares will no longer be available for subsequent issuance: (i) shares applied to pay the exercise price of an option, (ii) shares not otherwise issued in connection with the stock settlement of stock appreciation rights, (iii) shares used to satisfy tax withholding obligations relating to any stock award, and (iv) shares reacquired by us using cash proceeds from the exercise of options; and (d) ensure that certain awards are intended to qualify as performance-based compensation under Section 162(m) of the Internal Revenue Code.

No further awards will be made under our Amended and Restated 2001 Stock Incentive Plan, and it will be terminated. Options outstanding under the 2001 Plan will continue to be governed by their existing terms. As of December 31, 2017, options to purchase 154,699 shares of common stock were outstanding under the 2001 Plan.

The following table summarizes our stock-based compensation expense included in the consolidated statements of operations for 2017, 2016 and 2015:

	Years ended December 31,		
	2017	2016	2015
Network operations	\$ 2,174	\$ 2,144	\$ 1,504
Development and technology	1,068	1,070	731
Selling and marketing	2,060	1,842	3,411
General and administrative	8,913	7,749	3,752
Total stock-based compensation expense	<u>\$ 14,215</u>	<u>\$ 12,805</u>	<u>\$ 9,398</u>

For the years ended December 31, 2017, 2016, and 2015, we capitalized \$696, \$727, and \$778, respectively, of stock-based compensation expense.

Stock option awards

We grant stock option awards to both employees and non-employee directors. The grant date for these awards is the same as the measurement date. The stock option awards generally vest over a four-year service period with 25% vesting when the individual completes 12 months of continuous service and the remaining 75% vesting monthly thereafter. These awards are valued as of the measurement date and the stock-based compensation expense, net of forfeitures, is recognized on a

Boingo Wireless, Inc.**Notes to the Consolidated Financial Statements (Continued)****(In thousands, except shares and per share amounts)****14. Stock incentive plans (Continued)**

straight-line basis over the requisite service period. A summary of the activity for stock option awards for 2017 is presented below:

	Number of Options (000's)	Weighted Average Exercise Price	Weighted-Average Remaining Contract Life (years)	Aggregate Intrinsic Value
Outstanding at December 31, 2016	3,084	\$ 7.04	3.8	\$ 17,145
Exercised	(1,776)	\$ 5.21		
Canceled/forfeited	(25)	\$ 6.56		
Outstanding at December 31, 2017	<u>1,283</u>	\$ 9.58	3.8	\$ 16,573
Exercisable at December 31, 2017	<u>1,282</u>	\$ 9.58	3.8	\$ 16,560

The aggregate intrinsic value in the table above represents the difference between the estimated fair value of our common stock at December 31, 2017 and the option exercise price, multiplied by the number of in-the-money options at December 31, 2017. The intrinsic value changes are based on the estimated fair value of our common stock.

Stock options to purchase approximately 1,776,000, 532,000 and 440,000 shares of our common stock were exercised during the years ended December 31, 2017, 2016 and 2015 for cash proceeds of \$9,244, \$2,984 and \$1,373, respectively. The total intrinsic value of stock options exercised for the years ended December 31, 2017, 2016 and 2015 was \$20,551, \$1,675 and \$2,214, respectively.

Restricted stock unit awards

We grant time-based restricted stock units ("RSUs") to executive and non-executive personnel and non-employee directors. The time-based RSUs granted to executive and non-executive personnel generally vest over a three-year period subject to continuous service on each vesting date. The time-based RSUs for our non-employee directors generally vest over a one-year period for existing members and 25% per year over a four-year period for new members subject to continuous service on each vesting date.

We grant performance-based RSUs to executive personnel. These awards vest subject to certain performance objectives based on the Company's revenue growth and/or Adjusted EBITDA growth achieved during the specified performance period and certain long-term service conditions. The maximum number of RSUs that may vest is determined based on actual Company achievement and performance-based RSUs generally vest over a three-year period subject to continuous service on each vesting date. We recognize stock-based compensation expense for performance-based RSUs when we believe that it is probable that the performance objectives will be met.

In 2016, our Compensation Committee determined to adjust its practice of making annual long-term equity grants and instead adopted a compensation cycle whereby it granted equity awards to our Chief Executive Officer and Chief Financial Officer covering the number of shares it might otherwise have granted in 2016 through 2018, with "cliff" vesting dates in 2019. These grants were made to focus our Chief Executive Officer and Chief Financial Officer on the Company's overall long-term corporate and strategic goals, eliminate intervening quarterly vesting dates that force them to

Boingo Wireless, Inc.**Notes to the Consolidated Financial Statements (Continued)****(In thousands, except shares and per share amounts)****14. Stock incentive plans (Continued)**

sell shares in the market to cover taxes triggered upon vesting, and strengthen the Company's ability to retain our senior management team over the next three years. As a result of these larger-than-usual RSU grants, the Compensation Committee does not intend to grant additional equity awards to our Chief Executive Officer and Chief Financial Officer until 2019.

A summary of the RSU activity in 2017 is as follows:

	Number of Shares (000's)	Weighted Average Grant Date Fair Value
Non-vested at December 31, 2016	3,825	\$ 6.55
Granted	617	\$ 13.00
Vested	(974)	\$ 7.57
Canceled/forfeited	(144)	\$ 8.84
Non-vested at December 31, 2017	<u>3,324</u>	<u>\$ 7.35</u>

During the year ended December 31, 2017, 974,094 shares of RSUs vested. The Company issued 656,767 shares and the remaining shares were withheld to pay minimum statutory federal, state, and local employment payroll taxes on those vested awards.

At December 31, 2017, the total remaining stock-based compensation expense for unvested RSU awards is \$13,391, which is expected to be recognized over a weighted average period of 2.8 years.

15. Employee benefit plan

We have a defined contribution savings plan in accordance with Section 401(k) of the Internal Revenue Code. This plan covers substantially all employees who meet the IRS requirements and allows participants to contribute a portion of their annual compensation on a pre-tax basis. Prior to January 1, 2016, the Company's matching contributions to the plan were made at the discretion of the board of directors and vesting in the Company's matching contributions were based on four years of continuous credited service. Effective January 1, 2016, the plan was amended to provide for company matching contributions that are paid each pay period and employees are immediately vested in all of the Company's matching contributions regardless of the employee's length of service with the Company. Employer contributions of \$891, \$819 and \$511 were made to the plan by us in 2017, 2016 and 2015, respectively.

Boingo Wireless, Inc.

Notes to the Consolidated Financial Statements (Continued)

(In thousands, except shares and per share amounts)

16. Net loss per share attributable to common stockholders

The following table sets forth the computation of basic and diluted net loss per share attributable to common stockholders:

	Years ended December 31,		
	2017	2016	2015
	(in thousands)		
Numerator:			
Net loss attributable to common stockholders, basic and diluted	\$ (19,366)	\$ (27,331)	\$ (22,292)
Denominator:			
Weighted average number of common stock, basic and diluted	39,824	38,025	36,849
Net loss per share attributable to common stockholders:			
Basic and diluted	\$ (0.49)	\$ (0.72)	\$ (0.60)

For the years ended December 31, 2017, 2016 and 2015, we excluded all assumed exercises of stock options and the assumed issuance of common stock under RSUs from the computation of diluted net loss per share as the effect would be anti-dilutive due to the net loss for the period.

17. Quarterly financial data (unaudited)

Summarized unaudited quarterly financial data for fiscal years 2017 and 2016 are as follows:

2017	Quarter Ended			
	March 31	June 30	September 30	December 31
Revenue	\$ 44,333	\$ 49,033	\$ 53,655	\$ 57,348
Loss from operations	\$ (6,578)	\$ (7,670)	\$ (2,989)	\$ (3,464)
Net loss attributable to common stockholders	\$ (6,880)	\$ (8,017)	\$ (3,450)	\$ (1,019)
Basic and diluted loss per share	\$ (0.18)	\$ (0.20)	\$ (0.09)	\$ (0.02)

2016	Quarter Ended			
	March 31	June 30	September 30	December 31
Revenue	\$ 34,499	\$ 39,075	\$ 40,796	\$ 44,974
Loss from operations	\$ (9,667)	\$ (6,969)	\$ (5,387)	\$ (4,074)
Net loss attributable to common stockholders	\$ (9,984)	\$ (7,266)	\$ (5,709)	\$ (4,372)
Basic and diluted loss per share	\$ (0.27)	\$ (0.19)	\$ (0.15)	\$ (0.11)

Losses per share are computed separately for each quarter and the full year using the respective weighted average number of shares. Therefore, the sum of the quarterly losses per share amounts may not equal the annual amounts reported.

Boingo Wireless, Inc.

Notes to the Consolidated Financial Statements (Continued)

(In thousands, except shares and per share amounts)

18. Subsequent events

Equity Incentive Plan

In February 2018, we granted approximately 44,000 time-based RSUs to certain executive officers that vest quarterly over three years of continuous service and approximately 44,000 performance-based RSUs (assuming at-target achievement) that vest upon achievement of performance objectives through December 31, 2019. 66²/₃% of the performance-based RSUs will vest on a determination date not to exceed March 15, 2020, another 8¹/₃% will vest on May 1, 2020, and an additional 8¹/₃% will vest quarterly thereafter upon completion of continuous service.

We also granted approximately 168,000 time-based RSUs to non-executive personnel that will vest quarterly over three years of continuous service.

The grants were made pursuant to our 2011 Plan.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on the 12th day of March 2018.

BOINGO WIRELESS, INC.

/s/ DAVID HAGAN

David Hagan
By: *Chief Executive Officer and Chairman of the Board*

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints David Hagan and Peter Hovenier, and each of them, as his true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes, may lawfully do or cause to be done by virtue thereof.

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

<u> /s/ DAVID HAGAN </u> David Hagan	Chairman of the Board and Chief Executive Officer (Principal Executive Officer)	March 12, 2018
<u> /s/ PETER HOVENIER </u> Peter Hovenier	Chief Financial Officer (Principal Financial Officer)	March 12, 2018
<u> /s/ MAURY AUSTIN </u> Maury Austin	Director	March 12, 2018
<u> /s/ CHUCK DAVIS </u> Chuck Davis	Director	March 12, 2018
<u> /s/ MICHAEL FINLEY </u> Michael Finley	Director	March 12, 2018

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<u> /s/ TERRELL JONES</u> Terrell Jones	Director	March 12, 2018
<u> /s/ KATHY MISUNAS</u> Kathy Misunas	Director	March 12, 2018
<u> /s/ LANCE ROSENZWEIG</u> Lance Rosenzweig	Director	March 12, 2018

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Exhibit 21.1

List of Subsidiaries as of December 31, 2017

<u>Name of Subsidiary</u>	<u>Jurisdiction</u>
Advanced Wireless Group, LLC	Florida
Boingo Broadband, LLC.	California
Boingo Holding Participações, Ltda.	Brazil
Boingo Limited	England
Boingo LLC	Delaware
Chicago Concourse Development Group, LLC	Delaware
Concourse Communications Baltimore, LLC	Delaware
Concourse Communications Canada, Inc.	Delaware
Concourse Communications Detroit, LLC	Delaware
Concourse Communications Group, LLC	Delaware
Concourse Communications Illinois, LLC	Illinois
Concourse Communications Minnesota, LLC	Delaware
Concourse Communications Nashville, LLC	Illinois
Concourse Communications Ottawa, LLC	Illinois
Concourse Communications SSP, LLC	Delaware
Concourse Communications St. Louis, LLC	Delaware
Concourse Communications UK, Ltd.	England
Concourse Holding Co., Inc.	Delaware
Concourse Telecomunicacoes Brasil Ltda	Brazil
Electronic Media Systems, Inc.	Florida
Endeka Group, Inc.	California
InGate Holding, LLC	Illinois
InGate Technologies, LLC	Delaware
New York Telecom Partners, LLC	Delaware
Opti-Fi Networks, LLC	Delaware
Tego Communications, Inc.	Delaware

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[List of Subsidiaries as of December 31, 2017](#)

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Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (No. 333-216649, No. 333-174157, No. 333-181180, No. 333-187471, No. 333-195248, No. 333-203474 and No. 333-210108) of Boingo Wireless, Inc. of our report dated March 12, 2018 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
Los Angeles, California
March 12, 2018

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[Exhibit 23.1](#)

[Consent of Independent Registered Public Accounting Firm](#)

Certification

I, David Hagan, certify that:

1. I have reviewed this annual report on Form 10-K of Boingo Wireless, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 12, 2018

/s/ DAVID HAGAN

David Hagan
Chairman of the Board and Chief Executive Officer
(Principal Executive Officer)

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[Certification](#)

Certification

I, Peter Hovenier, certify that:

1. I have reviewed this annual report on Form 10-K of Boingo Wireless, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 12, 2018

/s/ PETER HOVENIER

Peter Hovenier
*Chief Financial Officer (Principal Financial and Accounting
Officer)*

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[Certification](#)

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Exhibit 32.1

Certification of Chief Executive Officer

Pursuant to 18 U.S.C. § 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officer of Boingo Wireless, Inc. (the "Company") hereby certifies, to such officer's knowledge, that:

- (i) the accompanying Annual Report on Form 10-K of the Company for the period ended December 31, 2017 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and
- (ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 12, 2018

/s/ DAVID HAGAN

David Hagan
Chairman of the Board and Chief Executive Officer
(Principal Executive Officer)

The foregoing certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. § 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing. A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

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[Certification of Chief Executive Officer](#)

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Exhibit 32.2

Certification of Chief Financial Officer

Pursuant to 18 U.S.C. § 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officer of Boingo Wireless, Inc. (the "Company") hereby certifies, to such officer's knowledge, that:

- (i) the accompanying Annual Report on Form 10-K of the Company for the period ended December 31, 2017 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and
- (ii) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 12, 2018

/s/ PETER HOVENIER

Peter Hovenier
Chief Financial Officer
(Principal Financial and Accounting Officer)

The foregoing certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. § 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing. A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

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[Certification of Chief Financial Officer](#)

