Hortonworks, Inc.
Form 10-K
March 15, 2017
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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, 2016

OR

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

Commission File Number 001-36780

Hortonworks, Inc.

(Exact name of Registrant as specified in its Charter)

Delaware	**37-1634325**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
5470 Great America Parkway	
Santa Clara, CA	**95054**
(Address of principal executive offices)	**(Zip Code)**

Registrant s telephone number, including area code: (408) 916-4121

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

Title of each class	Name of each exchange on which registered
Common Stock, Par Value $0.0001 Per Share	**The NASDAQ Stock Market LLC**

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 (§229.405) is not contained herein, and will not be contained, to the best of Registrant s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definition of large accelerated filer , accelerated filer , and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	Accelerated filer
Non-accelerated filer (Do not check if a small reporting company)	Small reporting company

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

As of June 30, 2016, the last business day of the Registrant s most recently completed second fiscal quarter, the aggregate market value of the voting and non-voting stock held by non-affiliates of the Registrant, based on the closing sales price for the Registrant s common stock, as reported on the NASDAQ Global Select Market was approximately $368.4 million.

The number of shares of Registrant s common stock outstanding as of March 8, 2017 was 62,360,413.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant s definitive proxy statement for the registrant s 2017 Annual Meeting of Stockholders are incorporated herein by reference to the extent stated herein. Such definitive proxy statement will be filed with the Securities and Exchange Commission within 120 days of registrant s fiscal year ended December 31, 2016.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K and the documents incorporated by reference herein contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the Securities Act), and Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act), which statements involve substantial risks and uncertainties. Forward-looking statements generally relate to future events or our future financial or operating performance. In some cases, you can identify forward-looking statements because they contain words such as may, will, should, expects, plans, anticipates, could, intends, target, projects, co estimates, predicts, potential or continue or the negative of these words or other similar terms or expressions concern our expectations, strategy, plans or intentions. Forward-looking statements contained in this Annual Report on Form 10-K include, but are not limited to, statements about:

- our future financial performance, including our revenue, cost of revenue, gross profit or gross margin, operating expenses, ability to generate positive cash flow and ability to achieve and maintain profitability;
- the sufficiency of our cash, cash equivalents and revolving credit facility to meet our liquidity needs;
- our ability to increase the number of support subscription customers;
- our ability to renew and expand existing customer deployments;
- our ability to optimize the pricing for our support subscription offerings;
- the growth in the usage and acceptance of the Hadoop framework;
- the growth in the usage and acceptance of our Connected Data Platforms;
- our ability to innovate and develop the various open source projects that will enhance the capabilities of our Connected Data Platforms, the Hortonworks Data Platform (HDP) and Hortonworks DataFlow (HDF offerings;
- the effects of competition and innovation by others on our industry;
- our ability to provide superior support subscription offerings and professional services;
- our ability to successfully expand in our existing markets and into new domestic and international markets;

- our ability to effectively manage our growth and future expenses;
- our ability to maintain, protect and enhance our intellectual property;
- worldwide economic conditions and their impact on corporate and enterprise spending;
- our ability to comply with modified or new laws and regulations that apply to our business, including copyright and privacy regulation; and
- our ability to attract and retain qualified employees and key personnel.

We caution you that the foregoing list may not contain all of the forward-looking statements made in this Annual Report on Form 10-K.

You should not rely upon forward-looking statements as predictions of future events. We have based the forward-looking statements contained in this Annual Report on Form 10-K primarily on our current expectations and projections about future events and trends that we believe may affect our business, financial condition, results of operations and prospects. The outcomes of the events described in these forward-looking statements are subject to risks, uncertainties and other factors described in Item 1A Risk Factors and elsewhere in this Annual Report on Form 10-K and in our other Securities and Exchange Commission filings. Moreover, we operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time, and it is not possible for us

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to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this Annual Report on Form 10-K. We cannot assure you that the results, events and circumstances reflected in the forward-looking statements will be achieved or occur, and actual results, events, or circumstances could differ materially from those described in the forward-looking statements.

The forward-looking statements made in this Annual Report on Form 10-K relate only to events as of the date on which the statements are made. All subsequent written or oral forward-looking statements attributable to our company or persons acting on our behalf are expressly qualified in their entirety by these cautionary statements. We undertake no obligation to update any forward-looking statements made in this Annual Report on Form 10-K to reflect events or circumstances after the date of this Annual Report on Form 10-K or to reflect new information or the occurrence of unanticipated events, except as required by law. We may not actually achieve the plans, intentions, or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

Unless the context requires otherwise, we are referring to Hortonworks, Inc. and its consolidated subsidiaries when we use the terms Hortonworks, the Company, we, our or us.

PART I

Item 1. Business.

Company Overview

Hortonworks, Inc.® is an industry-leading innovator that creates, distributes and supports a new class of enterprise data management software solutions built on open source technology. Our customers use our enterprise-scale Connected Data Platforms to build transformational data applications fueled by actionable intelligence from data in motion, information that flows over a network, such as the internet or corporate networks, and data at rest, information that is stored in digital form in a file system, database or other storage medium.

Our data-at-rest solution, Hortonworks Data Platform (HDP), is an enterprise-scale data management platform built entirely on open source software including Apache™ Hadoop®. HDP combines computer servers with local storage and open source software technology to create a reliable distributed compute and storage platform for large data sets that is secure and scalable up to petabytes of data within thousands of servers or nodes. At the core of HDP is the next generation computing and resource management framework called Yet Another Resource Negotiator (YARN), which enables a centralized data architecture for batch, interactive and real-time workloads to be executed simultaneously on both a single cluster and data set with the comprehensive security, governance and operational services enterprise customers require. HDP integrates with existing data center technologies to support best-of-breed data architectures and enables our customers to collect, store, process and analyze increasing amounts of existing and new data types in a way that augments rather than replaces their existing data center infrastructures.

Our data-in-motion solution, Hortonworks DataFlow (HDF), is an enterprise-scale data ingest and stream processing platform built entirely on open source software including Apache NiFi. HDF is complementary to HDP and accelerates the flow of data in motion into HDP to support full fidelity analytics. HDF is a real-time, integrated, secure and adaptive platform capable of ingesting any type of data in motion from traditional data sources to new data types such as sensor and machine data, server log data, clickstream data, geo-location data, social and sentiment data and other data generated by documents and other file types. HDF enables customers to collect, curate and analyze their data in motion in order to deliver real-time business insights and actionable intelligence.

We employ a differentiated strategic approach in that we are committed to continuously driving innovation and market adoption of Apache Hadoop, Apache NiFi and associated open source technologies within the Apache Software Foundation open source ecosystem. We do this by sharing all of our product development with the open source community in order to further advance open source technology development and functionality which is ultimately consumed by enterprise customers of all types and sizes. We support the open source community and directly employ a large number of core committers to various Apache projects, including Apache Hadoop and Apache NiFi. A committer is an individual who is permitted by the Apache Software Foundation to modify the source code of a particular open source project and then commit those changes to the central repository. We believe that keeping our business model free from architecture design conflicts that could limit the ultimate success of our customers in leveraging the benefits of open source technology at scale is a significant competitive advantage. We have been recognized as a leader in Apache Hadoop by Forrester Research, Inc. based on the strength of our offerings and our differentiated strategy.

We were founded in 2011. During 2012 we launched HDP, and during 2015 we launched HDF. We sell support subscriptions and professional services offerings for both of these platforms. As of December 31, 2016, we had over 1,000 support subscription customers (which we generally define as an entity with an active support subscription) across a broad array of company sizes and industries. We have strategic relationships with Amazon.com, Inc.

(Amazon), Cisco Systems, Inc. (Cisco), Dell EMC, Hewlett Packard Enterprise Company

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(Hewlett Packard Enterprise), Hitachi Data Systems Corporation (Hitachi Data Systems), International Business Machines Corporation (IBM), Microsoft Corporation (Microsoft), Pivotal Software, Inc. (Pivotal), Rackspace Hosting, Inc., SAP AG (SAP), Teradata Corporation (Teradata) and Yahoo! Inc. (Yahoo!), focused on integrated development, marketing and support strategies to maximize the success of our solutions. Consistent with our open source approach, we generally make our Connected Data Platforms (HDP and HDF) available free of charge and derive revenue primarily from customer fees for our support subscription offerings and professional services.

We have achieved significant growth in recent periods. Our revenue for the years ended December 31, 2016, 2015 and 2014 was $184.5 million, $121.9 million and $46.0 million, respectively. Our operating billings for the years ended December 31, 2016, 2015 and 2014 were $269.9 million, $165.9 million and $87.1 million, respectively. We incurred net losses for the years ended December 31, 2016, 2015 and 2014 of $251.7 million, $179.1 million and $177.4 million, respectively. See Item 6 Selected Financial Data Key Metric Operating Billings for more information.

Hortonworks, Inc. was incorporated in Delaware in April 2011. Our principal executive offices are located at 5470 Great America Parkway, Santa Clara, California 95054, and our telephone number is (408) 916-4121. Our website address is www.hortonworks.com. Information contained on or that can be accessed through our website does not constitute part of this Annual Report on Form 10-K and inclusions of our website address in this Annual Report on Form 10-K are inactive textual references only.

Industry Background

Major technology innovations such as social media, mobile and cloud computing, new web-based applications, such as Software-as-a-Service (SaaS), and the emergence of the Internet of Anything, in which devices with sensors and actuators transmit increasing amounts of data automatically, have created an always-on, constantly connected society that is putting increasing pressure on enterprise data center infrastructure. The increase in volume, velocity and variety from this new Internet of Anything data in combination with traditional enterprise applications and data systems is creating significant challenges to enterprise data management resources and is disrupting the way enterprises design their data infrastructure.

Enterprises are not only inundated with increasing amounts of data, but also struggle with managing more types of data that are less easily managed by traditional data center architectures. Historically, enterprises focused primarily on managing data from dedicated and disparate data center systems, including enterprise resource planning and customer relationship management systems. To store and process these types of data, enterprises were able to utilize relational database management systems optimized for analyzing preselected, structured data stored within isolated silos.

Today, the variety of Internet of Anything data, including new data types such as sensor and machine data, server log data, clickstream data, geo-location data, social and sentiment data and other data generated by documents and other file types, is fueling the exponential growth in the aggregate amount of data that has the potential to be captured and managed by the enterprise to drive business value. Collecting, storing, processing and analyzing these massive quantities of new context-rich Internet of Anything data sources requires new tools.

As a result of the limitations within traditional data center architectures, enterprise customers require new technologies to cost-effectively collect, store, process and analyze this vast amount of data in its original context-rich form in order to find patterns and actionable insights that enable them to capitalize on opportunities, avoid operational issues and enable more informed decisions. Enterprises must upgrade their data center architectures to harness large volumes of data under management in order to easily leverage existing data sources and explore new data sources in innovative ways.

Hadoop was originally developed in the early 2000s. Partnering with the Apache Hadoop community, Yahoo! led major innovations in the technology to help tackle big data challenges and operate its business at scale. The

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traditional Hadoop offering (*i.e.*, Hadoop Version 1.x) was largely a batch system that enabled users to manage data at scale, but required siloed computing clusters by application with pre-selected data sets, thus limiting accessibility, interoperability and overall value. Incremental attempts to improve traditional Hadoop focused on bolting on data warehousing and analytics functionality as well as basic levels of security and operations management, which were available through a mix of separate open source projects or commercially available software. This innovation demonstrated the early promise of Hadoop in enabling enterprises to address their big data requirements, but traditional Hadoop still lacked the breadth of functionality and resiliency that would enable it to be deployed more broadly by enterprises in production use cases.

To improve on this early functionality, Hortonworks engineers created the initial architecture for YARN and developed the technology for it within the Apache Hadoop community, leading to the release of YARN in October 2013. This technology advancement transformed Hadoop (*i.e.*, Hadoop Version 2.x) into a platform that allows for multiple ways of interacting with data, including interactive structured query language (SQL) processing, in-memory analytic processing, real-time stream processing and online data processing, along with its traditional batch data processing. YARN represented a significant innovation in that it eliminated the need to silo data sets and reduces total cost of ownership by enabling a single cluster of servers to store a wide range of shared data sets on which mixed workloads spanning batch, interactive and real-time use cases can simultaneously process with predictable service levels. YARN is designed to serve as a common data operating system that enables the Hadoop ecosystem to natively integrate applications and leverage existing technologies and skills while extending consistent security, governance and operations across the platform. With these capabilities, YARN as a cornerstone technology embedded within Hadoop 2.X facilitates mainstream Hadoop adoption by enterprises of all types and sizes for production use cases at scale.

Our Opportunity

Enterprises are facing an increasing need to adopt big data strategies that will help them modernize their data center architectures, control costs and transform their businesses to succeed in an increasingly digital world. Inherent in this shift is a move from the post-transaction, reactive analysis of subsets of data to a new model of pre-transaction, proactive insights across a comprehensive and integrated data architecture capable of managing both data at rest and data in motion. We believe that enterprises that successfully adopt a big data strategy will succeed, whereas enterprises that fail or are slow to implement a modern data architecture will struggle to sustain competitive advantages. We believe that the new class of enterprise-scale data management solutions must meet certain requirements to create and accelerate widespread market adoption and enable the modern data architecture. We believe this set of requirements include:

- capability to centrally manage new and existing data types;
- ability to run multiple applications simultaneously on a common data architecture;
- high availability, manageability, security and data governance;
- interoperability with new and existing data center infrastructure investments;

stability and dependability;

scalability and affordability;

ability to analyze all available data for rich historical insights;

ability to analyze real-time streams of data for immediate actionable insights;

ability to securely capture and mediate multi-directional data flows within and outside the data center;

ability to enable predictive analytic applications based on an open approach to actionable intelligence; and

deployment flexibility that spans the on-premises data center and the public cloud.

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We believe that only by adopting a solution that addresses all of these needs will enterprises be able to solve their increasing data management requirements. We believe our enterprise-scale Connected Data Platforms, comprised of HDP for data at rest and HDF for data in motion, address these needs and are fundamental to driving this architectural shift and to turn what was traditionally viewed as a cost center into a revenue generator by enabling new business applications that harness the power of big data.

Our Solutions

We are a leading provider and distributor of a new class of enterprise-scale data management software platforms that are enabling a re-platforming of data center architectures to harness the power of big data for the enterprise. We provide support subscription offerings and related professional services for our enterprise-scale Connected Data Platforms HDP and HDF which are designed to manage the needs of data at rest and data in motion, respectively. We also provide the capabilities of our Connected Data Platforms through our on-demand big data cloud service offerings, Azure HDInsight for Microsoft and Hortonworks Data Cloud for Amazon Web Services (HDCloud for AWS). Our solutions provide the following benefits:

Maximize data access to drive business transformations. Our solutions integrate all data types into data lakes that allow our customers to increase the scope and quality of their data management. Our solutions break down traditional data silos and allow enterprises to collect, store, process and analyze all of their data in native formats, or schema-on-read, and enable the combination of multiple context-rich data types to solve the limitations of the traditional data structures.

Common data operating system that powers big data applications. HDP leverages the benefits of YARN as a common data operating system capable of simultaneously running interactive SQL processing, in-memory analytic processing, real-time stream processing, online data processing and batch data processing workloads in a way that is natively integrated within Hadoop. Our solutions also enable new and existing third-party applications to integrate seamlessly with YARN and Hadoop.

Purpose-built for the enterprise. We engineer and certify HDP and HDF with a focus on extending their core technologies with the robust data services required by enterprise customers such as high availability, governance, security, provisioning, management and performance monitoring.

Rigorously tested and hardened for deployment at scale. Our strategic relationships with leading cloud-scale companies enable us to test and certify HDP and HDF in the most demanding production environments, assuring high quality and resilient releases at scale. We deliver value to support subscription customers by reducing implementation risk, accelerating time-to-value and helping support subscription customers scale more rapidly.

Enable best-of-breed data center and cloud architectures. We designed HDP and HDF to be fully open and integrated with new and existing investments in data center infrastructure, and we designed Azure HDInsight and HDCloud for AWS to be easy-to-use cloud services for handling big data use cases. Our solutions are designed to renovate legacy data architectures in order to drive cost and capability improvements by working with new big data technologies and cloud services that are complementary to Hadoop.

Compelling return on investment. Our solutions enable our customers to modernize their data architectures and optimize their investments supporting big data strategies. For example, the annual cost of managing a raw terabyte of data with HDP using commodity hardware can be 10 to 100 times less expensive than using high-end storage arrays.

Real-time, predictive and interactive analytics. Our solutions enable our customers to move from post-transaction, reactive analysis limited to subsets of data stored across silos to a world of pre-transaction, interactive insights across all data with the potential to enhance competitive advantages and transform businesses.

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Enable modern data applications. Our solutions empower our customers to innovate new modern data applications, such as real-time cyber security applications or integration of complex physical machinery with networked sensors and software (Industrial Internet of Things) applications that drive transformational outcomes based on trusted actionable intelligence derived from data at rest and data in motion.

Superior deployment flexibility. Our focus on deep integration with existing data center technologies enables the leaders in the data center industry to easily adapt and extend their platforms. We are differentiated in our ability to natively support deployments on-premises, within hardware appliances and across public and private cloud platforms simultaneously.

We are committed to serving the Apache Software Foundation open source ecosystem and to sharing all of our product developments with the open source community. We support the open source community and employ a large number of core committers to various Apache projects, including Apache Hadoop and Apache NiFi. This commitment allows us to drive the innovation of the core open source technologies within HDP and HDF, define a roadmap for the future, ensure predictable and reliable enterprise quality releases and provide comprehensive, enterprise-class support.

Products and Services

HDP and HDF are our enterprise-scale Connected Data Platforms that enable rich, historical insights from data at rest and capture perishable insights from data in motion. They leverage 100 percent open source components, drive enterprise readiness requirements and empower the adoption of brand new innovations that come out of the Apache Software Foundation and key Apache projects. Both Azure HDInsight and HDCloud for AWS are big data cloud service offerings built atop our Connected Data Platforms and made available to customers with a pay-as-you-go cloud pricing model.

Connected Data Platform Offerings

Hortonworks Data Platform is an enterprise-scale data management platform built entirely on open source technology, including Apache Hadoop, that enables organizations to adopt a modern data architecture. With YARN as its architectural center, HDP provides a platform for multi-workload data processing across an array of processing methods, from batch through interactive to real-time, supported by key capabilities required of an enterprise data platform, spanning data governance, security and operations. HDP integrates with and augments existing best-of-breed data center systems and tools and is the only open Enterprise Hadoop platform that provides deployment choice from cloud, an appliance, or on-premises. We released Version 2.5 of HDP in August 2016 and typically release several upgrades per year to include new functionality and new Apache projects.

Hortonworks Sandbox is a personal, portable and free-to-use Hadoop environment designed to provide the easiest way to get started with HDP. Hortonworks Sandbox includes HDP in an easy-to-use form and comes packaged with dozens of interactive Hadoop tutorials from us, our partners and the broader Hadoop community that are all designed to provide the fastest path to value with Enterprise Hadoop. The tutorials we provide are built on the experience gained from training thousands of people in our Hortonworks University Training classes. Users are able to leverage the Hortonworks Sandbox as a way to prove the concept of their initial use cases before engaging with us around professional services and support subscription offerings.

Hortonworks DataFlow, powered by Apache NiFi, is our data-in-motion platform offering, introduced in 2015, that resulted from our acquisition of Onyara, Inc. (Onyara), the creator of and key contributor to Apache NiFi. HDF makes streaming analytics faster and easier, by enabling accelerated data collection, curation, analysis and delivery in real-time, on-premises or in the cloud through an integrated solution powered by Apache NiFi, Apache Kafka and Apache Storm. HDF makes it easier to automate and secure Internet of Anything data flows and to collect, conduct and curate real-time business insights and actions derived from data in motion, including sensors, machines, geo-location devices, clicks, server logs and social feeds. HDF simplifies and accelerates the flow of data in motion into HDP and our Azure and AWS cloud solutions, namely Azure HDInsight and HDCloud for AWS, for rich analytics. The combined use of these complementary offerings provides a holistic set of solutions to manage and find value in the increasing volume of streaming Internet of Anything data. We released Version 2.1 of HDF in December 2016.

Azure HDInsight is our premier big data cloud service. It is built atop our Connected Data Platforms and designed for the Microsoft Azure cloud. Azure HDInsight is the only fully-managed cloud offering that provides optimized open source analytic clusters for Apache Hadoop, Apache Spark, Apache Hive, Apache HBase, Apache Storm, Apache Kafka, and R Server backed by a 99.9 percent service level agreement. Microsoft and Hortonworks have been pioneering cloud solutions for the past four years together through a strategic partnership spanning joint engineering and go-to-market motions. Azure HDInsight is our joint offering that gives customers flexible big data environments on the Azure cloud.

Hortonworks Data Cloud for Amazon Web Services launched in November 2016 and is our new Connected Data Platforms big data cloud service for analyzing and processing data, enabling businesses to achieve insights more quickly and with greater flexibility. HDCloud for AWS enables self-service choice from a set of prescriptive cluster configurations (for example: data science and exploration with Apache Spark or data analytics and reporting with Apache Hive) so customers can start modeling and analyzing data sets in minutes. HDCloud for AWS is optimized to run on AWS environments for ephemeral workloads via AWS Services such as Amazon S3, RDS and EC2.

Support Subscriptions

We provide customer support primarily under annual or multi-year subscriptions. A support subscription generally entitles a customer to a specified scope of support, as well as security updates, fixes, functionality enhancements and upgrades to the technology and new versions of the software, if and when available, and compatibility with an ecosystem of certified hardware and software applications. Our support subscriptions are typically non-cancelable and paid for in advance, and are generally consistent among our customers. On occasion, we may sell engineering services and/or a premium subscription agreement that provides a customer with development input and the opportunity to work more closely with our developers.

Support subscription offerings for our Connected Data Platforms are designed to assist our customers throughout the entire lifecycle, from development and proof-of-concept to quality assurance and testing to production and deployment. Our offerings provide support incidents with up to 24x7, one-hour response available from us or select independent software vendors and original equipment manufacturer (OEM) partners. Support subscriptions include but are not limited to remote troubleshooting, advanced knowledgebase, online self-paced training courses, access to upgrades, updates and patches, diagnosis of installation and configuration issues, diagnosis of cluster management and performance issues, diagnosis of data loading, processing and query issues, as well as application development advice and compatibility with an ecosystem of certified hardware and software applications.

In June 2015, we enriched our support subscriptions with the introduction of Hortonworks SmartSense offering, a proactive and intelligent support service for enhancing cluster utilization and health. The SmartSense offering proactively monitors machine data from Hadoop clusters, identifies potential issues and recommends specific solutions and actions. It enhances the value of existing support subscriptions by enabling faster support case resolution along with proactive cluster configuration and optimization via an intelligent stream of cluster analytics and data-driven recommendations.

Professional Services

We offer a range of professional services that are designed to help our customers derive additional value from deploying our Connected Data Platforms.

Consulting. We provide the services of experienced consultants, principally in connection with our technology offerings, to assist with the needs of our customers such as deployment assessments, implementations, upgrade planning, platform migrations, solution integration and application development. By providing consulting services, directly and with our certified system integrator partners, we facilitate adoption of our Connected Data Platforms.

Training. We also provide scenario-based training classes for developers, system administrators and data analysts available in classroom, corporate on-site and online settings, along with examinations that enable individuals to establish themselves as Certified Hadoop Professionals. Our training classes help populate customers with skilled professionals who often serve as internal experts and open source advocates, increasing opportunities for successful adoption and use of our Connected Data Platforms.

Solutions

We offer a range of pre-configured solutions that deliver a combination of software and professional services in optimized bundles designed to help our customers derive targeted value for repeatable use cases. For example, our Enterprise Data Warehouse Optimization solution offloads ancillary workloads such as extract-transform-load, single subject data marts, and archival data from traditional data warehouses onto our Connected Data Platforms. We also provide Cyber Security & Threat Detection and Streaming Analytics & Internet of Things solutions targeted at customers in the telecommunications, financial services, energy, automotive and manufacturing sectors. The focus of these solutions is to make it easier and faster for our customers to achieve maximum business value from their data.

Development

We embrace an open source software development model that uses the collective input, resources and knowledge of a global community of contributors collaborating primarily within the Apache Software Foundation open source community on developing, maintaining and enhancing Apache Hadoop, Apache NiFi and associated open source technologies. We employ the largest number of active Apache Software Foundation committers, as defined by the Apache Software Foundation, and Project Management Committee (PMC) members of any company for the open source projects within HDP and HDF, including Apache Hadoop, Apache Hive, Apache Pig, Apache Tez, Apache HBase, Apache Phoenix, Apache Accumulo, Apache Storm, Apache Spark, Apache Kafka, Apache Slider, Apache Ambari, Apache Ranger, Apache Knox, Apache Atlas, Apache Falcon, Apache

Oozie, Apache Sqoop, Apache Flume, Apache Zookeeper and Apache NiFi. These employees enable us to drive innovation, define a roadmap for the future of the open source technologies within our Connected Data Platforms, ensure predictable and reliable enterprise quality releases and provide comprehensive, enterprise-class support.

We believe that we benefit from this open source development model because we are able to offer our software more quickly and with lower development cost than is typical of many software vendors who use a proprietary model to develop their products. Our open source development model also benefits our support subscription customers and partners, who are able to take advantage of the quality and value of open source software that we help to define, develop, integrate, test, certify, deliver, maintain, enhance and support. For the years ended December 31, 2016, 2015 and 2014 our research and development expenses were $99.2 million, $66.6 million and $37.8 million, respectively.

Licensing

Our Connected Data Platforms are primarily provided under the Apache open source license in order to provide recipients with broad rights to use, copy, modify and redistribute the software. These broad rights provide the transparency into our software platforms that enables our end users, including our customers and partners, to provide informed suggestions, changes and enhancements to the software based on their use cases and business needs. Consistent with our open source approach, we generally make our Connected Data Platforms available free of charge and derive the predominant amount of our revenue from customer fees from support subscription offerings and professional services.

Sales and Marketing

Our sales and marketing teams work together to drive market awareness, build a strong sales pipeline and cultivate customer relationships to drive revenue growth. Our sales organization consists of a direct sales team and reseller partners who work in collaboration with our direct sales team to identify new sales prospects, sell our support subscriptions and professional services and provide post-sale support. Our direct field sales organization is responsible for targeting enterprise and government accounts globally. Our direct inside sales organization is responsible for targeting medium-size and smaller organizations. Our business development team works with our direct field sales organization to manage the collaboration between our direct field sales team and our strategic and reseller partners. We believe this direct-touch sales approach allows us to leverage the benefits of the channel as well as maintain face-to-face interaction with our customers, including key enterprise accounts. We expect to continue to grow our sales headcount in all markets, particularly in countries where we currently do not have a direct sales presence.

Our sales organization is supported by sales engineers with deep technical domain expertise who are responsible for pre-sales technical support, solutions engineering for our customers, proof of concept work and technical training for our channel partners. Our sales engineers also act as liaisons between our customers and our marketing and product development organizations.

Our marketing is focused on building our brand reputation and the market awareness of our platforms for data at rest and data in motion, our role in leading the definition and innovation related to enabling modern data applications that rely on our platforms, driving customer demand and a strong sales pipeline, and working with our partners around the globe. Our marketing team consists of corporate marketing and communications, product marketing, partner marketing, field marketing and lead development personnel. Marketing activities include demand generation, advertising, managing our corporate website and partner portal, social media and audience engagement, trade shows and conferences, press and analyst relations, customer references and customer awareness. We are also actively engaged in driving global thought leadership programs through our website, blogs, media and the annual Hadoop Summit conferences that we have hosted and managed both in the United States and abroad since 2012.

Customers

Our support subscription customer base has grown to over 1,000 support subscription customers as of December 31, 2016 from over 800 support subscription customers as of December 31, 2015. Our support subscription customer count consists of organizations that have purchased support subscriptions offerings; we exclude users of Hortonworks Sandbox from our support subscription customer count because we do not have support subscription arrangements with, and do not generate revenue from, users of Hortonworks Sandbox. In situations where there are multiple support subscription contracts with multiple subsidiaries or divisions, universities or governmental organizations of a single entity, the entity is counted once. We provide products and services to support subscription customers of varying sizes, including enterprises, educational institutions and government agencies. Our current support subscription customer base spans numerous vertical markets, including online services, education, financial services, government, healthcare/pharmaceuticals, industrials/manufacturing, media/entertainment, oil/gas, retail/ecommerce, technology and telecommunications. See Note 13 Segment and Geographical Information in the notes to our consolidated financial statements for a summary of revenue by geographic area.

Strategic Relationships

To facilitate the widespread deployment of our Connected Data Platforms, we have focused on cultivating broad support for our technologies from the providers of enterprise software, infrastructure and systems integrator services critical to enterprises. We have strategic relationships and reseller arrangements with third parties whereby our support subscriptions are bundled with such third parties products and services.

Microsoft sells a Microsoft-branded cloud service offering built on HDP called Azure HDInsight to its end-user customers. We receive fixed and variable fees for providing enablement, joint engineering and support subscription offerings to Microsoft. For the years ended December 31, 2016, 2015 and 2014, all revenue from Microsoft accounted for approximately 6 percent, 8 percent and 22 percent of our total revenue, respectively.

Teradata sells HDP support subscription offerings, whereby Teradata typically performs level one support for its end-user customers. We generally receive a fixed percentage from Teradata per customer transaction based on the amount that Teradata bills to its end-user customers. For the years ended December 31, 2016, 2015 and 2014, all revenue from Teradata accounted for approximately 2 percent, 2 percent and 4 percent of our total revenue, respectively.

We have established a strategic relationship with a joint engineering commitment with Dell EMC to promote and support Enterprise Hadoop. Through this partnership, Dell EMC also resells our Connected Data Platforms to its enterprise customer base via their Technology Connect Partner Program as a Select Partner.

Hewlett Packard Enterprise, one of our stockholders and the former employer of our director Martin Fink, resells our Connected Data Platforms, whereby Hewlett Packard Enterprise may perform level one and two support and deliver professional services to its end-user customers. We receive a net percentage of the gross dollars collected from Hewlett Packard Enterprise s end-user customers related to such support and professional services, which customers Hewlett Packard Enterprise bills directly. For the years ended December 31, 2016, 2015 and 2014, all revenue from Hewlett Packard Enterprise accounted for less than 1 percent of our total revenue.

We have established a strategic relationship with Pivotal that includes joint engineering to extend the enterprise capabilities of Apache Hadoop and YARN with Pivotal technologies like HAWQ and GemFire, certification of Pivotal s Big Data Suite on HDP and a support agreement covering Pivotal HD.

We have established a strategic relationship with Amazon to offer HDCloud for AWS as a platform for analyzing and processing data. HDCloud for AWS users can choose from preset prescriptive cluster configurations tuned to work with Amazon S3 and Amazon RDS to facilitate analyzing data in minutes.

We have established a strategic relationship with a joint engineering commitment with Hitachi Data Systems to promote and support Enterprise Hadoop. Through this partnership, Hitachi Data Systems also resells the HDP offering to its enterprise customer base.

We have established a strategic industry association, the Open Data Platform initiative (ODPi), with other leading technology companies in the big data sector. This industry association is aimed at speeding Hadoop adoption through ecosystem interoperability rooted in open source. As ecosystem and solution providers create value from Hadoop through the ODPi s ongoing efforts, enterprise customers will see the benefits of increased choice with more big data applications and solutions running atop a common core of Hadoop.

Further, leading enterprise software and infrastructure vendors as well as global systems integrators with solutions that run on or with the HDP and HDF offerings include Accenture plc, Amazon, Capgemini, Cisco, Dell EMC, Ernst & Young Global Limited, Google Inc., Hewlett Packard Enterprise, IBM, LucidWorks, Inc., Microsoft, NetApp, Inc., Pivotal, SAP, SAS Institute Inc., Teradata, Tableau Software, Inc., VMware, Inc. and Wipro Limited.

Competition

Within the Enterprise Hadoop market, we compete against a variety of large software and infrastructure vendors, smaller specialized companies and custom development efforts. Our principal competitors in this market include pure play Hadoop distribution vendors such as Cloudera Inc. (Cloudera) and MapR Technologies, Inc. (MapR), enterprise software and infrastructure vendors that offer Hadoop distributions such as IBM and Oracle Corporation (Oracle), as well as cloud computing vendors that offer big data processing services such as Amazon.

Within the broader big data market, an Enterprise Hadoop solution may compete for workloads against traditional data warehouse solutions from large vendors such as Teradata, Oracle, Microsoft, IBM, Hewlett Packard Enterprise, SAP and Dell EMC, and non-relational NoSQL databases from pure play vendors such as MongoDB, Inc. (MongoDB) and DataStax, Inc. (DataStax). Because Enterprise Hadoop is commonly integrated with traditional data warehouses, such as our partnerships with Teradata and Hewlett Packard Enterprise, and NoSQL databases, such as our partnership with DataStax, this category of vendors and solutions comprises a set of key partners who may compete with us in certain instances while partnering with us in others.

We believe the principal competitive factors in the Enterprise Hadoop and big data markets for our solutions are as follows:

- name and reputation of the vendor or competitive offering;
- ability to adapt development, sales, marketing and support to the open source software model;
- product price, performance, scalability, reliability, functionality and ease of use;
- value of support subscription offerings and quality of support and professional services;

strategic alliances with major enterprise software and infrastructure providers;

availability of third-party solutions that are integrated with and compatible with the technology;

number of Global 2000 reference accounts;

ability to provide a credible and actionable roadmap for the technology;

ability to quickly diagnose software issues and provide patches and other solutions;

strength of the vendor s relationships and reputation in the open source community; and

employment of open source technology core committers and innovators.

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We believe that we generally compete favorably on the basis of the foregoing factors.

The traditional barriers to entry that are found in the proprietary software model do not characterize the open source software model. For example, the financial and legal barriers to creating a new Hadoop distribution are relatively low because the software components typically included in Hadoop distributions are publicly available under open source licenses that permit copying, modification and redistribution. However, while anyone can use, copy, modify and redistribute the HDP or HDF offerings, the technical skills, knowledge and capability of our team of committers provides a point of differentiation in the marketplace. Furthermore, others are not permitted to refer to the product using the trademarked Hortonworks name or other proprietary marks unless they have a formal business relationship with us that allows such references.

Some of our actual and potential competitors have advantages over us, such as longer operating histories, significantly greater financial, technical, marketing or other resources, stronger brand and business user recognition, larger intellectual property portfolios and broader global distribution and presence. In addition, our industry is evolving rapidly and is becoming increasingly competitive. Larger and more established companies may focus on operational intelligence and could directly compete with us. Smaller companies could also launch new products and services that we do not offer and that could gain market acceptance quickly.

Intellectual Property

Our offerings, including HDP, HDF and Hortonworks Sandbox, are built from software components licensed to the general public under the Apache Software License and similar open source licenses. We obtain many components from software developed and released by contributors to independent open source software development projects primarily at the Apache Software Foundation. Open source licenses grant licensees broad permissions to use, copy, modify and redistribute these offerings. As a result, open source development and licensing practices can limit the value of our software copyright assets. Consequently, our trademarks may represent our most valuable intellectual property with respect to these products. As a result, we actively pursue registration of our trademarks, logos, service marks and domain names in the United States and in other countries. The duration of our trademarks registered in the United States generally lasts as long as we use them in commerce and timely file all documents required by the United States Patent and Trademark Office to maintain such registrations.

Hortonworks SmartSense is an optional proactive support service available with our support subscriptions offerings that contains proprietary intellectual property. SmartSense monitors Hortonworks platforms in order to proactively find performance and configuration issues and provide recommendations to help avoid potential future issues. We actively pursue registration of our patents and trademarks for this proactive support service in the United States and in other countries. We also make available intellectual property via our Hortonworks Community Connection online community and our Partnerworks program and rely on copyright laws to protect such intellectual property.

We rely on a combination of trade secret, copyright, patent and trademark laws, a variety of contractual arrangements, such as license agreements, assignment agreements, confidentiality and non-disclosure agreements, and confidentiality procedures and technical measures to gain rights to and protect the intellectual property used in our business.

We also rely on certain intellectual property rights that we license from third parties, including under certain open source licenses. Though such third-party technologies may not continue to be available to us on commercially reasonable terms, we believe that alternative technologies would be available to us.

Our policy is to require employees and independent contractors to sign agreements assigning to us any inventions, trade secrets, works of authorship, developments and other processes generated by them on our behalf and agreeing to protect our confidential information, and all of our key employees and contractors have done so. We also control and monitor access to, and distribution of, our proprietary information.

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For a discussion of the risk factors relating to intellectual property that we believe could impact our actual and expected results, see Item 1A Risk Factors in this Annual Report on Form 10-K.

Our Strategy

We intend to continue to grow our business by focusing on the following strategies:

- continue to innovate and extend the enterprise data platform capabilities of our solutions;
- establish Hortonworks as the trusted vendor for Connected Data Platforms (HDP and HDF) and big data cloud services (Azure HDInsight and HDCloud for AWS) that act as the industry standard for the modern enterprise data architecture;
- continue to support and foster growth in the Apache Software Foundation and Hadoop ecosystems;
- focus on renewing and expanding existing customer deployments;
- grow our sales force directly and indirectly through our reseller and OEM partners;
- grow our customer base across new vertical markets and geographies;
- pursue selective acquisitions and strategic partnerships to further enhance and build out the critical components of our enterprise-scale Connected Data Platforms (HDP and HDF) and big data cloud services (Azure HDInsight and HDCloud for AWS); and
- continue international expansion.

Employees

As of December 31, 2016, we had approximately 1,080 full-time employees, including approximately 770 employees in the United States and approximately 310 employees internationally. None of our employees is represented by a labor union with respect to his or her employment with us. We have not experienced any work stoppages, and we consider our relations with our employees to be good.

Additional Information

Our website is located at http://hortonworks.com, and our investor relations website is located at http://investors.hortonworks.com. Copies of our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to these reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the Exchange Act), are available, free of charge, on our investor relations website as soon as reasonably practicable after we file such material electronically with or furnish it to the Securities and Exchange Commission (SEC). The SEC also maintains a website, www.sec.gov, where our SEC filings are available. Further, a copy of this Annual Report on Form 10-K is located at the SEC s Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Information on the operation of the Public Reference Room can be obtained by calling the SEC at 1-800-SEC-0330.

We webcast our earnings calls and certain events we participate in or host with members of the investment community on our investor relations website. Additionally, we provide notifications of news or announcements regarding our financial performance, including SEC filings, investor events, press and earnings releases and blogs as part of our investor relations website. Hortonworks has used, and intends to continue to use, our investor relations website as well as the Twitter account @hortonworks and the Facebook page www.facebook.com/hortonworks as a means of disclosing material non-public information and for complying with its disclosure obligations under Regulation FD. Further corporate governance information, including our governance guidelines, board committee charters and code of business conduct and ethics, is also available on our investor relations website under the heading Corporate Governance. The contents of our websites are not intended to be incorporated by reference into this Annual Report on Form 10-K or in any other report or document we file with the SEC, and any references to our websites are intended to be inactive textual references only.

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Item 1A. Risk Factors.

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below, together with all of the other information in this report and in our other public filings, before making a decision to invest in our common stock. If any of the risks actually occur, our business, financial condition, results of operations and prospects could be harmed. In that event, the trading price of our common stock could decline, and you could lose part or all of your investment.

Risks Related to Our Business

We have a history of losses, and we may not become profitable in the future.

We have incurred net losses since our inception, including net losses of $251.7 million, $179.1 million and $177.4 million for the years ended December 31, 2016, 2015 and 2014, respectively. As a result, we had an accumulated deficit of $702.5 million as of December 31, 2016. These losses and our accumulated deficit includes the accounting for the Yahoo! stock warrant (the 2011 Yahoo! Warrant) described in Item 7 Management s Discussion and Analysis of Financial Condition and Results of Operations. It is difficult for us to predict our future results of operations since the market for our solutions is rapidly evolving and has not yet reached widespread adoption. We may not achieve sufficient revenue to attain and maintain profitability. We expect our operating expenses to increase over the next several years as we hire additional personnel, particularly in sales, expand and improve the effectiveness of our distribution channels, and continue to invest in the development of our Connected Data Platforms, the Hortonworks Data Platform (HDP) and Hortonworks DataFlow (HDF) offerings. In addition, as we grow and as a result of being a public company, we will incur additional significant legal, accounting and other expenses that we did not incur as a private company. As a result of these increased expenses, we will have to generate and sustain increased revenue to be profitable in future periods. Any failure by us to sustain or increase profitability on a consistent basis could cause the value of our common stock to decline.

We have a limited operating history, which makes it difficult to predict our future results of operations.

We were incorporated in 2011 and introduced our first solution in 2012. As a result of our limited operating history, our ability to forecast our future results of operations is limited and subject to a number of uncertainties, including our ability to plan for and model future growth. Our historical revenue growth has been inconsistent, has benefited from transactions with related parties and should not be considered indicative of our future performance. Further, in future periods, our revenue growth could slow or our revenue could decline for a number of reasons, including an increase in multi-year transactions, slowing demand for our support subscription offerings and our professional services, increasing competition, a decrease in the growth of our overall market, or our failure, for any reason, to continue to capitalize on growth opportunities. It could also become increasingly difficult to predict revenue as our mix of annual, multi-year and other types of transactions changes as a result of our expansion into cloud-based offerings. Finally, we have also encountered and will encounter risks and uncertainties frequently experienced by growing companies in rapidly changing industries, such as the risks and uncertainties described herein. If our assumptions regarding these risks and uncertainties and our future revenue growth (each of which we use to plan our business) are incorrect or change, or if we do not address these risks successfully, our operating and financial results could differ materially from our expectations and our business could suffer.

We do not have an adequate history with our support subscription offerings or pricing models to accurately predict the long-term rate of support subscription customer renewals or adoption, or the impact these renewals and adoption will have on our revenue or results of operations.

We have limited experience with respect to determining the optimal prices for our support subscription offerings. As the market for open source distributed data platforms matures, or as competitors introduce new products or

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services that compete with ours, we may be unable to attract new support subscription customers at the same price or based on the same pricing model as we have used historically. Moreover, large support subscription customers, which are the focus of our sales efforts, may demand greater price concessions. As a result, in the future we may be required to reduce our prices, which could harm our revenue, gross margins, financial position and cash flows. Furthermore, while the terms of our support subscription agreements limit the number of supported nodes or the size of supported data sets, such limitations may be improperly circumvented or otherwise bypassed by certain users.

We expect to derive a significant portion of our revenue from renewals of existing support subscription agreements. As a result, customers renewing and expanding their support subscription relationships with us will be critical to our business. Our support subscription customers have no obligation to renew their support subscriptions after the expiration of the initial support subscription period and may renew for fewer elements of our support subscription offerings or on different pricing terms. We have limited historical data with respect to support subscription customer renewals, including those support subscription arrangements which also allow the customer the ability to potentially impact the direction and development of the underlying open source solution, so we cannot accurately predict support subscription customer renewals. Our support subscription customers renewals may decline or fluctuate as a result of a number of factors, including their dissatisfaction with our pricing or our product offerings and their ability to continue their operations and spending levels. Additionally, customers may elect to implement and self-support Hadoop deployments internally rather than purchasing a support subscription from us. If our support subscription customers do not renew their support subscriptions on similar pricing terms, our revenue may decline and our business could suffer. In addition, over time the average term of our contracts could change based on renewals or for other reasons.

Because we derive our revenue and cash flows primarily from supporting our Connected Data Platforms and services and training related to them, failure of these offerings or our new product offerings to satisfy customer requirements or to achieve increased market acceptance would harm our business, results of operations, financial condition and growth prospects.

We derive and expect to continue to derive primarily all of our revenue and cash flows from customer fees for support subscription offerings and professional services in support of our Connected Data Platforms: HDP and HDF. As such, the market acceptance of our Connected Data Platforms is critical to our continued success. Customer demand for our Connected Data Platforms is affected by a number of factors beyond our control, including the market acceptance of an open source data platform for both incremental and existing use cases, the continued enhancement of our Connected Data Platforms to support new use cases and to incorporate features and functionality desired by our support subscription customers, the timing of development and release of new products by our competitors, technological change and growth or contraction in our market. We expect the proliferation of data to lead to an increase in the data storage and processing demands of our customers, and our Connected Data Platforms may not be able to perform to meet those demands. If we are unable to continue to meet support subscription customer requirements or to achieve more widespread market acceptance of our Connected Data Platforms, our business, results of operations, financial condition and growth prospects will be harmed.

Our success is highly dependent on our ability to penetrate the existing market for open source Connected Data Platforms as well as on the growth and expansion of the market for open source Connected Data Platforms.

The market for our Connected Data Platforms encompasses demand for open source distributed data platforms powered by Apache Hadoop and demand for open source data ingest platforms powered principally by open source projects like Apache NiFi. These markets are relatively new, rapidly evolving and unproven. Our future success will depend in large part on our ability to penetrate the existing market for open source distributed data platforms, as well as the continued growth and expansion of that market, and it will also depend on the ability of technology like Apache NiFi to penetrate the existing market for open source data ingest platforms as well as the

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continued growth and expansion of that market. It is difficult to predict support subscription customer adoption and renewals, support subscription customer demand for our offerings, the size, growth rate and expansion of these markets, the entry of competitive products or the success of existing competitive products. Our ability to penetrate the existing market for open source Connected Data Platforms and any expansion of that market depends on a number of factors, including the cost, performance and perceived value associated with our offerings, as well as support subscription customers willingness to adopt an alternative approach to data collection, storage and processing. Furthermore, many potential support subscription customers have made significant investments in legacy data collection, storage and processing software and may be unwilling to invest in new solutions. If the market for open source Connected Data Platforms fails to grow or expand or decreases in size, or if we do not succeed in further penetrating that market, our business would be harmed.

If we are unable to maintain successful relationships with our partners, our business, results of operations and financial condition could be harmed.

In addition to our direct sales force and our website, we use strategic partners, such as distribution partners and resellers, to sell our support subscription offerings and our professional services. We expect that sales through partners will continue to grow as a proportion of our revenue for the foreseeable future.

Our agreements with our partners are generally non-exclusive, meaning our partners may offer customers the products and services of several different companies, including products and services that compete with ours, or may themselves be or become competitors. If our partners do not effectively market and sell our support subscription offerings and our professional services, choose to use greater efforts to market and sell their own products and services or those of our competitors, or fail to meet the needs of our customers, our ability to grow our business and sell our support subscription offerings and our professional services may be harmed. Our partners may cease marketing our support subscription offerings or professional services with limited or no notice and with little or no penalty. The loss of a substantial number of our partners, our possible inability to replace them, or the failure to recruit additional partners could harm our results of operations.

Our ability to achieve revenue growth in the future will depend in part on our success in maintaining successful relationships with our partners, and in helping our partners enhance their ability to independently sell our support subscription offerings and deliver professional services. If we are unable to maintain our relationships with these partners, or otherwise develop and expand our indirect distribution channel, our business, results of operations, financial condition or cash flows could be harmed.

If we are unable to effectively compete, our business and operating results could be harmed.

We face substantial competition from Hadoop distribution vendors such as Cloudera and MapR, as well as from enterprise software vendors, system providers and infrastructure companies not specifically focused on Hadoop distribution. Further, other established system providers not currently focused on Hadoop, including traditional data warehouse solution providers such as Teradata, SAP and Dell EMC, open source distributed data platform providers, including non-relational NoSQL database providers such as MongoDB and DataStax may expand their products and services to compete with us. Additionally, cloud computing vendors that offer certain big data processing services, such as Amazon, may expand their products and services and more effectively compete with us. Finally, some potential customers may elect to implement and self-support Hadoop deployments internally rather than purchasing a support subscription from us. Some of the companies that compete with us, or that may compete with us in the future, have greater name recognition, substantially greater financial, technical, marketing and other resources, the ability to devote greater resources to the promotion, sale and support of their solutions, more extensive customer bases and broader customer relationships and longer operating histories than we have.

We expect competition to increase as other companies continue to evolve their offerings and as new companies enter our market. Increased competition is likely to result in pricing pressures on our support subscription offerings and our professional services, which could negatively impact our gross margins. If we are unable to effectively compete, our revenue could decline and our business, operating results and financial condition could be adversely affected.

The competitive position of our product offerings depends in part on the offerings ability to operate with third-party products and services, including those of our partners, and if we are not successful in maintaining and expanding the compatibility of our Connected Data Platforms with such products and services, our business will suffer.

The competitive position of our Connected Data Platforms, HDP and HDF, depends in part on these offerings ability to operate with products and services of third parties, including software companies that offer applications designed for various business intelligence applications, software services and infrastructure. As such, we must continuously modify and enhance our offerings to adapt to changes in hardware, software, networking, browser and database technologies. In the future, one or more technology companies, whether our partners or otherwise, may choose not to support the operation of their software, software services and infrastructure with HDP or HDF, or our offerings may not support the capabilities needed to operate with such software, software services and infrastructure. In addition, to the extent that a third party were to develop software or services that compete with ours, that provider may choose not to support HDP or HDF. We intend to facilitate the compatibility of our product platforms with various third-party software, software services and infrastructure offerings by maintaining and expanding our business and technical relationships. If we are not successful in achieving this goal, our business, financial condition and results of operations may suffer.

If open source software programmers, many of whom we do not employ, or our own internal programmers do not continue to develop and enhance open source technologies, we may be unable to develop new technologies, adequately enhance our existing technologies or meet customer requirements for innovation, quality and price.

We rely to a significant degree on a number of independent open source software programmers, or Hadoop committers and contributors, to develop and enhance Apache Hadoop, Apache NiFi and associated open source technologies. Additionally, members of the corresponding Apache Software Foundation PMCs, many of whom are not employed by us, are primarily responsible for the oversight and evolution of the codebases of Hadoop and its related technologies. If the Hadoop committers and contributors fail to adequately further develop and enhance open source technologies, or if the PMCs fail to oversee and guide the evolution of Hadoop-related technologies in the manner that we believe is appropriate to maximize the market potential of our offerings, then we would have to rely on other parties, or we would need to expend additional resources, to develop and enhance our offerings. We also must devote adequate resources to our own internal programmers to support their continued development and enhancement of open source technologies, and if we do not do so, we may have to turn to third parties or experience delays in developing or enhancing open source technologies. We cannot predict whether further developments and enhancements to these technologies would be available from reliable alternative sources. In either event, our development expenses could be increased and our technology release and upgrade schedules could be delayed. Delays in developing, completing or delivering new or enhanced offerings could cause our offerings to be less competitive, impair customer acceptance of our offerings and result in delayed or reduced revenue for our offerings.

Our subscription-based business model may encounter customer resistance or we may experience a decline in the demand for our offerings.

We provide our support subscription offerings primarily under annual or multi-year subscriptions. A support subscription generally entitles a support subscription customer to a specified scope of support, as well as security updates, fixes, functionality enhancements and upgrades to the technology and new versions of the software, if and when available, and compatibility with an ecosystem of certified hardware and software applications. We may encounter support subscription customer resistance to this distribution model or support subscription customers may fail to honor the terms of our support subscription agreements. To the extent we are unsuccessful in promoting or defending this distribution model, our business, financial condition, results of operations and cash flows could be harmed.

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Demand for our offerings may fluctuate based on numerous factors, including the spending levels and growth of our current and prospective support subscription customers, and general economic conditions. In addition, our support subscription customers generally undertake a significant evaluation process that may result in a prolonged sales cycle. We spend substantial time, effort and money on our sales efforts, including developing and implementing appropriate go-to-market strategies and training our sales force and ecosystem partners in order to effectively market new solutions, without any assurance that our efforts will produce any sales. The purchase of our offerings may be discretionary and can involve significant expenditures. If our current and prospective support subscription customers cut costs, then they may significantly reduce their enterprise software expenditures.

As technologies and the marketplace for our offerings change, our subscription-based business model may no longer meet the needs of our support subscription customers. Consequently, we may need to develop new and appropriate marketing and pricing strategies for our solutions. If we are unable to adapt our business model to changes in the marketplace or if demand for our solutions declines, our business, financial condition, results of operations and cash flows could be harmed.

If we are unable to expand sales to existing customers, our growth could be slower than we expect and our business and results of operations may be harmed.

Our future growth depends in part upon expanding sales of our support subscription offerings and our professional services to our existing customers. If our existing customers do not purchase additional or incremental support subscription offerings and professional services, our revenue may grow more slowly than expected, may not grow at all or may decline. Additionally, increasing incremental sales to our current customer base requires increasingly sophisticated and costly sales efforts. There can be no assurance that our efforts will result in increased sales to existing customers and additional revenue. If our efforts to expand sales to our existing customers are not successful, our business and operating results would be harmed.

Our future results of operations may fluctuate significantly, and our recent results of operations may not be a good indication of our future performance.

Our revenue and results of operations could vary significantly from period to period as a result of various factors, many of which are outside of our control. At the beginning of each quarter, we do not know the number of new support subscriptions that we will enter into during the quarter. In addition, the contract value of our support subscriptions varies substantially among customers, and a single, large support subscription in a given period could distort our results of operations. Comparing our revenue and results of operations on a period-to-period basis may not be meaningful, and you should not rely on our past results as an indication of our future performance.

We may not be able to accurately predict our future revenue or results of operations on a quarterly or longer-term basis. We base our current and future expense levels on our operating plans and sales forecasts, and our operating costs are expected to be relatively fixed in the short-term. As a result, we may not be able to reduce our costs sufficiently to compensate for an unexpected shortfall in billings or revenue, and even a small shortfall in revenue in a quarter could harm our financial results for that quarter and cause our financial results to fall short of analyst expectations, which could cause the market price of our common stock to decline substantially.

In addition to other risk factors described in this Risk Factors section, factors that may cause our results of operations to fluctuate from quarter to quarter include:

the timing of new customer contracts for support subscription offerings and professional services, and the extent to which we earn additional revenue and cash flow from existing customers as they expand their deployment of our Connected Data Platforms;

the renewals of our support subscription arrangements with our customers;

- changes in the competitive dynamics of our market;

- customers delaying purchasing decisions in anticipation of new software or software enhancements;

- the timing of satisfying revenue recognition criteria, especially considering our lack of vendor-specific objective evidence of fair value (VSOE) for our support subscriptions and professional services offerings;

- our ability to control costs, including our operating expenses;

- the proportion of revenue attributable to larger transactions as opposed to smaller transactions and the impact that a change in such proportion may have on the overall average selling price of our support subscription offerings;

- the proportion of revenue attributable to support subscription offerings and professional services, which may impact our gross margins and operating income;

- the reduction or elimination of support of the Apache Hadoop Project or the Apache NiFi Project by the Apache Software Foundation, migration of Hadoop technology or NiFi technology to an organization other than the Apache Software Foundation, or any other actions taken by the Apache Software Foundation or the Apache Hadoop Project or the Apache NiFi Project that may impact our business model;

- changes in customers budgets and in the timing of their purchasing decisions;

- the collectability of receivables from customers and resellers, which may be hindered or delayed if these customers or resellers experience financial distress; and

- general economic conditions, both domestically and internationally, as well as economic conditions specifically affecting industries in which our customers participate.

Many of these factors are outside of our control, and the variability and unpredictability of such factors could result in our failing to meet or exceed our financial expectations for a given period. We believe that quarter-to-quarter comparisons of our revenue, results of operations and cash flows may not necessarily be indicative of our future performance.

Our sales cycle is long and unpredictable, particularly with respect to large support subscription customers, and our sales efforts require considerable time and expense.

Our results of operations may fluctuate, in part, because of the resource-intensive nature of our sales efforts, the length and variability of the sales cycle of our support subscription offerings and the difficulty in making short-term adjustments to our operating expenses. Our results of operations depend in part on sales to large support subscription customers and increasing sales to existing customers. The length of our sales cycle from initial evaluation to payment for our support subscription offerings is generally six to nine months, but can vary substantially from customer to customer. Our sales cycle can extend to more than a year for some customers. It is difficult to predict exactly when, or even if, we will make a sale to a potential customer or if we can increase sales to our existing customers. As a result, large individual sales have, in some cases, occurred in quarters subsequent to those we anticipated, or have not occurred at all. The loss or delay of one or more large transactions in a quarter could impact our results of operations for that quarter and any future quarters for which revenue from that transaction is lost or delayed. As a result of these factors, it is difficult for us to forecast our revenue accurately in any quarter. Because a substantial proportion of our expenses are relatively fixed in the short term, our results of operations will suffer if revenue falls below our expectations in a particular quarter, which could cause the price of our common stock to decline.

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We have experienced rapid growth in recent periods. If we fail to manage our growth effectively, we may be unable to execute our business plan or maintain high levels of service and our financial results could be negatively impacted.

We have increased our number of full-time employees to approximately 1,080 as of December 31, 2016 from approximately 850 at December 31, 2015, and have increased our revenue to $184.5 million in the year ended December 31, 2016 from $121.9 million in the year ended December 31, 2015. Our recent growth and expansion has placed, and our anticipated growth may continue to place, a significant strain on our managerial, administrative, operational, financial and other resources. We intend to continue to expand our overall business, customer base, headcount and operations. Continued growth increases the challenges involved in:

- recruiting, training and retaining sufficient skilled technical, marketing, sales and management personnel;
- preserving our culture, values and entrepreneurial environment;
- developing and securing our internal administrative infrastructure, particularly our financial, operational, compliance, recordkeeping, communications and other internal systems;
- managing our international operations and the risks associated therewith;
- maintaining high levels of satisfaction with our solutions among our customers; and
- effectively managing expenses related to any future growth.

If we fail to manage our growth effectively, our business, results of operations and financial condition could suffer.

Our future success depends in large part on the growth of the market for big data applications and an increase in the desire to ingest, store and process big data, and we cannot be sure that the market for big data applications will grow as expected or, even if such growth occurs, that our business will grow at similar rates, or at all.

Our ability to increase the adoption of our Connected Data Platforms, increase sales of support subscription offerings and professional services and grow our business depends on the increased adoption of big data services and applications by enterprises. While we believe that big data services and applications can offer a compelling value proposition to many enterprises, the broad adoption of big data applications and services also presents challenges to enterprises, including developing the internal expertise and infrastructure to manage big data applications and services effectively, coordinating multiple data sources, defining a big data strategy that delivers an appropriate return on investment and implementing an information technology infrastructure and architecture that enables the efficient deployment of big data solutions. Accordingly, our expectations regarding the potential for future growth in the market for big data applications and services, and the third-party growth estimates for this market in this Annual Report on Form 10-K, are subject to significant uncertainty. If the market for big data applications and services does not grow as expected, our business prospects may be adversely affected. Even if the market for big data applications and services increases, we cannot be sure that our business will grow at a similar rate, or at all.

Because of the characteristics of open source software, there are few technological barriers to entry into the open source market by new competitors, and it may be relatively easy for competitors, some of which may have greater resources than we have, to enter our markets and compete with us.

One of the characteristics of open source software is that anyone may modify and redistribute the existing open source software and use it to compete in the marketplace. Such competition can develop without the degree of overhead and lead time required by traditional proprietary software companies. It is possible for competitors with greater resources than ours to develop their own open source software, including software based on one or more components of Hadoop, NiFi, HDP or HDF, potentially reducing the demand for our solutions and putting price pressure on our support subscription offerings and our professional services. We cannot guarantee that we will be

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able to compete successfully against current and future competitors or that competitive pressure or the availability of new open source software will not result in price reductions, reduced operating margins and loss of market share, any one of which could harm our business, financial condition, results of operations and cash flows.

Our software development and licensing model could be negatively impacted if the Apache License, Version 2.0 is not enforceable or is modified so as to become incompatible with other open source licenses.

Our Connected Data Platforms, HDP and HDF, have been provided under the Apache License 2.0. This license states that any work of authorship licensed under it, and any derivative work thereof, may be reproduced and distributed provided that certain conditions are met. It is possible that a court would hold this license to be unenforceable or that someone could assert a claim for proprietary rights in a program developed and distributed under the license. Any ruling by a court that this license is not enforceable, or that open source components of HDP or HDF may not be reproduced or distributed, may negatively impact our distribution or development of all or a portion of HDP and HDF. In addition, at some time in the future it is possible that Apache Hadoop or Apache NiFi may be distributed under a different license or the Apache License 2.0 may be modified, which could, among other consequences, negatively impact our continuing development or distribution of the software code subject to the new or modified license. Further, full utilization of our Connected Data Platforms may depend on applications and services from various third parties, and in the future these applications or services may not be available to our customers on commercially reasonable terms, or at all, which could harm our business.

We do not currently have vendor-specific objective evidence of fair value for support subscriptions or professional services offerings, and we may offer certain contractual provisions to our customers that result in delayed recognition of revenue under generally accepted accounting principles (GAAP) in the United States (U.S.), which could cause our results of operations to fluctuate significantly from period to period in ways that do not correlate with our underlying business performance.

In the course of our selling efforts, we typically enter into sales arrangements pursuant to which we provide support subscription offerings and professional services. We refer to each individual product or service as an element of the overall sales arrangement. These arrangements typically require us to deliver particular elements in a future period. We apply software revenue recognition rules under U.S. GAAP. In certain cases, when we enter into more than one contract with a single customer, the group of contracts may be so closely related that they are viewed under U.S. GAAP as one multiple-element arrangement for purposes of determining the appropriate amount and timing of revenue recognition. As we discuss further in Item 7 Management s Discussion and Analysis of Financial Condition and Results of Operations Critical Accounting Policies and Estimates Revenue Recognition, because we do not have VSOE for our support subscriptions and professional services offerings, and because we may offer certain contractual provisions to our customers, such as delivery of support subscription offerings and professional services, or specified functionality, or because multiple contracts signed in different periods may be viewed as giving rise to multiple elements of a single arrangement, we may be required under U.S. GAAP to defer revenue to future periods. Typically, for arrangements providing for support subscription offerings and professional services, we have recognized as revenue the entire arrangement fee ratably over the support subscription period, although the appropriate timing of revenue recognition must be evaluated on an arrangement-by-arrangement basis and may differ from arrangement to arrangement. If we are unexpectedly required to defer revenue to future periods for a significant portion of our sales, our revenue and overall operating results for a particular period could fall below our expectations or those of securities analysts and investors, resulting in a decline in our stock price.

Because we recognize revenue from subscriptions for our services over the term of the subscription, downturns or upturns in sales may not be immediately reflected in our results of operations.

We generally recognize subscription revenue from support subscription customers ratably over the term of their subscription agreements, which are generally 12 months, with some support subscription customers having subscription agreements with longer multi-year terms. As a result, much of the revenue we report in each quarter is derived from deferred revenue from subscription agreements entered into during previous quarters. Consequently, a decline in the value of new support subscription agreements entered into within any one quarter, will not necessarily be fully reflected in the revenue we record for that quarter and will harm our revenue in future quarters. In addition, we may be unable to adjust our cost structure to reflect this reduced revenue. Accordingly, the effect of significant downturns in sales and market acceptance of our services may not be fully reflected in our results of operations until future periods. Our subscription model also makes it difficult for us to rapidly increase our revenue through additional sales in any period, as revenue from new support subscription customers is recognized over the applicable subscription term.

Any failure to offer high-quality support subscription offerings may harm our relationships with our support subscription customers and results of operations.

Once our Connected Data Platforms are deployed, our support subscription customers depend on our software support organization to resolve technical issues relating to the deployment. We may be unable to respond quickly enough to accommodate short-term increases in support subscription customer demand for support subscription offerings. We also may be unable to modify the format of our support subscription offerings to compete with changes in offerings provided by our competitors. Increased support subscription customer demand for our support subscription offerings, without corresponding revenue, could increase costs and harm our results of operations. In addition, our sales process is highly dependent on our business reputation and on positive references from our existing support subscription customers. Any failure to maintain high-quality support subscription offerings, or a market perception that we do not maintain high-quality support subscription offerings, could harm our reputation, our ability to sell our support subscription offerings to existing and prospective support subscription customers and our results of operations.

If we fail to comply with our customer contracts, our business could be harmed.

Any failure by us to comply with the specific provisions in our customer contracts could result in various negative outcomes, which may include litigation, termination of contracts, forfeiture of profits and suspension of payments. Further, any negative publicity related to our customer contracts or any proceedings surrounding them, regardless of its accuracy, may damage our business and affect our ability to compete for new contracts. If our customer contracts are terminated, or if our ability to compete for new contracts is adversely affected, our business, financial condition, results of operations and cash flows could be harmed.

HDP or HDF may contain errors that may be costly to correct, delay market acceptance of our solutions and expose us to claims and litigation.

Despite our testing procedures, errors, including security vulnerabilities or incompatibilities with third-party software and hardware, have been and may continue to be found in HDP or HDF after deployment. This risk is increased by the fact that much of the code in HDP and HDF is developed by independent parties over whom we may not exercise supervision or control. If errors are discovered, we may have to make significant expenditures of capital and devote significant technical resources to analyze, correct, eliminate or manage them, and we may not be able to successfully do so in a timely manner, or at all. Errors and failures in HDP or HDF could result in a loss of, or delay in, market acceptance of our enterprise technologies, loss of existing or potential customers and delayed or lost revenue and could damage our reputation and our ability to convince enterprise users of the benefits of HDP, HDF and our other offerings.

In addition, errors in HDP or HDF could cause system failures, loss of data or other adverse effects for our customers who may assert warranty and other claims for substantial damages against us. Furthermore, the mere allegation of such errors and adverse effects could expose us to warranty and other claims for substantial damages. Although our agreements with our customers often contain provisions that seek to limit our exposure to such claims, it is possible that these provisions may not be effective or enforceable under the laws of some jurisdictions or may not significantly limit our exposure to certain claims. While we seek to insure against these types of claims, our insurance policies may not adequately limit our exposure to such claims or may not apply to certain claims. These claims, even if unsuccessful, could be costly and time consuming to defend and could harm our business, financial condition, results of operations and cash flows.

Incorrect or improper implementation or use of our Connected Data Platforms could result in customer dissatisfaction and harm our business, results of operations, financial condition and growth prospects.

Our Connected Data Platforms are deployed in a wide variety of technology environments, including in large-scale, complex technology environments, and we believe our future success will depend at least in part on our ability to support such deployments. Hadoop and NiFi are technically very complicated, and it is not easy to maximize the value of our offerings without proper implementation and training. We often must assist our customers in achieving successful implementations for large, complex deployments. If our customers are unable to implement our Connected Data Platforms successfully, or in a timely manner, customer perceptions of our company and our offerings may be impaired, our reputation and brand may suffer, and customers may choose not to renew their subscriptions or increase their purchases of our support subscription offerings or professional services.

Our customers and partners may need training in the proper use of and the variety of benefits that can be derived from our Connected Data Platforms to maximize their potential. Our Connected Data Platforms may perform inadequately if they are not implemented or used correctly or as intended. The incorrect or improper implementation or use of our product offerings, our failure to train customers on how to efficiently and effectively use our Connected Data Platforms, or our failure to provide effective support subscription offerings or professional services to our customers, may result in negative publicity or legal claims against us. Also, as we continue to expand our customer base, any failure by us to properly provide these services will likely result in lost opportunities for follow-on sales of our support subscription offerings and professional services.

Interruptions or performance problems associated with our technology and infrastructure may harm our business and results of operations.

Our website and internal technology infrastructure may experience performance issues due to a variety of factors, including infrastructure changes, human or software errors, website or third-party hosting or cloud computing disruptions or capacity constraints due to a number of potential causes, including technical failures, natural disasters or fraud or security attacks. If our security is compromised, our website is unavailable or our users are unable to download our tools or order support subscription offerings or professional services within a reasonable amount of time or at all, our business could be harmed. We expect to continue to make significant investments to maintain and improve website performance and to enable rapid releases of new features and applications for our Connected Data Platforms. To the extent that we do not effectively upgrade our systems as needed and continually develop our technology and network architecture to accommodate actual and anticipated changes in technology, our business and results of operations may be harmed.

In addition, we rely on SaaS technologies from third parties in order to operate critical functions of our business, including financial management services from NetSuite Inc., customer relationship management services from salesforce.com, inc. and lead generation management services from Marketo, Inc. If these services become unavailable due to extended outages or interruptions or because they are no longer available on commercially reasonable terms or prices, our expenses could increase, our ability to manage our finances could be interrupted, our processes for managing sales of our support subscription offerings and professional services and supporting our customers could be impaired, and our ability to generate and manage sales leads could be weakened until equivalent services, if available, are identified, obtained and implemented, all of which could harm our business and results of operations.

We depend on our executive officers and other key employees, and the loss of one or more of these employees or an inability to attract and retain highly skilled employees could harm our business.

Our success depends largely upon the continued services of our executive officers and other key employees, including many Hadoop committers. We rely on our leadership team in the areas of research and development, operations, security, marketing, sales, support and general and administrative functions, and on individual contributors in our research and development. From time to time, there may be changes in our executive management team resulting from the hiring or departure of executives, which could disrupt our business. We do not have employment agreements with our executive officers or other key personnel that require them to continue to work for us for any specified period and, therefore, they could terminate their employment with us at any time. The loss of one or more of our key employees or executive officers could harm our business.

In addition, to execute our growth plan, we must attract and retain highly qualified personnel. Competition for such personnel in the San Francisco Bay Area, where our headquarters is located, and in other locations where we maintain offices, is intense, especially for experienced sales professionals and for engineers experienced in designing and developing software and Apache Hadoop applications. The Apache Hadoop Project relies on Hadoop committers for the project s technical management. While we currently employ a large number of Hadoop core committers and innovators, one becomes a committer by invitation only. As a result, the market to hire such individuals is very competitive. If our employees who are Hadoop core committers terminate their employment with us, we could lose our ability to innovate the core open source technology, define the roadmap for the future of Hadoop, distribute predictable and reliable enterprise quality releases and provide comprehensive support to our customers. We have, from time to time, experienced, and we expect to continue to experience, difficulty in hiring and retaining employees with appropriate qualifications. Many of the companies with which we compete for experienced personnel have greater resources than we have. If we hire employees from competitors or other companies, their former employers may attempt to assert that these employees or we have breached legal obligations, resulting in a diversion of our time and resources. Finally, job candidates and existing employees often consider the value of the equity awards they receive in connection with their employment. If the perceived value of our equity awards declines, it may harm our ability to recruit and retain highly skilled employees. If we fail to attract new personnel or fail to retain and motivate our current personnel, our business and future growth prospects could be harmed.

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

We continue to be substantially dependent on our sales force to obtain new customers and to drive additional use cases among our existing customers. We believe that there is significant competition for sales personnel, including enterprise sales representatives, sales engineers and professional services employees, with the skills and technical knowledge that we require. In particular, there is significant demand for sales engineers with Hadoop expertise. Our ability to achieve significant revenue growth will depend, in large part, on our success in recruiting, training and retaining sufficient numbers of sales personnel to support our growth. Recent changes to our sales leadership could adversely affect our ability to do so, which could have a negative impact on our sales productivity or sales execution. New hires require significant training and may take significant time before they achieve full productivity. Our recent hires and planned hires may not become productive as quickly as we expect, and we may be unable to hire or retain sufficient numbers of qualified individuals in the markets where we do business or plan to do business. In addition, as we continue to grow rapidly, a large percentage of our sales force will have relatively little experience working with us, our support subscription offerings and our business model. If we are unable to hire and train sufficient numbers of effective sales personnel, or our sales personnel are not successful in obtaining new customers or increasing sales to our existing customer base, our business would be harmed.

Periodic changes to our sales organization could be disruptive and reduce our rate of growth.

We periodically adjust our sales organization in response to market opportunities, competitive threats, management changes, product introductions or enhancements, acquisitions, sales performance, increases in sales headcount, cost levels and other internal and external considerations. Any such future sales organization changes may result in a temporary reduction of productivity, which could negatively affect our rate of growth. In addition, any significant change to the way we structure our compensation of our sales organization may be disruptive and may affect our revenue growth.

If we are not successful in expanding our international business, we may incur additional losses and our revenue growth could be harmed.

Our future results depend, in part, on our ability to expand into international markets. We also have a number of distributor and reseller relationships for our support subscription offerings and professional services in international markets. Our ability to expand internationally will depend upon our ability to deliver functionality and foreign language translations that reflect the needs of the international clients that we target. Our ability to expand internationally involves various risks, including the need to invest significant resources in such expansion, and the possibility that returns on such investments will not be achieved in the near future or at all in these less familiar competitive environments. We may also choose to conduct our international business through strategic alliances. If we are unable to identify strategic alliance partners or negotiate favorable alliance terms, our international growth may be harmed. In addition, we have incurred and may continue to incur significant expenses in advance of generating material revenue as we attempt to establish our presence in particular international markets.

Expanding our business internationally will also require significant attention from our management and will require us to add additional management and other resources in these markets. Our ability to expand our business, attract talented employees and enter into strategic alliances in an increasing number of international markets requires considerable management attention and resources and is subject to the particular challenges of supporting a rapidly growing business in an environment of multiple languages, cultures, customs, legal systems, alternative dispute systems, regulatory systems, commercial infrastructures and technology infrastructure. If we are unable to grow our international operations in a timely manner, we may incur additional losses and our revenue growth could be harmed.

As we expand internationally, our business will become more susceptible to risks associated with international operations.

We principally sell our offerings through sales personnel in the United States, Australia, Belgium, Brazil, Canada, Dubai, France, Germany, India, Ireland, Japan, the Netherlands, Singapore, South Korea, Sweden and the United Kingdom and currently have operations in the United States, Australia, Chile, Hungary, India, Ireland and the United Kingdom. We also have development teams in Hungary, India and Ukraine and a number of distributor and reseller relationships for our support subscription offerings and our professional services in other international markets. Conducting international operations subjects us to risks that we have not generally faced in the United States. These risks include:

- fluctuations in currency exchange rates;

- unexpected changes in foreign regulatory requirements;

- potentially different pricing environments and longer sales cycles;

difficulties in managing the staffing of international operations;

potentially adverse tax consequences, including the complexities of foreign value-added tax systems, restrictions on the repatriation of earnings and changes in tax rates;

dependence on strategic alliance partners to increase client acquisition;

the burdens of complying with a wide variety of foreign laws and different legal standards;

increased financial accounting and reporting burdens and complexities;

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- political, social and economic instability abroad, such as the United Kingdom s referendum in June 2016 in which voters approved an exit from the European Union and instability in Ukraine (where we have a development team);
- laws and business practices favoring local competitors;
- difficulties in staffing due to immigration or travel restrictions imposed by national governments;
- terrorist attacks and security concerns in general; and
- reduced or varied protection for intellectual property rights in some countries.

The occurrence of any one of these risks could harm our international business and, consequently, our results of operations. Additionally, operating in international markets requires significant management attention and financial resources. We cannot be certain that the investment and additional resources required to operate in other countries will produce desired levels of revenue or profitability.

We have made strategic acquisitions in the past and intend to do so in the future. If we are unable to find suitable acquisitions or partners, or to achieve expected benefits from such acquisitions or partnerships, our business, financial condition, results of operations and prospects could be harmed.

As part of our ongoing business strategy to expand our suite of solutions and acquire new technology, from time to time we engage in discussions with third parties regarding, and enter into agreements relating to, possible acquisitions, strategic alliances and joint ventures. For example, in April 2015, we acquired SequenceIQ Hungary Kft. (SequenceIQ), an open source provider of rapid deployment tools for Hadoop, located in Budapest, Hungary, and in August 2015, we acquired Onyara, a key contributor to Apache NiFi. There may be significant competition for acquisition targets in our industry, or we may not be able to identify suitable acquisition candidates, negotiate attractive terms for acquisitions or complete acquisitions on expected timelines, or at all. If we are unable to complete strategic acquisitions or do not realize the expected benefits of the acquisitions we do complete, our business, financial condition, results of operations and prospects could be harmed.

Even if we are able to complete acquisitions or enter into alliances and joint ventures that we believe will be successful, such transactions are inherently risky. Significant risks associated with these transactions, include:

- failing to achieve anticipated synergies, including with respect to complementary software or services;
- losing key employees of the acquired businesses;
- integration and restructuring costs, both one-time and ongoing;

maintaining sufficient controls, policies and procedures, including around integration and accounting for acquisition-related expenses;

diversion of management s attention from ongoing business operations;

establishing new informational, operational and financial systems to meet the needs of our business;

our inability to maintain the key business relationships and the reputations of the businesses we acquire;

uncertainty of entry into markets in which we have limited or no prior experience and in which competitors have stronger market positions;

our dependence on unfamiliar affiliates and partners of the companies we acquire;

insufficient revenue to offset our increased expenses associated with acquisitions;

potentially incurring accounting charges as we transition an acquired company to our open source business model;

- our responsibility for the liabilities of the businesses we acquire; and

- unanticipated and unknown liabilities.

If we are not successful in completing acquisitions in the future or do not realize the expected benefits of the acquisitions we do complete, we may be required to reevaluate our acquisition strategy. We also may incur substantial expenses and devote significant management time and resources in seeking to complete acquisitions, some of which may ultimately not be consummated or not result in expected benefits. The occurrence of any of these acquisition-related risks could harm our business, financial condition, results of operations and prospects.

Our continued success depends on our ability to maintain and enhance strong brands.

We believe that the brand identities that we have developed have contributed significantly to the success of our business. We also believe that maintaining and enhancing our brands is important to expanding our customer base and attracting talented employees. In order to maintain and enhance our brands, we may be required to make further investments that may not be successful. Maintaining our brands will depend in part on our ability to remain a leading innovator in open source technology and our ability to continue to provide high-quality offerings. If we fail to promote and maintain our brands, or if we incur excessive costs in doing so, our business, financial condition, results of operations and cash flows may be harmed.

Our efforts to protect our intellectual property rights may not be adequate to prevent third parties from misappropriating our intellectual property rights in our know-how, software and trademarks.

We have developed proprietary methodologies, know-how and software related to software development, testing and quality assurance. Failure to adequately protect and defend our intellectual property rights in these areas may diminish the value of HDP and HDF or our other technologies, impair our ability to compete effectively and harm our business.

In addition, the protective steps we have taken in the past may be inadequate to protect and deter misappropriation of our intellectual property rights. We may be unable to detect the unauthorized use of, or take appropriate steps to enforce, our intellectual property rights in a timely manner. We have a registered copyright in China, have registered trademarks in Australia, Brazil, Canada, the European Community, Hong Kong, India, Japan, Mexico, New Zealand, Russia, Singapore, Switzerland, Taiwan, the United Kingdom and the United States, and have issued patent claims in the United States. We also have copyright, trademark and patent applications pending in various international jurisdictions. Effective intellectual property protection may not be available in every country in which we offer or intend to distribute our solutions. We may be unable to prevent third parties from acquiring domain names that are similar to, infringe upon, or diminish the value of our trademarks and other proprietary rights. Failure to adequately protect our trademark rights could damage or even destroy one or more of our brands and impair our ability to compete effectively. Furthermore, defending or enforcing our intellectual property rights could result in the expenditure of significant financial and managerial resources.

We may be subject to intellectual property rights claims by third parties, which are extremely costly to defend, could require us to pay significant damages and could limit our ability to use certain technologies.

Companies in the software and technology industries, including some of our current and potential competitors, own large numbers of patents, copyrights, trademarks and trade secrets and frequently enter into litigation based on allegations of infringement or other violations of intellectual property rights. In addition, many of these companies can dedicate substantially greater resources to enforce their intellectual property rights, and to defend claims that may be brought against them, than we can. We have received, and we and the Apache Hadoop Project and the Apache NiFi

Project may in the future receive, notices that claim we have misappropriated, misused, or infringed other parties intellectual property rights, and, to the extent Hadoop or NiFi gains greater market visibility, we, the Apache Hadoop Project and the Apache NiFi Project, as applicable, face a higher risk of being the subject of intellectual property infringement claims. In addition, we could be subject to lawsuits by parties claiming ownership of what we believe to be open source software.

Any intellectual property infringement claims, with or without merit, could be very time-consuming, could be expensive to settle or litigate and could divert our management s attention and other resources. These claims could also subject us to significant liability for damages, potentially including treble damages if we are found to have willfully infringed patents or copyrights. These claims could also result in our having to stop using technology found to be in violation of a third-party s rights. We might be required to seek a license for the intellectual property, which may not be available on reasonable terms or at all. Even if a license were available, we could be required to pay significant royalties, which would increase our operating expenses. As a result, we may be required to develop alternative non-infringing technology, which could require significant effort and expense. Any of these results would harm our business, results of operations, financial condition and cash flows.

Federal, state, foreign government and industry regulations, as well as self-regulation related to privacy and data security concerns, pose the threat of lawsuits and other liability.

We collect and utilize certain demographic and other information, including personally identifiable information, from and about our employees and our users (such as customers, potential customers and others). Such information may be collected from our users when they visit our website or elect to use our support tools, or when users provide personal information to us in many contexts such as when signing up for certain services, registering for seminars, participating in a survey, connecting with other users and Hadoop and NiFi experts in our forums, participating in Hortonworks University classes, participating in polls or signing up to receive e-mail newsletters.

Within the United States, various federal and state laws and regulations govern the collection, use, retention, sharing and security of the data we receive from and about employees and users. Outside of the United States, various jurisdictions actively regulate and enforce laws regarding the collection, retention, transfer and use (including loss and unauthorized access) of data and personal information. Privacy advocates and government bodies have increasingly scrutinized the ways in which companies link personal identities and data associated with particular users or devices with data collected through the internet, and we expect such scrutiny to continue to increase. In 2016, the European Commission adopted a new framework, the EU-U.S. Privacy Shield, which provides a mechanism for companies to transfer data from EU member states to the United States This and other mechanisms are likely to be reviewed by European courts, which may lead to uncertainty about transfers of personal data from EU member states to the United States. Also in 2016, the EU adopted a new law governing data practices and privacy called the General Data Protection Regulation (the GDPR), which becomes effective in May 2018. We are currently assessing the impact of the EU-U.S. Privacy Shield and the GDPR on our operations. Loss, retention or misuse of certain information and alleged violations of laws and regulations relating to privacy and data security, and any relevant claims, may expose us to potential liability and may require us to expend significant resources on data security and in responding to and defending such allegations and claims.

Security and privacy breaches may hurt our business.

Any security breach, unauthorized access, unauthorized usage, virus or similar breach or disruption could result in the loss of confidential information, loss of confidence in the security of our services, damage to our reputation, early termination of our contracts, litigation, regulatory investigations, disruption of our business or other liabilities. If our, our customers , our partners , our third-party data center hosting facilities or cloud computing platform providers security measures are breached as a result of third-party action, employee error, malfeasance or otherwise and, as a result, someone obtains unauthorized access to data, our reputation will be damaged, our business may suffer and we could incur significant liability.

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Techniques used to obtain unauthorized access or to sabotage systems change frequently and generally are not recognized until launched against a target. As a result, we may be unable to anticipate these techniques or to implement adequate preventative measures. If an actual or perceived security breach occurs, the market perception of our security measures could be harmed, and we could lose sales and customers. Any significant violations of data privacy could result in the loss of business, litigation and regulatory investigations and penalties that could damage our reputation and adversely impact our results of operations and financial condition. Moreover, if a high-profile security breach occurs with respect to another Hadoop or NiFi provider, our customers and potential customers may lose trust in the security of Hadoop- or NiFi-based solutions generally, which could adversely impact our ability to retain existing customers or attract new ones.

Industry-specific regulations, standards and other requirements are evolving, and unfavorable industry-specific regulations, standards or other requirements could harm our customers and our business.

Our customers and potential customers conduct business in a variety of industries, including financial services, healthcare, telecommunications and public sector. Regulators in certain industries have adopted and may in the future adopt regulations or interpretive positions regarding the use of cloud-based solutions. The costs of compliance with, and other burdens imposed by, industry-specific laws, regulations and interpretive positions may limit our customers use and adoption of our services. Compliance with these regulations may also require us to devote greater resources to support certain customers, which may increase costs and lengthen sales cycles. Further, if we are unable to comply with these regulations, our business may be harmed. In addition, an inability to satisfy the standards of certain voluntary third-party certification bodies that our customers may expect could have an adverse impact on our business and results.

In some cases, industry-specific laws, regulations, standards or interpretive positions may also apply directly to us as a service provider. Any failure or perceived failure by us to comply with such requirements could have an adverse impact on our business.

Prolonged economic uncertainties or downturns could harm our business.

Current or future economic downturns could harm our business and results of operations. Negative conditions in the general economy both in the United States and abroad, including conditions resulting from financial and credit market fluctuations and terrorist attacks in the United States, Europe or elsewhere, could cause a decrease in corporate spending on enterprise software in general and slow down the rate of growth of our business. In particular, the recent decision by voters in the United Kingdom to leave the European Union has and may continue to have significant and wide-ranging economic impacts across multiple markets we serve.

General worldwide economic conditions have experienced, and in the future may experience, a significant downturn. These conditions make it extremely difficult for our customers and us to forecast and plan future business activities accurately, and they could cause our customers to reevaluate their decision to purchase our offerings, which could delay and lengthen our sales cycles or result in cancellations of planned purchases. Furthermore, during challenging economic times our customers may face issues in gaining timely access to sufficient credit, which could impair their ability to make timely payments to us. If that were to occur, we may be required to increase our allowance for doubtful accounts, which would harm our results of operations.

We have a significant number of customers in the business services, advertising, financial services, government, healthcare and pharmaceuticals, high technology, manufacturing, media and entertainment, oil and gas, online services, retail and telecommunications industries. A substantial downturn in any of these industries may cause firms to react to worsening conditions by reducing their capital expenditures in general or by specifically reducing their spending on information technology. Customers in these industries may delay or cancel information technology projects or seek to lower their costs by renegotiating vendor contracts. To the extent purchases of our offerings are perceived by customers and potential customers to be discretionary, our revenue may be disproportionately affected by delays or reductions in general information technology spending. Also, support subscription customers may choose to develop or utilize in-house self-support capabilities as an alternative to purchasing our support subscription offerings or professional services. Moreover, competitors may respond to market conditions by lowering prices of support subscription offerings. In addition, the increased pace of consolidation in certain industries may result in reduced overall spending on our support subscription offerings or professional services.

We cannot predict the timing, strength or duration of any economic slowdown, instability or recovery, generally or within any particular industry. If the economic conditions of the general economy or industries in which we operate worsen from present levels, our business, results of operations, financial condition and cash flows could be harmed.

The terms of the agreements governing our revolving credit facility restrict our current and future operations.

The agreements governing our revolving credit facility contain a number of restrictive covenants that impose significant operating and financial restrictions on us and may limit our ability to engage in acts that may be in our long-term best interest, including restrictions on indebtedness, liens, investments, acquisitions, mergers, disposition of property or assets, dividends and other distributions, changes to the nature of the business, transactions with affiliates, use of proceeds, amendments to organizational documents, and prepayment of certain debt.

In addition, the restrictive covenants in the agreements governing our revolving credit facility require us to maintain specified financial ratios and satisfy other financial condition tests. Our ability to meet those financial ratios and tests can be affected by events beyond our control, and we may be unable to meet them.

A breach of the covenants or restrictions under the agreements governing our revolving credit facility could result in an event of default. Such a default would affect the availability of the revolving credit facility. It may also allow the creditors to accelerate the related debt and may result in the acceleration of any other debt to which a cross-acceleration or cross-default provision applies. In the event our lenders accelerate the repayment of our borrowings, we and our subsidiaries may not have sufficient assets to repay that indebtedness and, even if we do, we would no longer have access to that capital. As a result of these restrictions, we may be limited in how we conduct business, unable to raise additional debt or equity financing, or unable to compete effectively or take advantage of new business opportunities.

We and our subsidiaries may incur substantial amounts of debt in the future. This could further exacerbate the risks to our financial condition described above.

We and our subsidiaries may incur significant indebtedness in the future, whether under our revolving credit facility or otherwise. Although the agreements governing our revolving credit facility contain restrictions on the incurrence of additional indebtedness, these restrictions are subject to a number of qualifications and exceptions, and the additional indebtedness incurred in compliance with these restrictions could be substantial.

We may require additional capital to support business growth, and this capital might not be available on acceptable terms, if at all.

We intend to continue to make investments to support our business growth and may require additional funds to respond to business challenges, including the need to develop new features or otherwise enhance HDP, HDF or our other technologies, improve our operating infrastructure or acquire complementary businesses and technologies. Accordingly, we may need to engage in equity or debt financings to secure additional funds. If we raise additional funds through future issuances of equity or convertible debt securities, our existing stockholders could suffer significant dilution, and any new equity securities we issue could have rights, preferences and privileges superior to those of holders of our common stock. Any debt financing that we may secure in the future could involve restrictive covenants relating to our capital raising activities and other financial and operational matters, which may make it more difficult for us to obtain additional capital and to pursue business opportunities, including potential acquisitions. We may not be able to obtain additional financing on terms that are favorable to us, if at all. If we are unable to obtain adequate financing or financing on terms that are satisfactory to us when we require it, our ability to continue to support our business growth and to respond to business challenges could be significantly impaired, and our business may be harmed.

If our goodwill or amortizable intangible assets become impaired, we may be required to record a significant charge to earnings.

Under U.S. GAAP, we review our amortizable intangible assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. Goodwill is required to be tested for impairment at least annually. Factors that may be considered a change in circumstances indicating that the carrying value of our goodwill or amortizable intangible assets may not be recoverable include a decline in stock price and market capitalization, reduced future cash flow estimates and slower growth rates in our industry. We may be required to record a significant charge to earnings in our financial statements during the period in which any impairment of our goodwill or amortizable intangible assets is determined, which could harm our results of operations.

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

As of December 31, 2016, we had federal, state and local and foreign tax net operating loss carryforwards (NOLs) of $381.0 million, $320.2 million and $0.1 million, respectively, due to prior period losses. In general, under Section 382 of the Internal Revenue Code of 1986, as amended (the Code), a corporation that undergoes an ownership change is subject to limitations on its ability to utilize its NOLs to offset future taxable income. Our existing NOLs may be subject to limitations arising from previous ownership changes, including in connection with our initial public offering (IPO), concurrent private placement or follow-on offering, and if we undergo an ownership change in the future, our ability to utilize NOLs could be further limited by Section 382 of the Code. Future changes in our stock ownership, some of which are outside of our control, could result in an ownership change under Section 382 of the Code. Furthermore, our ability to utilize NOLs of companies that we may acquire in the future may be subject to limitations. There is also a risk that, due to regulatory changes, such as suspensions on the use of NOLs, or other unforeseen reasons, our existing NOLs could expire or otherwise be unavailable to offset future income tax liabilities. For these reasons, we may not be able to realize a tax benefit from the use of our NOLs, whether or not we attain profitability.

We have business and customer relationships with certain entities who are stockholders or affiliated with our directors, or both, and conflicts of interest may arise because of such relationships.

Some of our customers and other business partners are affiliated with certain of our directors or hold shares of our capital stock, or both. For example, we have entered into strategic relationships and/or customer relationships with Yahoo! and Red Hat, Inc. (Red Hat). Our directors Jay Rossiter and Paul Cormier are employees of Yahoo! and Red Hat, respectively, and Yahoo! is one of our stockholders. We believe that the transactions and agreements that we have entered into with related parties are on terms that are at least as favorable as could reasonably have been obtained at such time from third parties. However, these relationships could create, or appear to create, potential conflicts of interest when our Board of Directors is faced with decisions that could have different implications for us and these other parties or their affiliates. In addition, conflicts of interest may arise between us and these other parties and their affiliates. The appearance of conflicts, even if such conflicts do not materialize, might adversely affect the public s perception of us, as well as our relationship with other companies and our ability to enter into new relationships in the future, including with competitors of such related parties, which could harm our business and results of operations.

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Catastrophic events may disrupt our business.

Our corporate headquarters are located in Santa Clara, California, and we utilize data centers that are located in North America. Additionally, we rely on our network and third-party infrastructure and enterprise applications, internal technology systems and our website for our development, marketing, operational support, hosted services and sales activities. The West Coast of the United States contains active earthquake zones. In the event of a major earthquake, hurricane, or catastrophic event such as fire, power loss, telecommunications failure, cyber-attack, war, or terrorist attack, we may be unable to continue our operations and may endure system interruptions, reputational harm, delays in our application development, extended interruptions in our Connected Data Platforms, breaches of data security and loss of critical data, all of which could harm our future results of operations.

If we fail to maintain an effective system of internal controls, we may not be able to accurately or timely report our financial results or prevent fraud.

Section 404 of the Sarbanes-Oxley Act of 2002 (the Sarbanes Oxley Act) requires, among other things, that we maintain effective internal control over financial reporting and disclosure controls and procedures. In particular, we must perform system and process evaluation and testing of our internal control over financial reporting to allow management to report on the effectiveness of our internal control over financial reporting. A report of our management is included under Item 9A Controls and Procedures of this Annual Report on Form 10-K. During its evaluation of the effectiveness of internal control over financial reporting as of December 31, 2015, management identified a material weakness related to the control surrounding the recognition of revenue and deferred revenue for a subset of non-standard license transactions where post-contract support renewal rates were stated upon commencement of the arrangement. Our findings were related to the design effectiveness of this control. Each of the aforementioned transactions originated prior to our establishment and formalization of Section 404 internal controls at the Company in July 2015. A secondary review of these specific agreements was not performed at a sufficiently detailed level to detect errors in recognition of revenue and deferred revenue related to these arrangements. With the oversight of management and our Audit Committee, we initiated actions to address the root causes of the material weakness identified, and our management has since determined that the applicable controls are designed and operating effectively. As such, management has concluded that the material weakness previously identified was remediated as of December 31, 2016. There can be no assurance, however, that additional or other control deficiencies will not be identified in the future. If we continue to experience a material weakness in our internal controls or fail to maintain or implement required new or improved controls, such circumstances could cause us to fail to meet our periodic reporting obligations or result in material misstatements in our financial statements, or adversely affect the results of periodic management evaluations and annual auditor attestation reports when such report is required. Each of the foregoing results could cause stockholders to lose confidence in our reported financial information and lead to a decline in our stock price. See Item 9A Controls and Procedures for more information.

Risks Related to Ownership of Our Common Stock

Our stock price has been, and may continue to be, volatile or may decline regardless of our operating performance, resulting in substantial losses for our stockholders.

The trading price of our common stock has been, and may continue to be, volatile and could fluctuate widely regardless of our operating performance. The market price of our common stock may fluctuate significantly in response to numerous factors, many of which are beyond our control, including:

actual or anticipated fluctuations in our results of operations;

the financial projections we may provide to the public, any changes in these projections or our failure to meet these projections;

failure of securities analysts to initiate or maintain coverage of our company, changes in financial estimates and publication of other news by any securities analysts who follow our company, or our failure to meet these estimates or the expectations of investors;

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- ratings changes by any securities analysts who follow our company;
- announcements by us or our competitors of significant technical innovations, acquisitions, strategic partnerships, joint ventures, or capital commitments;
- changes in operating performance and stock market valuations of other technology companies generally, or those in our industry in particular;
- price and volume fluctuations in the overall stock market from time to time, including as a result of trends in the economy as a whole;
- changes in accounting standards, policies, guidelines, interpretations or principles;
- actual or anticipated developments in our business or our competitors businesses or the competitive landscape generally;
- developments or disputes concerning our intellectual property or our offerings, or third-party proprietary rights;
- announced or completed acquisitions of businesses or technologies by us or our competitors;
- new laws or regulations or new interpretations of existing laws, or regulations applicable to our business;
- any major change in our Board of Directors or management;
- sales of shares of our common stock by us or our stockholders;
- lawsuits threatened or filed against us; and
- other events or factors, including those resulting from war, incidents of terrorism, or responses to these events.

In addition, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many technology companies. Stock prices of many technology companies have fluctuated in a manner unrelated or disproportionate to the operating performance of those companies. In particular, the trading price of our common stock has fluctuated significantly in recent periods. In the past, stockholders have instituted securities class action litigation following periods of market volatility. A securities class action was instituted against us in February 2016, and the parties recently agreed in principle to a class-wide settlement subject to court approval. This and other securities litigation may subject us to substantial costs, may divert resources and the attention of management from operating our business and may harm our business, results of operations, financial condition and cash flows.

Our directors, officers and principal stockholders beneficially own a significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.

As of March 8, 2017, our directors, officers, five percent or greater stockholders, and their respective affiliates beneficially owned in the aggregate approximately 35 percent of our outstanding voting stock. These stockholders may be able to determine all matters requiring stockholder approval. For example, these stockholders will be able to control elections of directors, amendments of our organizational documents, and approval of any merger, sale of assets, or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may feel are in your best interest as one of our stockholders.

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Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of our company more difficult, limit attempts by our stockholders to replace or remove our current management and limit the market price of our common stock.

Provisions in our amended and restated certificate of incorporation and bylaws may have the effect of delaying or preventing a change of control or changes in our management. Our amended and restated certificate of incorporation and bylaws include provisions that:

- authorize our Board of Directors to issue, without further action by the stockholders, shares of undesignated preferred stock with terms, rights and preferences determined by our Board of Directors that may be senior to our common stock;
- require that any action to be taken by our stockholders be effected at a duly called annual or special meeting and not by written consent;
- specify that special meetings of our stockholders can be called only by our Board of Directors, the Chair of our Board of Directors, or our Chief Executive Officer;
- establish an advance notice procedure for stockholder proposals to be brought before an annual meeting, including proposed nominations of persons for election to our Board of Directors;
- establish that our Board of Directors is divided into three classes: Class I, Class II and Class III, with each class serving three-year staggered terms;
- prohibit cumulative voting in the election of directors;
- provide that our directors may be removed only for cause;
- provide that vacancies on our Board of Directors may be filled only by a majority of directors then in office, even though less than a quorum; and
- require the approval of our Board of Directors or the holders of at least seventy-five percent of our outstanding shares of capital stock to amend our bylaws and certain provisions of our certificate of incorporation.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our Board of Directors, which is responsible for appointing the members of our management. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which generally prohibits a

Delaware corporation from engaging in any of a broad range of business combinations with any interested stockholder for a period of three years following the date on which the stockholder became an interested stockholder. Any delay or prevention of a change of control transaction or changes in our management could cause the market price of our common stock to decline.

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

We are an emerging growth company, as defined in the federal securities laws, and we are taking advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. For as long as we continue to be an emerging growth company, we intend to take advantage of certain of these exemptions. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

Section 107 of the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. However, we chose to opt out of such extended transition period, and as a result, we will comply with new or revised accounting standards on the relevant dates adoption of such standards is required for non-emerging growth companies. Our decision to opt out of the extended transition period for complying with new or revised accounting standards is irrevocable.

We will remain an emerging growth company until the earliest of: (i) the last day of the fiscal year following the five-year anniversary of the completion of our IPO; (ii) the end of the fiscal year in which we have more than $1.0 billion in annual revenue; (iii) the end of the fiscal year in which we qualify as a large accelerated filer, with at least $700 million of equity securities held by non-affiliates as of the end of the second quarter of such fiscal year; and (iv) the date on which we have, during the previous three-year period, issued more than $1.0 billion in non-convertible debt securities.

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

As a public company, we are subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, the listing requirements of the exchanges and other markets upon which our common stock is listed, and other applicable securities rules and regulations.

Compliance with these rules and regulations will continue to increase our legal and financial compliance costs, make some activities more difficult, time-consuming, or costly, and increase demand on our systems and resources, particularly after we are no longer an emerging growth company. The Exchange Act requires, among other things, that we file annual, quarterly and current reports with respect to our business and results of operations. The Sarbanes-Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal control over financial reporting. In order to maintain and, if required, improve our disclosure controls and procedures and internal control over financial reporting to meet this standard, significant resources and management oversight may be required. We are required to disclose changes made in our internal control and procedures on a quarterly basis and we are required to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting. However, our independent registered public accounting firm will not be required to formally audit and attest to the effectiveness of our internal control over financial reporting pursuant to Section 404 until the date we are no longer an emerging growth company. As a result of the complexity involved in complying with the rules and regulations applicable to public companies, our management s attention may be diverted from other business concerns, which could harm our business and results of operations. Although we have already hired additional employees to assist us in complying with these requirements, we may need to hire more employees in the future or engage outside consultants, which will increase our operating expenses. As we continue to grow rapidly, both organically and through strategic acquisitions, we expect to enhance our disclosure controls and procedures and internal control over financial reporting, however, we cannot guarantee the adequacy of these enhancements, including integration and accounting for acquisition-related expenses.

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

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

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

We do not intend to pay dividends on our common stock, so any returns will be limited to changes in the value of our common stock.

We have never declared or paid any cash dividends on our common stock. We currently anticipate that we will retain future earnings for the development, operation and expansion of our business, and do not anticipate declaring or paying any cash dividends for the foreseeable future. Any return to stockholders will therefore be limited to the increase, if any, of our stock price, which may never occur.

If securities or industry analysts do not publish research or publish inaccurate 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 few securities analysts cover us, or if industry analysts cease coverage of us, the trading price for our common stock would be negatively affected. If one or more of the analysts who cover us downgrade our common stock or publish inaccurate or unfavorable research about our business, our common stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, demand for our common stock could decrease, which might cause our common stock price and trading volume to decline.

Substantial future sales of our common stock in the public market could cause our stock price to fall.

Additional sales of our common stock in the public market, particularly sales by our directors, executive officers and significant stockholders, or the perception that these sales could occur, could cause the market price of our common stock to decline. As of December 31, 2016, we had 61,429,406 shares of common stock outstanding, which excludes any shares of common stock issuable upon exercise of warrants and options outstanding as of such date. In addition, as of December 31, 2016, there were outstanding options and warrants to purchase 11,156,462 shares of our common stock. These options and warrants, if exercised, will result in these additional shares becoming available for sale. Sales by these stockholders, option holders or warrant holders of a substantial number of shares could significantly reduce the market price of our common stock. Moreover, some holders of shares of our common stock have rights, subject to certain conditions, to require us to file registration statements covering the shares they currently hold, or to include these shares in registration statements that we might file for ourselves or other stockholders.

Additionally, the shares of common stock subject to outstanding restricted stock unit (RSU) and performance stock unit awards under our equity incentive plans and the shares reserved for future issuance under our equity incentive plans may become eligible for sale in the public market in the future, subject to certain legal and contractual limitations.

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Our charter documents designate the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders ability to obtain a favorable judicial forum for disputes with us or our directors, officers, or other employees.

Our amended and restated certificate of incorporation and bylaws provide that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, our amended and restated certificate of incorporation or our bylaws, or (iv) any action asserting a claim against us governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and consented to the provisions of our amended and restated certificate of incorporation described above. This choice of forum provision may limit a stockholder s ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, or other employees, which may discourage such lawsuits against us and our directors, officers and other employees. Alternatively, if a court were to find these provisions of our amended and restated certificate of incorporation inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could harm our business, financial condition, or results of operations.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

We lease office facilities around the world totaling approximately 186,000 square feet, including over 92,000 square feet of space for our corporate headquarters, which includes research and development, sales, marketing, business operations and executive offices, in Santa Clara, California pursuant to a lease that expires in May 2019.

We also lease office space in Bangalore, India; Cork, Ireland; Budapest, Hungary; and London, England. In the United States, we lease office space in various locations including Atlanta, Georgia; Durham, North Carolina; Maple Lawn, Maryland; Mount Laurel, New Jersey; Palo Alto, California; San Francisco, California; and Seattle, Washington.

We believe that our facilities are adequate to meet our needs for the immediate future, and that, should it be needed, suitable additional space will be available to accommodate expansion of our operations.

Item 3. Legal Proceedings.

For a description of our material legal proceedings, see Legal Proceedings in Note 8 Commitments and Contingencies in the notes to our consolidated financial statements, which is incorporated herein by reference.

Item 4. Mine Safety Disclosures.

Not applicable.

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PART II

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

Market Information for Common Stock

Our common stock has been listed on the NASDAQ Global Select Market under the symbol HDP since December 12, 2014. Prior to that date, there was no public trading market for our common stock. For the periods indicated, the following table sets forth the intra-day high and low sales prices per share of our common stock as reported on the NASDAQ Global Select Market:

	High	Low
Fiscal 2015		
First quarter	$ 29.83	$ 19.60
Second quarter	$ 28.20	$ 19.50
Third quarter	$ 28.91	$ 20.91
Fourth quarter	$ 22.82	$ 15.75
Fiscal 2016		
First quarter	$ 21.62	$ 7.12
Second quarter	$ 13.12	$ 9.70
Third quarter	$ 12.84	$ 7.15
Fourth quarter	$ 9.65	$ 6.42

Holders of Record

As of March 8, 2017, we had 50 holders of record of our common stock. The actual number of stockholders is greater than this number of stockholders of record and includes stockholders who are beneficial owners, but whose shares are held in street name by brokers, trusts and other nominees.

Dividends

We have not declared or paid any cash dividends on our capital stock. We currently intend to retain any future earnings and do not expect to pay any dividends in the foreseeable future. Any future determination to declare cash dividends will be made at the discretion of our Board of Directors, subject to applicable laws, and will depend on a number of factors, including our financial condition, results of operations, capital requirements, contractual restrictions, general business conditions and other factors that our Board of Directors may deem relevant. Currently, our revolving credit facility prohibits the payment of any dividends without obtaining the lender s prior written consent, other than dividends payable solely in our common stock.

Equity Compensation Plan Information

See Item 12 Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters for information regarding securities authorized for issuance.

Use of Proceeds

We have applied the proceeds from our IPO, concurrent private placement and follow-on offering to our cash and investment balances and such funds have and will continue to be used for general corporate purposes going forward.

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Stock Performance Graph

This performance graph shall not be deemed soliciting material or to be filed with the SEC for purposes of Section 18 of the Exchange Act, or otherwise subject to the liabilities under that Section, and shall not be deemed to be incorporated by reference into any of our filings under the Securities Act.

The following graph shows the cumulative total return to our stockholders during the period from December 12, 2014 (the date our common stock commenced trading on the NASDAQ Global Select Market) through December 31, 2016, in comparison to the NASDAQ Composite Index and the NASDAQ-100 Technology Sector Index. All values assume a $100 initial investment and data for the NASDAQ Composite Index and the NASDAQ-100 Technology Sector Index assume reinvestment of dividends. Such returns are based on historical results and are not intended to suggest future performance.

COMPARISON OF CUMULATIVE TOTAL RETURN

Among Hortonworks, Inc., the NASDAQ Composite Index and the NASDAQ-100 Technology Sector Index

Recent Sales of Unregistered Securities

Shares Issued in Connection with Acquisitions

In August 2015, we issued approximately 1.6 million shares of our common stock in connection with our acquisition of Onyara. Of these shares, 1.1 million shares were allocated to purchase consideration. The remaining 0.5 million were considered post-combination remuneration which will be recorded as stock-based compensation expense over the vesting period of up to three years.

In April 2015, we issued 163,685 RSUs in connection with our acquisition of SequenceIQ. Of the total RSUs issued, 49,102 vested at closing and the remaining 114,583 RSUs vest over a period of up to three years. The vesting of the additional RSUs is contingent upon the continued employment of the selling shareholders that were retained as employees.

In May 2014, we issued an aggregate of 132,508 shares of our common stock in connection with our acquisition of Agniv, Inc. d/b/a XA Secure (XA Secure) and as consideration to individuals and entities who were former service providers and/or stockholders of XA Secure.

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Purchases of Equity Securities by the Issuer and Affiliated Purchasers

	(a) Total Number of Shares (or Units) Purchased	(b) Average Price Paid per Share (or Unit)	(c) Total Number of Shares (or Units) Purchased as Part of Publicly Announced Plans or Programs	(d) Maximum Number (or Approximate Dollar Value) of Shares (or Units) that May Yet Be Purchased Under the Plans or Programs
October 1, 2016 October 31, 2016				
November 1, 2016 November 30, 2016	3,223	$ 14.22		
December 1, 2016 December 31, 2016				
Total	3,223	$ 14.22		

The Hortonworks, Inc. 2011 Stock Option and Grant Plan allowed for the granting of options that may be exercised before such options have vested. Shares issued as a result of early exercise that have not vested are subject to repurchase by the Company upon termination of the purchaser s employment or services, at the original price paid by the purchaser. In November 2016, we repurchased 3,223 early exercise options at a price of $14.22 per share for a total purchase price of approximately $46,000.

We have no publicly announced plan or program for the purchase of shares.

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Item 6. Selected Financial Data.

The following selected financial and other data should be read in conjunction with Item 7 Management s Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and related notes. The consolidated statements of operations data for the years ended December 31, 2016, 2015 and 2014, eight months ended December 31, 2013 and years ended April 30, 2013 and 2012 and the consolidated balance sheets data as of December 31, 2016, 2015, 2014, 2013 and April 30, 2013 and 2012 have been derived from our audited consolidated financial statements.

We changed our fiscal year end from April 30 to December 31, commencing with our fiscal year ended December 31, 2013. The consolidated statement of operations data for the eight months ended December 31, 2012 have been derived from our unaudited comparative transition period consolidated financial statements. The unaudited comparative transition period consolidated financial statements reflect, in the opinion of management, all adjustments, of a normal, recurring nature that are necessary for the fair presentation of the consolidated financial statements. Our historical results are not necessarily indicative of the results that may be expected in the future, and the results for the year ended December 31, 2016 are not necessarily indicative of results to be expected for any other period.

	Years Ended December 31,			Eight Months Ended December 31,		Years Ended April 30,	
	2016	2015	2014	2013	2012	2013	20
	(in thousands, except share and per share amounts)						
lidated Statements of Operations Data:							
upport subscription and sional services revenue[(1)]	$ 184,461	$ 121,944	$ 46,048	$ 17,865	$ 4,778	$ 10,998	$
cost of revenue[(1)(2)]	72,170	55,171	80,879	13,710	5,933	10,933	
operating expenses[(2)(3)]	363,467	246,366	138,668	50,346	18,658	36,855	1
rom operations	(251,176)	(179,593)	(173,499)	(46,191)	(19,813)	(36,790)	(1
income (expense), net[(4)]	712	908	(4,977)	23	110	163	
e tax expense (benefit)	1,224	432	(1,111)	45	8	11	
ss	$ (251,688)	$ (179,117)	$ (177,365)	$ (46,213)	$ (19,711)	$ (36,638)	$ (1
ss per share of common stock, basic and [(5)]	$ (4.40)	$ (4.13)	$ (24.16)	$ (18.18)	$ (16.96)	$ (30.29)	$ (
ted-average shares used in computing net r share of common stock, basic and [(5)]	57,203,067	43,318,044	7,341,465	2,541,800	1,161,880	1,209,750	15

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(1) Total support subscription and professional services revenue includes contra-revenue adjustments and total cost of revenue includes cost of revenue adjustments as follows (in thousands):

	2016	Years Ended December 31, 2015	2014	Eight Months Ended December 31, 2013
Gross support subscription and professional services revenue:				
Support subscription	$ 126,689	$ 77,793	$ 31,519	$ 11,782
Professional services	57,772	44,216	20,616	6,465
Total gross support subscription and professional services revenue	184,461	122,009	52,135	18,247
Contra-support subscription and professional services revenue:				
Support subscription		(65)	(5,961)	(367)
Professional services			(126)	(15)
Total contra-support subscription and professional services revenue		(65)	(6,087)	(382)
Support subscription and professional services revenue:				
Support subscription	126,689	77,728	25,558	11,415
Professional services	57,772	44,216	20,490	6,450
Total support subscription and professional services revenue	184,461	121,944	46,048	17,865
Cost of revenue excluding 2011 Yahoo! Warrant adjustment:				
Cost of support subscription	23,030	13,705	5,289	3,720
Cost of professional services	49,140	41,466	27,637	9,990
Total cost of revenue excluding 2011 Yahoo! Warrant adjustment	72,170	55,171	32,926	13,710
Cost of revenue adjustment for 2011 Yahoo! Warrant:				
Cost of support subscription			47,398	
Cost of professional services			555	
Total cost of revenue adjustment for 2011 Yahoo! Warrant			47,953	
Cost of revenue:				
Cost of support subscription	23,030	13,705	52,687	3,720
Cost of professional services	49,140	41,466	28,192	9,990

Total cost of revenue	$ 72,170	$ 55,171	$ 80,879	$ 13,710

(2) Stock-based compensation expense was allocated as follows (in thousands):

	Years Ended December 31,			Eight Months Ended December 31,		Years Ended April 30,	
	2016	2015	2014	2013	2012	2013	2012
Cost of revenue	$ 5,700	$ 2,702	$ 580	$ 132	$ 44	$ 45	$ 14
Sales and marketing	25,787	11,688	1,881	321	110	234	18
Research and development	36,540	15,193	2,257	468	140	244	140
General and administrative	30,796	11,356	4,314	406	122	239	150
Total stock-based compensation expense	$ 98,823	$ 40,939	$ 9,032	$ 1,327	$ 416	$ 762	$ 322

(3) General and administrative stock-based compensation expense for the year ended December 31, 2016 included the accelerated recognition of $10.0 million related to one of our executives voluntary cancellation of stock options to purchase 1,185,000 shares in February 2016.

(4) Other income (expense), net for the year ended December 31, 2014 includes $5.4 million in expense related to the vesting of the 2014 Yahoo! stock warrant (the 2014 Yahoo! Warrant). See Note 10 Stockholders Equity in the notes to our consolidated financial statements for additional information on the 2014 Yahoo! Warrant.

(5) See Note 11 Net Loss Per Share of Common Stock in the notes to our consolidated financial statements for an explanation of the method used to calculate basic and diluted net loss per share attributable to common stock and the weighted-average number of shares used in the computation of the per share amounts.

	December 31,				April 30,	
	2016	2015	2014	2013	2013	2012
	(in thousands)					
Consolidated Balance Sheets Data:						
Cash, cash equivalents and short-term investments	$ 85,096	$ 94,301	$ 204,465	$ 38,509	$ 17,883	$ 51,350
Working capital	5,976	29,044	167,480	22,582	14,102	50,493
Property and equipment, net	19,381	15,422	11,182	1,093	1,050	381
Long-term investments	4,084	2,592			1,011	1,011
Total assets	235,836	212,019	256,039	54,443	29,279	55,029
Capital lease obligations	748	348	441			
Total deferred revenue	185,390	106,779	62,923	27,928	16,730	10,148
Total stockholders equity (deficit)	11,362	67,591	167,070	(90,440)	(46,415)	(10,623)

Key Metric Operating Billings

Operating billings represent the aggregate value of all invoices sent to our customers in a given period. We have historically disclosed gross billings as a key metric and a non-GAAP financial measure that presented total non-GAAP revenue plus the change in deferred revenue for the same period. One would need to add our revenue to our change in deferred revenue to calculate a number that is comparable to our historically reported gross billings numbers.

Operating billings were as follows (in thousands):

	Years Ended December 31,			Eight Months Ended December 31,		Years Ended April 30,	
	2016	2015	2014	2013	2012	2013	2012
Operating billings	$ 269,862	$ 165,865	$ 87,130	$ 29,445	$ 9,726	$ 17,580	$ 11,794

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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 Item 6 Selected Financial Data and the consolidated financial statements and the related notes included elsewhere in this annual report. This discussion contains statements that are not historical in nature, are predictive, that depend upon or refer to future events or conditions or contain forward-looking statements. Such statements are based upon current expectations that involve risks and uncertainties, as well as assumptions that, if they never materialize or if they prove incorrect, could cause our results to differ materially from those expressed or implied by such forward-looking statements. Various factors could cause or contribute to such a difference, including, but not limited to, those identified below and discussed in Item 1A Risk Factors and in other parts of this annual report.

Overview

Hortonworks, Inc. (Hortonworks, the Company, we or us) is an industry-leading innovator that creates, distributes supports a new class of enterprise data management software solutions built on open source technology. Our customers use our enterprise-scale Connected Data Platforms to build transformational data applications fueled by actionable intelligence from data in motion, information that flows over a network, such as the internet or corporate networks, and data at rest, information that is stored in digital form in a file system, database or other storage medium.

Our data-at-rest solution, Hortonworks Data Platform (HDP), is an enterprise-scale data management platform built entirely on open source software including Apache Hadoop. HDP combines computer servers with local storage and open source software technology to create a reliable distributed compute and storage platform for large data sets that is secure and scalable up to petabytes of data within thousands of servers or nodes. At the core of HDP is the next generation computing and resource management framework called Yet Another Resource Negotiator (YARN), which enables a centralized data architecture for batch, interactive and real-time workloads to be executed simultaneously on both a single cluster and data set with the comprehensive security, governance and operational services enterprise customers require. HDP integrates with existing data center technologies to support best-of-breed data architectures and enables our customers to collect, store, process and analyze increasing amounts of existing and new data types in a way that augments rather than replaces their existing data center infrastructures.

Our data-in-motion solution, Hortonworks DataFlow (HDF), is an enterprise-scale data ingest and stream processing platform built entirely on open source software including Apache NiFi. HDF is complementary to HDP and accelerates the flow of data in motion into HDP to support full fidelity analytics. HDF is a real-time, integrated, secure and adaptive platform capable of ingesting any type of data in motion from traditional data sources to new data types such as sensor and machine data, server log data, clickstream data, geo-location data, social and sentiment data and other data generated by documents and other file types. HDF enables customers to collect, curate and analyze their data in motion in order to deliver real-time business insights and actionable intelligence.

We employ a differentiated strategic approach in that we are committed to continuously driving innovation and market adoption of Apache Hadoop, Apache NiFi and associated open source technologies within the Apache Software Foundation open source ecosystem. We do this by sharing all of our product development with the open source community in order to further advance open source technology development and functionality which is ultimately consumed by enterprise customers of all types and sizes. We distribute the HDP and HDF software under the Apache open source license in order to provide broad rights for recipients of the software to use, copy, modify and redistribute the software. Consistent with our open source approach, we generally make HDP and HDF available free of charge.

We generate revenue predominantly by selling support subscription offerings and professional services. Our support subscription agreements are typically annual arrangements, but we also have customers with multi-year arrangements. On occasion, we sell engineering services as well as a premium subscription agreement that provides a customer with development input and the opportunity to work more closely with our developers. We price our support subscription offerings based on the number of servers in a cluster, or nodes, core or edge devices, data under management and/or the scope of support provided. Accordingly, our support subscription revenue varies depending on the scale of our customers deployments and the scope of the support agreement. Professional services revenue is derived from consulting services engagements and training services. Our consulting services are provided primarily on a time and materials basis, and to a lesser extent, a fixed fee basis, and training services are priced based on attendance. The growth of our total revenue is dependent upon (i) new customer acquisition, (ii) expansion of sales within our existing customers, (iii) the annual renewal of our support subscription agreements by our existing support subscription customers and (iv) professional services fees from consulting and training. Our revenue is subject to fluctuations based upon our success in addressing these factors but may also be impacted by the revenue recognition requirements of our multiple-element customer arrangements. Our early growth strategy has been aimed at acquiring customers for our support subscription offerings via a direct sales force and delivering consulting services. As we grow our business, our longer-term strategy will be to expand our partner network and leverage our partners to deliver a larger proportion of professional services to our customers on our behalf. The implementation of this strategy is expected to result in an increase in upfront costs in order to establish and further cultivate such strategic partnerships, but we expect that it will increase gross margins in the long term as the percentage of our revenue derived from professional services, which has a lower gross margin than our support subscriptions, decreases.

Our ability to successfully implement these strategies is subject to challenges, risks and uncertainties and our net losses have been increasing year over year. In our efforts to achieve profitability, we have placed and will continue to place an emphasis on investing within our support subscription sales efforts to try to drive increased revenue in both support subscriptions and professional services. If these support subscription sales efforts are not successful, due to unsuccessful execution by us, increased competition in our markets, or other factors, we will find it difficult to add new support subscription customers, and our revenue will not grow as quickly as we would like, and may decline. In addition, our longer-term strategy of leveraging our partners to provide an increasing proportion of professional services to our customers presents certain challenges. This strategy requires us to make upfront expenditures and devote time and attention to cultivating relationships. If we are unable to identify and engage suitable partners that are able to provide such services, or if our partners are unable to provide professional services at the quality level that our customers expect, we may not be able to achieve this transition as quickly as we would like, or at all. We expect that our ability to successfully implement this strategy will have a material impact on whether we can achieve profitability, due to the difference in gross margins on our support subscriptions versus our professional services. If the percentage of our total revenue that comes from professional services does not decrease over time as we expect, or if our subscription revenue does not continue to grow, then our ability to achieve profitability will be negatively impacted. In addition, as we do not intend to establish vendor-specific objective evidence of fair value (VSOE) for professional services offerings, our results of operations could fluctuate significantly from period to period in ways that do not correlate with our underlying professional service business performance through at least the end of fiscal 2017, at which point we will adopt Accounting Standards Update (ASU) No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* effective January 1, 2018. See Note 2 Summary of Significant Accounting Policies in the notes to our consolidated financial statements for more information.

We have had a few agreements with, and equity issuances to, certain of our early, large customers that have had a significant impact on our historical results and that will continue to impact our reported results which have been prepared in accordance with generally accepted accounting principles (GAAP) in the United States (U.S.) at least through the current fiscal year. These transactions were:

In July 2011, we issued a warrant to purchase 6,500,000 shares of Series A preferred stock at an exercise price of $0.005 per share (which was convertible into 3,250,000 shares of common stock) to Yahoo! Inc. (Yahoo!), a related party. The warrant was issued in connection with our Series A financing and the transactions contemplated thereby, including commercial agreements with Yahoo!

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providing for support subscription offerings and certain rights to technology. The warrant expires nine years from the date of issuance and became exercisable for common stock upon the consummation of our initial public offering (IPO) in December 2014. As the warrant was issued to a customer, the vesting of the warrant upon the consummation of our IPO resulted in an immediate $4.0 million reduction in revenue, which was the cumulative revenue from Yahoo! since our inception. The $48.0 million difference between the fair value as of the date of our IPO of the warrant of $52.0 million and the reduction in revenue was recognized in cost of revenue during the fourth quarter of the year ended December 31, 2014. The $52.0 million fair value of the warrant was recognized in additional paid-in capital in our consolidated balance sheet.

In February 2012, we entered into a multi-year agreement with Teradata Corporation (Teradata), at that time a related party, whereby we were to provide development, support, training and other professional services to Teradata and its end-user customers. In April 2012, Teradata made a non-refundable $9.5 million prepayment that was to be credited for amounts owed relating to end-user support and professional services provided under the agreement through December 2016. In June 2015, we entered into an amendment to this prior agreement with Teradata and received a second prepayment of $1.5 million in August 2015 as consideration for support subscription offerings and professional services expected to be performed by us through December 2017. In September 2016, we entered into an amendment with Teradata and received a third prepayment of $1.5 million in the same month as consideration for support subscription offerings and professional services expected to be performed by us through December 2018. As of December 31, 2016, $2.9 million of the $12.5 million total prepayment made by Teradata remained in deferred revenue. As of February 2, 2016, Teradata was no longer a Hortonworks shareholder.

In July 2012, we entered into a multi-year subscription arrangement with Microsoft Corporation (Microsoft) as a customer and partner in order to enable and support HDP on Windows Server and the Azure Cloud platform by providing development, support, training and other professional services. The arrangement consisted of an initial co-engineering effort with Microsoft, which was completed in October 2013, followed primarily by ongoing enablement, joint engineering and support subscription offerings. In June 2015, we renewed this multi-year subscription arrangement with Microsoft in order to continue enablement, joint engineering and support of HDP on Windows Server, HDP on the Azure Cloud platform, HDP embedded with the Azure HDInsight cloud service, as well as HDP on Linux. Microsoft contributed significantly to our early revenue (6 percent, 8 percent and 22 percent of total revenue for the years ended December 31, 2016, 2015 and 2014, respectively). We expect the revenue from Microsoft to continue to decrease as a percentage of our total revenue in the future as we generate more revenue from other customers.

In September 2013, we entered into a commercial agreement and common stock purchase agreement with AT&T Inc. (AT&T) covering the sale and issuance of 390,269 shares of our common stock to an affiliate of AT&T at a per share price of $0.0002. The shares were fully vested as of January 30, 2014. As a result of the issuance of shares to a customer at below fair value, we recorded contra-revenue in the amount of $2.0 million for the year ended December 31, 2014. As of December 31, 2016, AT&T holds less than five percent of our outstanding common stock and, therefore, we do not consider AT&T to be a related party as of December 31, 2016.

In June 2014, we issued a warrant to purchase up to one percent of our shares of common stock outstanding at the issuance date at an exercise price of $8.46 per share to Yahoo!, a related party. The warrant was issued to Yahoo! in exchange for the amendment of certain rights held by Yahoo! under the Investors Rights Agreement to approve certain corporate transactions involving Hortonworks. The warrant expires nine years from the date of issuance and became exercisable upon the consummation of our IPO at which point the number of shares issuable under the warrant was fixed, and the fair value of the award on the IPO date was reclassified to equity. As of December 31, 2016, the warrant is exercisable for 476,368 shares of our common stock. The combined value of the initial measurement and the change in the fair value of this warrant of $5.4 million was recorded as other expense in our

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consolidated statements of operations for the year ended December 31, 2014. As of December 31, 2014, this amount was also recorded as additional paid-in capital in our consolidated balance sheet.

In December 2014, we entered into a stock purchase agreement with Passport Capital, LLC (Passport Capital), pursuant to which funds affiliated with Passport Capital purchased 486,486 shares of our common stock at $16.00 per share in the concurrent private placement that closed immediately subsequent to the closing of our IPO.

In February 2016, we completed a follow-on public offering of an aggregate of 9,688,750 shares of our common stock, including 1,263,750 additional shares sold pursuant to the full exercise of the option by the underwriters to purchase additional shares, at a public offering price of $9.50 per share. Our net proceeds were approximately $87.7 million after deducting underwriting discounts and commissions and estimated offering expenses.

We have achieved significant growth in recent periods. Our revenue for the years ended December 31, 2016, 2015 and 2014 was $184.5 million, $121.9 million and $46.0 million, respectively. Our operating billings for the years ended December 31, 2016, 2015 and 2014 were $269.9 million, $165.9 million and $87.1 million, respectively. Operating billings represent the aggregate value of all invoices sent to our customers in a given period. We incurred net losses for the years ended December 31, 2016, 2015 and 2014 of $251.7 million, $179.1 million and $177.4 million, respectively. See Item 6 Selected Financial Data Key Metric Operating Billings for more information.

Key Factors Affecting Our Performance

Support Subscription Customers. Growth of our revenue from our support subscription offerings is driven by agreements with new support subscription customers, renewals of existing support subscription agreements and increased revenue from existing support subscription customers who are expanding their usage of our Connected Data Platform. The number of agreements with new support subscription customers signed may vary from period to period for several reasons, including the length of our sales cycle, the effectiveness of our sales and marketing efforts. The contract value of our support subscriptions with individual support subscription customers varies substantially among customers, and our results of operations may fluctuate from period to period depending on the timing and composition of particular large support subscriptions including engineering services or premium subscription agreements that provide a customer with development input and the opportunity to work more closely with our developers. Our results of operations may also fluctuate, in part, due to the resource-intensive nature of our sales efforts, the length and variability of the sales cycle of our support subscription offerings and the difficulty in making short-term adjustments to our operating expenses based upon deviations from forecasted sales productivity or expectations. The length of our sales cycle from initial evaluation to payment for our support subscription offerings is generally six to nine months, but can extend to one year or more for some customers. In addition, our professional services engagements today relate to both initial new support subscription customer deployments and the expansion of existing customers who are seeking to increase their use of these services.

Additional Sales to Existing Support Subscription Customers. Our existing support subscription customers continue to represent a large opportunity for us to expand our revenue base. Growth of our revenue from existing support subscription customers typically comes when customers increase the scale of their existing deployment of HDP as well as complement their deployment with HDF. We price our support subscription offerings based on the number of nodes, data under management and/or the scope of support services provided. Accordingly, our revenue from our support subscription offerings varies but primarily depends upon the scale of our support subscription customers deployments and the breadth and scope of their support agreement.

Investing in Growth. We will continue to focus on long-term growth. We believe that our market opportunities (HDP and HDF) are large and underpenetrated, and we will continue to invest significantly in sales and marketing to grow our customer base, expand within existing support subscription customers and grow

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internationally to drive additional revenue. We also expect to invest in research and development to enhance HDP, HDF, Azure HDInsight, Hortonworks Data Cloud for Amazon Web Services, Apache Hadoop and other key Apache Open Source projects including Apache NiFi. To enable our growth, we plan to further invest in other operational and administrative functions including, but not limited to, our customer support organization that provides the basis for customer retention and further expansion. We expect to continue to use the proceeds from our IPO, the concurrent private placement and our follow-on public offering to fund these growth strategies and do not expect to be profitable in the near future. We also intend to leverage business partners for the delivery of professional services. We believe that our sales and marketing, research and development and general and administrative costs will decrease as a percentage of revenue in the long term as we are able to reach economies of scale and achieve process improvements and other operational efficiencies. With this increased operating leverage, we expect our gross and operating margins to increase in the long term.

Revenue Recognition Policies. We typically enter into sales arrangements pursuant to which we provide both support subscription offerings and professional services. On occasion, we sell engineering services as well as a premium subscription offering which allows a higher level of access and development input. Pursuant to software revenue recognition rules under U.S. GAAP, for arrangements providing both support subscription offerings and professional services, we typically recognize as revenue the entire arrangement fee ratably over the subscription period once the support subscription and professional services have commenced. The appropriate timing of revenue recognition must be evaluated on an arrangement-by-arrangement basis. The costs associated with our support subscription and professional services revenue are expensed as we incur the delivery costs. However, in many cases, the related revenue is deferred and recognized ratably over a later period. Thus, during times of rapid customer growth and accompanying delivery of professional services, our gross margin is expected to be negatively impacted under current U.S. GAAP through December 31, 2017. We will adopt ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* effective January 1, 2018. See Note 2 Summary of Significant Accounting Policies in the notes to our consolidated financial statements for more information.

Key Business Metrics

We review a number of metrics, including the following key metrics, to evaluate our business, measure our performance, identify trends affecting our business, formulate business plans and make strategic decisions. These key business metrics include the following:

Dollar-Based Net Expansion Rate. We believe that our ability to retain our customers and expand their support subscription revenue over time will be an indicator of the stability of our revenue base and the long-term value of our customer relationships. Maintaining customer relationships allows us to sustain and increase revenue to the extent customers maintain or increase the number of nodes, data under management and/or the scope of the support subscription agreements. We calculate dollar-based net expansion rate as of a given date as the aggregate annualized subscription contract value as of that date from those customers that were also customers as of the date 12 months prior, divided by the aggregate annualized subscription contract value from all customers as of the date 12 months prior. We calculate annualized support subscription contract value for each support subscription customer as the total subscription contract value as of the reporting date divided by the number of years for which the support subscription customer is under contract as of such date. We report the trailing four-quarter average dollar-based net expansion rate as of each period end. The dollar-based net expansion rate as of December 31, 2016, 2015 and 2014 was 131 percent, 159 percent and 144 percent, respectively.

Total subscription contract value for a support subscription customer account is a legal and contractual determination calculated as of a given date by aggregating the subscription fees that we expect to receive for each support subscription, assuming no changes to the subscription. The total subscription contract value is not determined by reference to historical or future revenue, deferred revenue or any other U.S. GAAP financial measure over any period. It is forward-looking and contractually derived as of the date of determination, and the period over which any associated revenue is recognized is affected by our revenue recognition policies under U.S. GAAP.

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Total Support Subscription Customers. We believe total support subscription customers is a key indicator of our market penetration, growth and future revenue. In order to grow our customer base, we have aggressively invested in and intend to continue to invest in our direct sales team, as well as to pursue additional partnerships within our indirect sales channel. We generally define a support subscription customer as an entity with an active support subscription as of the measurement date. In situations where there are multiple contracts with multiple subsidiaries or divisions, universities, or governmental organizations of a single entity, the entity is counted once. Our total support subscription customer count was over 1,000, 800 and 300 as of December 31, 2016, 2015 and 2014, respectively.

Components of Results of Operations

Revenue

We generate revenue primarily through selling support subscription offerings and consulting and/or training services to our enterprise customers. On occasion, we sell engineering services and/or a premium subscription offering that provides a customer with development input and the opportunity to work more closely with our developers. When a support subscription is sold separately, we recognize revenue on a ratable basis over the support subscription term. When consulting and/or training is sold separately, we recognize revenue as the services are performed. We commonly enter into multiple-element arrangements which includes a support subscription sold together with professional services. We have not established, nor do we currently intend to establish, VSOE for our support subscriptions and professional services offerings. Accordingly, for our multiple-element arrangements, we generally recognize revenue on a ratable basis over the period beginning when both the support subscription and professional services have commenced, and ending at the conclusion of the support subscription or professional services period, whichever is longer.

Cost of Revenue

Cost of support subscription revenue consists primarily of personnel costs (including salaries, benefits and stock-based compensation expense) for employees, including support engineers, associated with our support subscription offerings mainly related to technology support and allocated shared costs. Cost of professional services revenue consists primarily of personnel costs (including salaries, benefits and stock-based compensation expense) for employees and fees to subcontractors associated with our professional service contracts, travel costs and allocated shared costs.

We allocate shared costs such as rent, information technology and employee benefits to all departments based on headcount. As such, allocated shared costs are reflected in cost of revenue and each operating expense category. Cost of revenue for support subscription and professional services is expensed as incurred.

Operating Expenses

Sales and Marketing. Sales and marketing expenses consist primarily of personnel costs (including salaries, commissions, benefits and stock-based compensation expense) for our sales and marketing employees. In addition, sales and marketing expenses include the cost of advertising, online marketing, promotional events, corporate communications, product marketing and other brand-building activities, plus allocated shared costs. We expect our sales and marketing expenses to continue to increase for the foreseeable future as we continue to invest in our selling and marketing activities, build brand awareness, attract new customers and sponsor additional marketing events. However, we expect our sales and marketing expenses to decrease as a percentage of our total revenue over the long term.

Research and Development. Research and development expenses consist primarily of personnel costs (including salaries, benefits and stock-based compensation expense) for our research and development employees, costs associated with subcontractors and equipment lease expenses, plus allocated shared costs. Our

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research and development expenses include costs for development related to the distribution of our solutions, including security updates, fixes, functionality enhancements, upgrades to the technology and new versions of the software, quality assurance personnel, technical documentation personnel and at times expenses related to engineering resources for our subscription and professional services offerings. We expect to continue to focus our research and development efforts on enhancing and adding new features and functionality to our offerings. As a result, we expect our research and development expenses to continue to increase for the foreseeable future. However, we expect our research and development expenses to decrease as a percentage of our total revenue over the long term.

General and Administrative. General and administrative expenses consist primarily of personnel costs (including salaries, benefits and stock-based compensation expense) for our executive, finance, human resources, IT, legal and other administrative employees. In addition, general and administrative expenses include fees for third-party professional services, including consulting, accounting and legal services and other corporate expenses and allocated overhead. We expect our general and administrative expenses to continue to increase for the foreseeable future as we continue to invest in the growth of our business and for the implementation efforts of ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*. However, we expect our general and administrative expenses to decrease as a percentage of our total revenue over the long term.

Results of Operations

The following table sets forth selected consolidated statements of operations data for each of the periods indicated:

	Years Ended December 31,		
	2016	**2015**	**2014**
		(in thousands)	
Support subscription and professional services revenue:			
Support subscription (including contra-revenue of $65 and $5,961 for the years ended December 31, 2015 and 2014, respectively)	$ 126,689	$ 77,728	$ 25,558
Professional services (including contra-revenue of $126 for the year ended December 31, 2014)	57,772	44,216	20,490
Total support subscription and professional services revenue	184,461	121,944	46,048
Cost of revenue:			
Support subscription	23,030	13,705	52,687
Professional services	49,140	41,466	28,192
Total cost of revenue	72,170	55,171	80,879
Gross profit (loss)	112,291	66,773	(34,831)
Operating expenses:			
Sales and marketing	183,542	133,052	70,695
Research and development	99,202	66,645	37,771
General and administrative	80,723	46,669	26,231
Contribution of acquired technology to the Apache Software Foundation			3,971
Total operating expenses	363,467	246,366	138,668

Loss from operations	(251,176)	(179,593)	(173,499)
Other income (expense), net	712	908	(4,977)
Loss before income tax	(250,464)	(178,685)	(178,476)
Income tax expense (benefit)	1,224	432	(1,111)
Net loss	$ (251,688)	$ (179,117)	$ (177,365)

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Comparison of the Years Ended December 31, 2016, 2015 and 2014

Revenue

	Years Ended December 31, 2016	2015	2014	2016-2015 % Change	2015-2014 % Change
	(in thousands)				
Gross support subscription and professional services revenue:					
Support subscription	$ 126,689	$ 77,793	$ 31,519	63%	147%
Professional services	57,772	44,216	20,616	31	114
Total gross support subscription and professional services revenue	184.461	122,009	52,135	51	134
Contra-support subscription and professional services revenue:					
Support subscription		(65)	(5,961)	100	99
Professional services			(126)		100
Total contra-support subscription and professional services revenue		(65)	(6,087)	100	99
Support subscription and professional services revenue:					
Support subscription	126,689	77,728	25,558	63	204
Professional services	57,772	44,216	20,490	31	116
Total support subscription and professional services revenue	$ 184,461	$ 121,944	$ 46,048	51	165

Support subscription revenue for the year ended December 31, 2016 increased $49.0 million, or 63 percent compared to the same period in 2015. The increase was primarily due to the sales of additional support subscriptions to our existing customers as well as the growth in our support subscription customer base.

Support subscription revenue for the year ended December 31, 2015 increased $52.2 million, or 204 percent compared to the same period in 2014. The increase was primarily due to the significant growth in our support subscription customer base as well as sales of additional support subscriptions to our existing customers. Additionally, the year ended December 31, 2014 included contra-support subscription revenue of $4.0 million and $2.0 million for the impact of the 2011 Yahoo! Warrant and the issuance of equity to an affiliate of AT&T, respectively.

Professional services revenue increased $13.6 million, or 31 percent for the year ended December 31, 2016 compared to the same period in 2015. The increase was primarily due to the growth in our support subscription customer base and associated sales of additional professional services to our existing customers.

Professional services revenue increased $23.7 million, or 116 percent for the year ended December 31, 2015 compared to the same period in 2014. The increase was primarily due to the significant growth in our support subscription customer base and associated sales of additional professional services to our existing customers.

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Cost of Revenue

	Years Ended December 31, 2016	2015	2014	2016-2015 % Change	2015-2014 % Change
	(in thousands)				
Gross cost of revenue:					
Cost of support subscription	$ 23,030	$ 13,705	$ 5,289	68%	159%
Cost of professional services	49,140	41,466	27,637	19	50
Total gross cost of revenue	72,170	55,171	32,926	31	68
Cost of revenue adjustment for 2011 Yahoo! Warrant:					
Cost of support subscription			47,398		(100)
Cost of professional services			555		(100)
Total cost of revenue adjustment for 2011 Yahoo! Warrant			47,953		(100)
Cost of revenue:					
Cost of support subscription	23,030	13,705	52,687	68	(74)
Cost of professional services	49,140	41,466	28,192	19	47
Total cost of revenue	$ 72,170	$ 55,171	$ 80,879	31	(32)

Cost of support subscription revenue increased $9.3 million for the year ended December 31, 2016 compared to the same period in 2015. The increase was primarily attributable to a $8.2 million increase in employee-related expenses, which included $1.3 million of stock-based compensation expense, as a result of an increase in headcount primarily to support new customer growth.

Cost of support subscription revenue decreased $39.0 million for the year ended December 31, 2015 compared to the same period in 2014. The decrease was primarily attributable to the $47.4 million expense related to the vesting of the 2011 Yahoo! Warrant upon our IPO in December 2014, for which there was no similar expense in 2015. Excluding the impact of the $47.4 million expense related to the vesting of the 2011 Yahoo! Warrant, cost of support subscription revenue increased by approximately $8.4 million. This increase was attributed to a $6.5 million increase in employee-related expenses, which included $0.8 million of stock-based compensation expense, as a result of an increase in headcount primarily to support new customer growth, as well as an increase in equipment and software, travel and rent expense of $1.1 million.

Cost of professional services revenue increased $7.7 million for the year ended December 31, 2016 compared to the same period in 2015. The increase was primarily attributable to a $7.1 million increase in employee-related expenses, which included $1.7 million of stock-based compensation expense, primarily as a result of an increase in headcount.

Cost of professional services revenue increased $13.3 million for the year ended December 31, 2015 compared to the same period in 2014. The increase was primarily attributable to a $11.4 million increase in employee-related expenses, which included $1.3 million of stock-based compensation expense primarily as a result of an increase in headcount, as well as an increase in travel expenses of $1.3 million.

Sales and Marketing

	Years Ended December 31,			2016-2015	2015-2014
	2016	2015	2014	% Change	% Change
		(in thousands)			
Sales and marketing	$ 183,542	$ 133,052	$ 70,695	38%	88%

Sales and marketing expenses increased $50.5 million for the year ended December 31, 2016 compared to the same period in 2015. The increase was primarily attributable to an increase in employee-related expenses of $46.8 million, which included $14.1 million of stock-based compensation expense, primarily related to restricted stock units (RSUs) granted to new employees, additional incentive RSUs granted to existing employees and performance stock units (PSUs) granted. Employee-related expenses also increased due to hiring to support more revenue producing sales positions. In addition, travel expenses increased $1.6 million primarily due to an increase in headcount to support the growth in our business and equipment and software expenses increased by $1.6 million. These increases were partially offset by a $2.0 million decrease in marketing expenses primarily due to reduced hiring in the latter half of 2016 and better cost management including the reduction of field events and marketing related programs.

Sales and marketing expenses increased $62.4 million for the year ended December 31, 2015 compared to the same period in 2014. The increase was primarily attributable to an increase in employee-related expenses of $47.8 million, which included $9.8 million of stock-based compensation expense, primarily as a result of an increase in headcount. In addition, travel expenses increased $5.0 million primarily due to increased headcount to support the growth in our business, expenses related to marketing events increased $3.9 million and equipment and software expenses increased by $2.0 million.

Research and Development

	Years Ended December 31,			2016-2015	2015-2014
	2016	2015	2014	% Change	% Change
	(in thousands)				
Research and development	$ 99,202	$ 66,645	$ 37,771	49%	76%

Research and development expenses increased $32.6 million for the year ended December 31, 2016 compared to the same period in 2015. The increase was primarily attributable to an increase in employee-related expenses of $28.9 million, which included $21.3 million of stock-based compensation expense, primarily related to RSUs granted to new employees, additional incentive RSUs granted to existing employees and PSUs granted.

Research and development expenses increased $28.9 million for the year ended December 31, 2015 compared to the same period in 2014. The increase was primarily attributable to an increase in employee-related expenses of $24.9 million, which included $12.9 million of stock-based compensation expense, primarily due to an increase in headcount, as well as an increase in equipment and software expenses of $1.2 million.

General and Administrative

	Years Ended December 31,			2016-2015	2015-2014
	2016	2015	2014	% Change	% Change
	(in thousands)				
General and administrative	$ 80,723	$ 46,669	$ 26,231	73%	78%

General and administrative expenses increased $34.1 million for the year ended December 31, 2016 compared to the same period in 2015. The increase was primarily attributable to an increase in employee-related expenses of $25.9 million, which included $19.4 million of stock-based compensation expense. The increase in stock-based compensation expense was primarily due to the accelerated recognition of $10.0 million in expense related to one of our executives voluntary cancellation of stock options to purchase 1,185,000 shares in February 2016. The remaining increase in stock-based compensation was primarily related to RSUs granted to new employees, additional incentive RSUs granted to existing employees and PSUs granted. General and administrative expenses also increased due to an increase in outside services expenses of $3.8 million primarily related to the implementation efforts of ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606).* In addition, general and administrative expenses increased due to the impairment charge of $2.7 million on our promissory note and related interest receivable.

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General and administrative expenses increased $20.4 million for the year ended December 31, 2015 compared to the same period in 2014. The increase was primarily attributable to an increase in employee-related expenses of $15.0 million, which included $7.0 million of stock-based compensation expense, due to an increase in headcount, as well as an increase in outside services expense of $2.5 million due to the acquisitions of SequenceIQ Hungary Kft. (SequenceIQ) and Onyara, Inc. (Onyara) and equipment and software expenses of $1.8 million.

Contribution of Acquired Technology to the Apache Software Foundation

	Years Ended December 31,			2016-2015	2015-2014
	2016	2015	2014	% Change	% Change
	(in thousands)				
Contribution of acquired technology to the Apache Software Foundation	$	$	$ 3,971	%	(100)%

Operating expenses for the contribution of acquired technology to the Apache Software Foundation were nil in the year ended December 31, 2015 compared to $4.0 million for the year ended December 31, 2014. On August 13, 2014, we contributed the developed technology acquired in the acquisition of Agniv, Inc. d/b/a XA Secure (XA Secure) to the Apache Software Foundation. As a result, we recognized a $4.0 million expense upon contribution, for which there was no similar expense in 2015.

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Quarterly Operating Results

The following unaudited quarterly consolidated statements of operations data for each of the eight quarters in the period ended December 31, 2016 have been prepared on a basis consistent with our annual audited consolidated financial statements and include, in our opinion, all normal recurring adjustments necessary for the fair statement of the financial information contained in those statements. Our historical results are not necessarily indicative of the results that may be expected in the future and the results in the periods presented are not necessarily indicative of results to be expected for any other period. The following quarterly financial data should be read in conjunction with our audited consolidated financial statements and the related notes included elsewhere in this annual report.

	Three Months Ended							
	Dec. 31, 2016	**Sep. 30, 2016**	**Jun. 30, 2016**	**Mar. 31, 2016**	**Dec. 31, 2015**	**Sep. 30, 2015**	**Jun. 30, 2015**	**Mar. 31, 2015**
	(in thousands)							
Support subscription and professional services revenue:								
Support subscription (includes contra-revenue of $65 for the three months ended September 30, 2015)	$ 35,569	$ 32,468	$ 31,018	$ 27,634	$ 25,555	$ 20,947	$ 18,082	$ 13,144
Professional services	16,390	15,055	12,619	13,708	11,866	11,303	11,874	9,173
Total support subscription and professional services revenue(*)	51,959	47,523	43,637	41,342	37,421	32,250	29,956	22,317
Cost of revenue:								
Support subscription	5,849	6,400	5,880	4,901	4,491	3,629	3,036	2,549
Professional services	12,129	13,375	12,181	11,455	11,206	11,171	10,178	8,911
Total cost of revenue	17,978	19,775	18,061	16,356	15,697	14,800	13,214	11,460
Gross profit	33,981	27,748	25,576	24,986	21,724	17,450	16,742	10,857
Operating expenses:								
Sales and marketing	46,477	48,807	46,175	42,083	37,969	34,017	33,309	27,757
Research and development	25,569	26,028	25,454	22,151	20,407	16,382	14,876	14,980
General and administrative	19,131	17,298	18,240	26,054	13,901	12,297	11,419	9,052
Total operating expenses	91,177	92,133	89,869	90,288	72,277	62,696	59,604	51,789

Loss from operations	(57,196)	(64,385)	(64,293)	(65,302)	(50,553)	(45,246)	(42,862)	(40,932)
Other income (expense)	625	(10)	392	(295)	422	88	(28)	426
Loss before income tax	(56,571)	(64,395)	(63,901)	(65,597)	(50,131)	(45,158)	(42,890)	(40,506)
Income tax expense	482	291	296	155	103	135	110	84
Net loss	$ (57,053)	$ (64,686)	$ (64,197)	$ (65,752)	$ (50,234)	$ (45,293)	$ (43,000)	$ (40,590)
Other financial and operational metrics:								
Net loss per share of common stock, basic and diluted	$ (0.94)	$ (1.10)	$ (1.12)	$ (1.26)	$ (1.11)	$ (1.03)	$ (1.01)	$ (0.98)
Operating billings	$ 81,438	$ 72,542	$ 62,198	$ 53,684	$ 52,129	$ 43,788	$ 41,847	$ 28,101

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(*) During the fourth quarter of the year ended December 31, 2015, we recorded an immaterial adjustment related to the recognition of revenue and deferred revenue in the prior quarters of 2015. See reconciliation of prior periods for adjustments related to the recognition of revenue:

	Three Months Ended		
	Sep. 30, 2015	Jun. 30, 2015	Mar. 31, 2015
	(in thousands)		
Previously filed support subscription and professional services revenue:			
Support subscription	$ 21,748	$ 18,811	$ 13,575
Professional services	11,303	11,874	9,198
Total previously filed support subscription and professional services revenue	33,051	30,685	22,773
Adjustments to subscription and professional services revenue:			
Support subscription	(801)	(729)	(431)
Professional services			(25)
Total adjustments to subscription and professional services revenue	(801)	(729)	(456)
Adjusted support subscription and professional services revenue:			
Support subscription	20,947	18,082	13,144
Professional services	11,303	11,874	9,173
Total adjusted support subscription and professional services revenue	$ 32,250	$ 29,956	$ 22,317

Quarterly Trends in Revenue

Our quarterly revenue increased sequentially for each of the eight quarters presented, primarily due to the increase in support subscription customers each quarter as well as additional sales of support subscription and professional services to our existing customers.

Quarterly Operating Expenses Trends

Operating expenses are primarily driven by headcount and headcount-related expenses, including stock-based compensation expense and sales and marketing initiatives. Our quarterly operating expenses generally increased sequentially for the eight quarters presented, primarily due to increase in headcount to support our growth. Operating expenses decreased sequentially from the three months ended March 31, 2016 when compared to the three months ended June 30, 2016 due to a voluntarily cancellation of a stock option to purchase 1,185,000 shares by one of our executives in February 2016. As a result of the option cancellation, we recognized in general and administrative expense a stock-based compensation expense of $10.0 million during the three months ended March 31, 2016. Operating expenses also decreased sequentially from the three months ended September 30, 2016 when compared to the three months ended December 31, 2016 primarily due to a $3.3 million decrease in employee-related expenses and a $0.4 million decrease in marketing expenses as a result of reduced hiring in the latter half of 2016 and better cost management including the reduction of field events and marketing related programs. These decreases were partially offset by increases primarily due to the $2.0 million impairment charge associated with our promissory note and related interest receivable and a $1.1 million increase in outside services expenses primarily related to the implementation efforts of ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*.

Quarterly Operating Billings

Operating billings represent the aggregate value of all invoices sent to our customers in a given period. We historically disclosed gross billings as a key metric and a non-GAAP financial measure that presented total

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non-GAAP revenue plus the change in deferred revenue for the same period. One would need to add our revenue to our change in deferred revenue to calculate a number that is comparable to our historically reported gross billings numbers.

The following table presents our quarterly operating billings for fiscal years 2016 and 2015.

	Three Months Ended							
	Dec. 31, 2016	Sep. 30, 2016	Jun. 30, 2016	Mar. 31, 2016	Dec. 31, 2015	Sep. 30, 2015	Jun. 30, 2015	Mar. 31, 2015
	(in thousands)							
Operating billings	$ 81,438	$ 72,542	$ 62,198	$ 53,684	$ 52,129	$ 43,788	$ 41,847	$ 28,101

Liquidity and Capital Resources

As of December 31, 2016, our principal sources of liquidity were cash and cash equivalents and investments totaling $89.2 million, compared to $96.9 million at December 31, 2015, which were held for working capital purposes. Our cash equivalents are comprised primarily of money market funds and short-term investments are comprised primarily of U.S. Treasury bills, U.S. government securities, certificates of deposit, commercial paper and corporate notes and bonds.

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

	Years Ended December 31,		
	2016	2015	2014
	(in thousands)		
Cash used in operating activities	$ (82,440)	$ (99,336)	$ (87,864)
Cash provided by (used in) investing activities	9,093	(2,970)	(72,798)
Cash provided by financing activities	91,533	9,412	264,442

To date, we have financed our operations primarily through private placements of preferred stock, our IPO, the concurrent private placement of our common stock, our follow-on public offering and cash collected from sales of our support subscriptions and professional services to customers. We believe that our existing cash and cash equivalents balance, together with cash generated from sales of our support subscriptions and professional services to customers, will be sufficient to meet our working capital and capital expenditure requirements for the next 12 months.

Our expected future capital requirements may depend on many factors, including customer retention and expansion, the timing and extent of spending on platform development efforts, the expansion of sales, marketing and product management activities and ongoing investments to support the growth of our business in the United States and internationally. We may in the future enter into arrangements to acquire or invest in complementary businesses, services and technologies and intellectual property rights. We may be required to seek additional equity or debt financing in order to meet these future capital requirements. In the event that additional financing is required from outside sources, we may not be able to raise it on terms that are acceptable to us or at all. If we are unable to raise additional capital when desired, our business, results of operations and financial condition would be adversely affected.

Operating Activities

Our largest source of operating cash inflows is from sales of our support subscriptions and professional services. Our primary uses of cash from operating activities are for personnel costs, which are allocated across cost of sales, sales and marketing, research and development and general and administrative expenses.

After our net loss of $251.7 million was adjusted to exclude non-cash items, operating activities used $82.4 million of cash during the year ended December 31, 2016. Significant non-cash items included stock-based compensation expense of $98.8 million, which included $10.0 million related to the accelerated recognition of one of our executive s voluntary cancellation of stock options to purchase 1,185,000 shares in February 2016. Non-cash items also included depreciation and amortization expense of $9.0 million and an impairment charge on our promissory note and related interest receivable of $2.7 million. Changes in our operating assets and liabilities were primarily related to an increase of $79.5 million in deferred revenue as a result of the growth in our support subscription customer base coupled with our ratable revenue recognition due to our lack of VSOE for support subscriptions and professional services offerings and an increase in accounts receivable of $29.6 million due to the timing of customer collections. Other changes in operating assets and liabilities for the year ended December 31, 2016 were a result of increases in accrued compensation and benefits, accrued expenses and other current liabilities and accounts payable of $5.6 million, $2.3 million and $1.8 million, respectively.

After our net loss of $179.1 million was adjusted to exclude non-cash items, operating activities used $99.3 million of cash during the year ended December 31, 2015. Significant non-cash items included stock-based compensation expense of $40.9 million and depreciation and amortization expense of $5.8 million. Changes in our operating assets and liabilities were primarily related to an increase in deferred revenue of $44.4 million as a result of the growth in our support subscription customer base coupled with our ratable revenue recognition as a result of our lack of VSOE for support subscriptions and professional services offerings and an increase in accounts receivable of $21.6 million related to the timing of customer collections. Other changes in operating assets and liabilities for the year ended December 31, 2015 were as a result of an increase in accrued expenses and other current liabilities of $6.2 million primarily related to an increase in acquisition-related expenses and our 2014 Employee Stock Purchase Plan (ESPP) contributions, an increase in prepaid expenses and other current assets of $1.5 million due to the timing of vendor payments and increases in accrued compensation and benefits, accounts payable and other long-term liabilities of $2.8 million, $1.6 million and $1.3 million, respectively.

After our net loss of $177.4 million was adjusted to exclude non-cash items, operating activities used $87.9 million of cash during the year ended December 31, 2014. Significant non-cash items included $54.0 million associated with equity instruments issued to Yahoo! and an affiliate of AT&T, stock-based compensation expense of $9.0 million, common stock warrant liability and related change of fair value of $5.4 million, a $4.0 million expense related to the contribution of acquired technology to the Apache Software Foundation and depreciation and amortization expense of $2.1 million. Changes in our operating assets and liabilities were primarily related to increases in deferred revenue and accounts receivable of $35.0 million and $20.2 million, respectively, related to the timing of payments received from customers and the significant growth of our support subscription customer base coupled with our ratable revenue recognition as a result of our lack of VSOE for support subscriptions and professional services offerings. Other changes in operating assets and liabilities for the year ended December 31, 2014 were as a result of increases in prepaid expenses and other current assets of $2.7 million due to the timing of vendor payments, increases in accrued compensation and benefits and other long-term liabilities of $5.9 million and $1.4 million, respectively, which were partially offset by a decrease in accrued expenses and other current liabilities of $4.3 million.

Investing Activities

Cash provided by investing activities for the year ended December 31, 2016 was $9.1 million. The primary inflow of cash associated with investing activities was related to the sales and maturity of investments of $102.4 million which was partially offset by purchases of investments and property and equipment of $80.5 million and $12.8 million, respectively, during the year ended December 31, 2016.

Cash used in investing activities for the year ended December 31, 2015 was $3.0 million. The primary outflow of cash associated with investing activities was related to the purchases of investments and property and equipment of $102.6 million and $12.8 million, respectively, the cash outflow related to our acquisition of SequenceIQ and

Onyara of $3.5 million and the issuance of our promissory note receivable of $2.5 million. These cash outflows were partially offset by cash inflows primarily related to the maturities of investments of $118.5 million during the year ended December 31, 2015.

Cash used in investing activities for the year ended December 31, 2014 was $72.8 million. The primary outflow of cash associated with investing activities was related to the purchases of investments and property and equipment of $86.8 million and $6.3 million, respectively, and the cash outflow related to our acquisition of XA Secure of $3.0 million. These cash outflows were partially offset by cash inflows from the maturities of investments of $23.6 million during the year ended December 31, 2014.

Financing Activities

Cash provided by financing activities for the year ended December 31, 2016 was $91.5 million, which included net proceeds from our follow-on public offering and proceeds related to the issuance of common stock of $88.2 million and $9.5 million, respectively. These proceeds were partially offset by the payments of acquisition-related liabilities and a contingent consideration related to an acquisition of $3.5 million and $1.6 million, respectively, during the year ended December 31, 2016.

Cash provided by financing activities for the year ended December 31, 2015 was $9.4 million which consisted primarily of proceeds from the issuance of common stock of $10.4 million.

Cash provided by financing activities for the year ended December 31, 2014 was $264.4 million. Cash proceeds were primarily driven by our IPO, including the sale of our Series D preferred stock and our concurrent private placement, which generated net proceeds of $149.5 million and $110.4 million, respectively, during the year ended December 31, 2014. During the year ended December 31, 2014, there were also proceeds from principal payments on our promissory notes and proceeds from the issuance of common stock of $4.9 million and $2.6 million, respectively. These proceeds were partially offset by cash used to repurchase restricted shares related to our promissory notes of $2.9 million during the year ended December 31, 2014.

Revolving Credit Facility

We maintain a senior secured revolving credit facility with Silicon Valley Bank (the Bank). The revolving credit facility provides for borrowings up to $30.0 million. The revolving credit facility matures on November 2, 2018 and currently has no subsidiary guarantors. Any outstanding loans drawn under the revolving credit facility are due at maturity. Outstanding borrowings may be paid at any time prior to maturity. As of the date of this filing, we had no borrowings outstanding under our revolving credit facility and we are in compliance with all financial covenants, which include maintaining a minimum trailing consolidated adjusted earnings before interest, taxes, depreciation and amortization and a minimum adjusted quick ratio. In addition, the Company is required to maintain on account with the Bank not less than $10.0 million.

Deferred Revenue and Backlog

Our deferred revenue, which consists of billed but unrecognized revenue, was $185.4 million and $106.8 million as of December 31, 2016 and 2015, respectively.

Our total backlog, which we define as including both cancelable and non-cancelable portions of our support subscription customer agreements that we have not yet billed, was $23.2 million and $30.9 million as of December 31, 2016 and 2015, respectively. The timing of our invoices to our customers is a negotiated term and thus varies among our support subscription agreements. For multi-year agreements, it is common for us to invoice an initial amount at contract signing followed by subsequent annual invoices. At any point in the contract term, there can be amounts that we have not yet been contractually able to invoice. Until such time as these amounts are invoiced, we do not recognize them as revenue, deferred revenue or elsewhere in our consolidated financial statements. The change in backlog that results from changes in the average non-cancelable term of our support subscription arrangements may not be an indicator of the likelihood of renewal or expected future revenue, and therefore we do not utilize backlog as a key management metric internally and do not believe that it is a meaningful measurement of our future revenue.

Contractual Obligations and Other Commitments

The following table summarizes our contractual obligations as of December 31, 2016:

	Payments Due by Period				
Contractual Obligations [1]:	**Less than 1 year**	**1-3 years**	**3-5 years**	**More than 5 years**	**Total**
			(in thousands)		
Operating leases[2]	$ 7,237	$ 10,085	$ 1,771	$ 2,901	$ 21,994
Capital lease obligations	396	352			748
Total contractual obligations	$ 7,633	$ 10,437	$ 1,771	$ 2,901	$ 22,742

(1) Due to the uncertainty as to the timing of payments related to our liabilities for unrecognized tax benefits, we have excluded estimated obligations related to uncertain tax benefits from the table above. As of December 31, 2016, we do not have a liability for uncertain tax benefits.

(2) Operating leases consist of total future minimum rent payments under non-cancelable operating lease agreements. Minimum payments have not been reduced by minimum sublease rentals of $1.2 million due in the future under non-cancelable subleases.

Off-Balance Sheet Arrangements

Through December 31, 2016, we did not have any relationships with unconsolidated organizations or financial partnerships, such as structured finance or special purpose entities that would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Segment Information

We operate in one reportable segment.

Critical Accounting Policies and Estimates

We prepare our consolidated financial statements in accordance with U.S. GAAP. In the preparation of these consolidated financial statements, we are required to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, costs and expenses and related disclosures. To the extent that there are material differences between these estimates and actual results, our financial condition or operating results would be affected. We base our estimates on past experience and other assumptions that we believe are reasonable under the circumstances, and we evaluate these estimates on an ongoing basis. We refer to accounting estimates of this type as critical accounting policies and estimates, which we discuss below.

Revenue Recognition

Apache Hadoop, Apache NiFi and associated open source technologies within the Apache Software Foundation are freely available open source software technologies. While these technologies have emerged as enabling technologies for the modern data center architecture, there are limitations related to these technologies that may inhibit broad adoption by enterprises. Our software development efforts are thus focused on creating open platforms that address the needs of enterprises by working in concert with the Apache community to develop HDP and HDF.

HDP is an enterprise-scale data management platform built entirely on open source technology including Apache Hadoop. At its core is the next generation computing and resource management framework called YARN, which uniquely enables a centralized data architecture for batch, interactive and real-time workloads to be executed simultaneously on a single cluster and dataset while extending consistent security, governance and operation across the platform. HDF is complementary to HDP, and makes it easy to automate and secure data flows that collect, conduct and curate real-time business insights and actions derived from sensors, machines, geo-location devices, clicks, logs and social feeds. Our approach is differentiated in that we are committed to serving the Apache Software Foundation open source ecosystem and to sharing all of our product developments with the open source community. We distribute HDP and HDF software under the Apache open source software license in order to provide broad rights for recipients of the software to use, copy, modify and redistribute the software. Consistent with our open source approach, we generally make HDP and HDF available free of charge.

We generate the predominant amount of our revenue through support (support subscription) and consulting and training services (professional services) arrangements with our enterprise customers. We provide telephone support, web support, security updates, bug fixes, functionality enhancements and upgrades to the technology and new versions of the software, if and when available. Our professional services provide assistance in the implementation process and training related activities.

Under our support subscription and professional services arrangements, revenue is recognized when (i) persuasive evidence of an arrangement exists; (ii) the services have been delivered; (iii) the arrangement fee is fixed or determinable; and (iv) collectability is probable.

Support Subscription Revenue

In single-element arrangements, support subscription fees are recognized on a ratable basis over the support subscription term. Our support subscription arrangements do not typically contain refund provisions for fees earned related to services performed.

Professional Services Revenue

Professional services revenue is derived from customer fees for consulting services engagements and training services. Our consulting services are provided primarily on a time and materials basis and, to a lesser extent, a fixed fee basis, and training services are priced based on attendance. Revenue from professional services, when such services are sold in single-element arrangements, is recognized as the services are performed.

Multiple-Element Arrangements

Our multiple-element arrangements include support subscription combined with professional services. We have not established, nor do we currently intend to establish, VSOE for our support subscriptions and professional services offerings, and we recognize revenue on a ratable basis over the period beginning when both the support subscription and professional services have substantially commenced, and ending at the conclusion of the support subscription or professional services period, whichever is longer. Under our multiple-element arrangements, the support subscription element generally has the longest service period and the professional services element is performed during the earlier part of the support subscription period. On occasion, we may sell engineering services and/or a premium subscription agreement that provides a customer with development input and the opportunity to work more closely with our developers.

Our agreements with customers often include multiple support subscription and/or professional service elements, and these elements are sometimes included in separate contracts. We consider an entire customer arrangement to determine if separate contracts should be considered linked arrangements for the purposes of revenue recognition.

Revenue recognition requires judgment, including whether a software arrangement includes multiple elements and, if so, whether VSOE exists for those elements. A portion of revenue may be recorded as unearned due to undelivered elements. Changes to the elements in a software arrangement, the ability to identify the VSOE for those elements and the VSOE of all respective elements could materially impact the amount of earned and unearned revenue in a given period.

Revenue from Strategic Relationships and Reseller Arrangements

We have strategic relationships and reseller arrangements with third parties. Under these arrangements, we are not the primary obligor for what is ultimately sold by the third parties to their end customers. The amount recognized as revenue from sales to end users represents the amount due to us from the third parties and is generally recognized on a ratable basis over the applicable services term under support subscription revenue.

Equity Instruments Issued to Customers

We have entered into warrant and share purchase agreements with certain customers. For such arrangements, the fair value of the underlying securities is recognized as contra-revenue to the extent cumulative revenue from the customer is available to offset the fair value of the security on the measurement date. If cumulative revenue from the customer is less than the fair value of the security, the excess is recorded as cost of sales. See additional discussion at Note 10 Stockholders Equity and Note 15 Related Party Transactions in the notes to our consolidated financial statements f further discussion.

Stock-Based Compensation Expense

We recognize compensation costs related to stock options granted to employees based on the estimated fair value on the date of grant, net of estimated forfeitures. We estimate the grant date fair value, and the resulting stock-based compensation expense, using the Black-Scholes option pricing model. The grant date fair value is recognized on a straight-line basis over the requisite service period, which is the vesting period.

The Black-Scholes option pricing model requires the use of highly subjective and complex assumptions, including the expected term and the price volatility of the underlying stock, which determine the fair value. These assumptions include:

Expected term. We estimate the expected term for stock options using the simplified method due to the limited historical exercise activity for us. The simplified method calculates the expected term as the midpoint between the vesting date and the contractual expiration date of the award.

Expected volatility. Due to the limited history of our common stock, the expected volatility was derived from the average historical stock volatilities of several unrelated public companies within our industry that we consider to be comparable to our business over a period equivalent to the expected term of the stock option grants.

Risk-free interest rate. The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant for the expected term of the stock-based award.

Expected dividend. The expected dividend is assumed to be zero as we have never paid dividends and have no current plans to pay any dividends on our common stock.

In addition to the assumptions used in the Black-Scholes option pricing model, we must also estimate a forfeiture rate to calculate the stock-based compensation. Our forfeiture rate is based on an analysis of our actual forfeitures. We will continue to evaluate the appropriateness of the forfeiture rate based on actual forfeiture experience, analysis of employee turnover and other factors. Changes in the estimated forfeiture rate can have a significant impact on our current period stock-based compensation expense as the cumulative effect of adjusting the rate is recognized in the period the forfeiture estimate is changed. If a revised forfeiture rate is higher than the previously estimated forfeiture rate, an adjustment is made that will result in a decrease to the stock-based compensation expense recognized in our financial statements. If a revised forfeiture rate is lower than the previously estimated forfeiture rate, an adjustment is made that will result in an increase to the stock-based compensation expense recognized in our financial statements.

We will continue to use judgment in evaluating the expected volatility, expected term and forfeiture rates utilized for our stock-based compensation calculations on a prospective basis. As we continue to accumulate additional data related to our common stock, we may have refinements to the estimates of our expected volatility, expected term and forfeiture rates, which could impact our future stock-based compensation expense.

Stock-based compensation expense associated with RSUs is based on the fair value of our common stock on the grant date, which equals the closing market price of our common stock on the grant date. For RSUs, we recognize compensation expense on a straight-line basis over the requisite service period which is the vesting period.

Stock-based compensation expense associated with PSUs is based on the fair value of our common stock on the grant date, which equals the closing market price of our common stock on the grant date. Performance share awards allow the recipients of such awards to earn fully vested shares of our common stock upon the achievement of pre-established performance objectives. Stock-based compensation expense associated with performance share awards is based on the fair value of our common stock on the grant date, which equals the closing market price of our common stock on the grant date, and is recognized when the performance objective is expected to be achieved. On a quarterly basis, we evaluate the performance criteria attainment. The cumulative effect on current and prior periods of a change in the estimated number of performance share awards expected to be earned is recognized as compensation expense or as reduction of previously recognized compensation expense in the period of the revised estimate.

Stock-based compensation expense associated with restricted stock is based on the estimated fair value of the underlying stock option using the Black-Scholes option pricing model or, in the case of restricted stock granted in connection with an acquisition, based upon the fair market value of the underlying common shares.

We account for our ESPP as a compensatory plan. The fair value of each purchase under our ESPP is estimated on the date of the beginning of the offering period using the Black-Scholes option pricing model, which requires the use of subjective assumptions related to the expected stock price volatility, term, risk-free interest rate and dividend yield. We recognize compensation expense over the vesting period of the awards that are ultimately expected to vest.

Loss Contingencies

We are subject to the possibility of various loss contingencies arising in the ordinary course of business. We consider the likelihood of loss or impairment of an asset, or the incurrence of a liability, as well as our ability to reasonably estimate the amount of loss, in determining loss contingencies. An estimated loss contingency is accrued when it is probable that an asset has been impaired or a liability has been incurred and the amount of loss can be reasonably estimated. If we determine that a loss is possible and the range of the loss can be reasonably determined, then we disclose the range of the possible loss. We regularly evaluate current information available to us to determine whether an accrual is required, an accrual should be adjusted or a range of possible loss should be disclosed.

Recently Issued and Adopted Accounting Pronouncements

See Note 2 Summary of Significant Accounting Policies in the notes to our consolidated financial statements, which is incorporated herein by reference.

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Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

Interest Rate Risk

Our primary exposure to market risk relates to interest rate changes. We had cash and cash equivalents and investments totaling $89.2 million as of December 31, 2016. Cash and cash equivalents are comprised primarily of cash deposits and money market funds. Our short-term and long-term investments are primarily comprised of U.S. Treasury bills, U.S. government securities, certificates of deposit, commercial paper and corporate notes and bonds. The cash and cash equivalents are held for working capital purposes. Our investments are made for capital preservation purposes. We do not enter into investments for trading or speculative purposes. Due to the predominantly short-term nature of the instruments in our portfolio, a sudden change in market interest rates would not be expected to have a material impact on our consolidated financial statements.

Our promissory note receivable was entered into with a third-party professional services provider. During the year ended December 31, 2016, we recognized an impairment charge of $2.7 million in operating expenses due to the promissory note and related interest receivable. During the fourth quarter of 2016, we determined that it is probable that the promissory note and related interest receivable is unrecoverable due to our estimate of the third-party service provider s illiquidity and unfavorable rate of cash use.

The interest rate under our revolving credit facility is variable, so interest expense for periods when the revolving credit facility is utilized could be adversely affected by changes in interest rates. As of December 31, 2016, we had no outstanding balance under our revolving credit facility. For additional description of our revolving credit facility, refer to Note 9 Debt in the notes to our consolidated financial statements.

Item 8. Financial Statements and Supplementary Data.

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HORTONWORKS, INC.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Hortonworks, Inc.

Santa Clara, California

We have audited the accompanying consolidated balance sheets of Hortonworks, Inc. and subsidiaries (the Company) as of December 31, 2016 and 2015, and the related consolidated statements of operations, comprehensive loss, convertible preferred stock and stockholders (deficit) equity, and cash flows for each of the three years in the period ended December 31, 2016. These consolidated financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company s internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2016 and 2015, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America.

/s/ DELOITTE & TOUCHE LLP

San Jose, California

March 15, 2017

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HORTONWORKS, INC.

Consolidated Balance Sheets

(In thousands, except share and per share data)

	December 31, 2016	December 31, 2015
ASSETS		
Current assets:		
Cash and cash equivalents	$ 53,332	$ 35,748
Short-term investments	31,764	58,553
Accounts receivable, net of allowance of $26 and $20 as of December 31, 2016 and 2015, respectively	82,368	53,913
Prepaid expenses and other current assets	4,831	5,276
Total current assets	172,295	153,490
Property and equipment, net	19,381	15,422
Long-term investments	4,084	2,592
Goodwill	34,333	34,333
Intangible assets, net	3,121	4,002
Other assets	1,306	872
Restricted cash	1,316	1,308
Total assets	$ 235,836	$ 212,019
LIABILITIES AND STOCKHOLDERS EQUITY		
Current liabilities:		
Accounts payable	$ 6,749	$ 6,365
Accrued compensation and benefits	17,978	12,685
Accrued expenses and other current liabilities	11,752	14,989
Deferred revenue	129,840	90,407
Total current liabilities	166,319	124,446
Long-term deferred revenue	55,550	16,372
Other long-term liabilities	2,605	3,610
Total liabilities	224,474	144,428
Commitments and contingencies (Note 8)		
Stockholders equity:		
Preferred stock, par value of $0.0001 per share 25,000,000 shares authorized; none issued or outstanding as of December 31, 2016 and 2015		
Common stock, par value of $0.0001 per share 500,000,000 shares authorized; 61,122,863 shares issued and outstanding as of December 31, 2016 and 45,692,391 shares issued and outstanding as of December 31, 2015	7	5

Additional paid-in capital	714,960	518,986
Accumulated other comprehensive loss	(1,063)	(546)
Accumulated deficit	(702,542)	(450,854)
Total stockholders equity	11,362	67,591
Total liabilities and stockholders equity	$ 235,836	$ 212,019

See the accompanying notes to the consolidated financial statements.

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HORTONWORKS, INC.

Consolidated Statements of Operations

(In thousands, except share and per share data)

	Years Ended December 31, 2016	2015	2014
Support subscription and professional services revenue:			
Support subscription (including contra-revenue of $65 and $5,961 for the years ended December 31, 2015 and 2014, respectively)	$ 126,689	$ 77,728	$ 25,558
Professional services (including contra-revenue of $126 for the year ended December 31, 2014)	57,772	44,216	20,490
Total support subscription and professional services revenue (including $2,638, $10,053 and $2,835 for the years ended December 31, 2016, 2015 and 2014, respectively, from related parties Note 15)	184,461	121,944	46,048
Cost of revenue:			
Support subscription	23,030	13,705	52,687
Professional services	49,140	41,466	28,192
Total cost of revenue	72,170	55,171	80,879
Gross profit (loss)	112,291	66,773	(34,831)
Operating expenses:			
Sales and marketing	183,542	133,052	70,695
Research and development	99,202	66,645	37,771
General and administrative	80,723	46,669	26,231
Contribution of acquired technology to the Apache Software Foundation			3,971
Total operating expenses	363,467	246,366	138,668
Loss from operations	(251,176)	(179,593)	(173,499)
Other income (expense), net	712	908	(4,977)
Loss before income tax	(250,464)	(178,685)	(178,476)
Income tax expense (benefit)	1,224	432	(1,111)
Net loss	$ (251,688)	$ (179,117)	$ (177,365)
Net loss per share of common stock, basic and diluted	$ (4.40)	$ (4.13)	$ (24.16)
	57,203,067	43,318,044	7,341,465

Weighted-average shares used in computing net loss per share
of common stock, basic and diluted

See the accompanying notes to the consolidated financial statements.

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HORTONWORKS, INC.

Consolidated Statements of Comprehensive Loss

(In thousands)

	Years Ended December 31,		
	2016	**2015**	**2014**
Net loss	$ (251,688)	$ (179,117)	$ (177,365)
Items of other comprehensive loss:			
Unrealized gain (loss) on investments, net of tax of $0 for all periods presented	34	1	(63)
Foreign currency translation adjustment	(551)	(345)	(120)
Total other comprehensive loss	(517)	(344)	(183)
Total comprehensive loss	$ (252,205)	$ (179,461)	$ (177,548)

See the accompanying notes to the consolidated financial statements.

HORTONWORKS, INC.

Consolidated Statements of Convertible Preferred Stock and Stockholders (Deficit) Equity

(In thousands, except shares)

	Convertible Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders (Deficit) Equity
	Shares	Amount	Shares	Amount				
Balance December 31, 2013	31,590,975	$ 103,067	3,546,372	$	$ 3,951	$ (19)	$ (94,372)	$ (90,440)
Issuance of Series D convertible preferred stock, net of issuance costs of $453	12,308,100	149,547						
Conversion of convertible preferred stock to common stock	(43,899,075)	(252,614)	21,949,525	2	252,612			252,614
Initial public offering and concurrent private placement, net of issuance costs of $13,180			7,673,986	1	109,603			109,604
Exercise of stock options and vesting of early exercised stock options			858,174		1,492			1,492
Principal payment on promissory notes for issuance of common stock, net of repurchase liability for unvested shares			6,469,271	1	3,978			3,979
Reclassification of common stock warrant liability to equity					5,391			5,391
Vesting of 2011 Yahoo! Warrant and conversion into common stock warrant					52,000			52,000
Stock-based compensation					9,032			9,032

expense						
Issuance of common stock to related party and contra-revenue adjustment (Note 15)	357,747		2,040			2,040
Issuance of common stock in connection with an acquisition	132,508		1,815			1,815
Repurchase of restricted shares related to promissory notes			(2,909)			(2,909)
Other comprehensive loss				(183)		(183)
Net loss					(177,365)	(177,365)
Balance December 31, 2014	40,987,583	4	439,005	(202)	(271,737)	167,070
Exercise of stock options and vesting of early exercised stock options	3,325,707	1	7,753			7,754
Stock-based compensation expense			40,939			40,939
Shares issued from restricted stock unit settlement	56,250					
Issuance of common stock in connection with employee stock purchase plan	219,600		3,776			3,776
Issuance of common stock in connection with acquisitions	1,103,251		27,593			27,593
Issuance costs related to the initial public offering			(80)			(80)
Other comprehensive loss				(344)		(344)
Net loss					(179,117)	(179,117)
Balance December 31, 2015	45,692,391	5	518,986	(546)	(450,854)	67,591
Exercise of stock options and vesting of early exercised stock options	1,957,888		4,349			4,349
Stock-based compensation expense			98,823			98,823

Shares issued from restricted stock unit and performance stock unit settlement	2,681,838					
Issuance of common stock in connection with employee stock purchase plan	721,658		5,631			5,631
Shares vested in connection with prior year acquisition	421,727					
Follow-on public offering, net of issuance costs of $4,351	9,688,750	2	87,691			87,693
Repurchase of early exercised stock options	(3,223)		(46)			(46)
Other comprehensive loss				(517)		(517)
Shares withheld related to tax withholdings	(38,166)		(474)			(474)
Net loss					(251,688)	(251,688)
Balance December 31, 2016	$ 61,122,863	$ 7	$ 714,960	$ (1,063)	$ (702,542)	$ 11,362

See the accompanying notes to the consolidated financial statements.

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HORTONWORKS, INC.

Consolidated Statements of Cash Flows

(In thousands)

	Years Ended December 31,		
	2016	**2015**	**2014**
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net loss	$ (251,688)	$ (179,117)	$ (177,365)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation	7,244	4,499	1,204
Amortization of premiums from investments	856	949	921
Amortization of intangible assets	881	393	
Stock-based compensation expense	98,823	40,939	9,032
Impairment of promissory note and related interest receivable	2,683		
Contra-revenue adjustment related to share purchase agreement			2,040
Loss on disposal of assets		522	118
Deferred income taxes	27	(140)	(1,279)
Effects of exchange rate changes on monetary assets and liabilities denominated in foreign currencies	(335)	60	
Loss on early exit of lease			407
Contribution of acquired technology to the Apache Software Foundation			3,971
Provision for losses on accounts receivable	514	20	
Common stock warrant liability, including change in fair value			5,391
Contra-revenue and cost of revenue adjustment related to vesting of the 2011 Yahoo! Warrant			52,000
Other	(43)	(66)	
Changes in operating assets and liabilities:			
Accounts receivable	(29,584)	(21,629)	(20,188)
Prepaid expenses and other current assets	29	(1,519)	(2,716)
Other assets	(464)	(580)	(282)
Accounts payable	1,773	1,648	906
Accrued expenses and other current liabilities	2,334	6,154	(4,287)
Accrued compensation and benefits	5,630	2,801	5,891
Deferred revenue	79,493	44,381	34,995
Other long-term liabilities	(613)	1,349	1,377
Net cash used in operating activities	(82,440)	(99,336)	(87,864)
CASH FLOWS FROM INVESTING ACTIVITIES:			
Purchases of investments	(80,519)	(102,631)	(86,780)
Proceeds from sales of investments	13,156		
Proceeds from maturities of investments	89,248	118,510	23,620
Purchases of property and equipment	(12,781)	(12,839)	(6,276)
Acquisitions, net		(3,541)	(2,996)

Issuance of promissory note receivable		(2,500)	
Change in restricted cash	(11)	31	(366)
Net cash provided by (used in) investing activities	9,093	(2,970)	(72,798)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from issuance of common stock	9,466	10,417	2,580
Repurchase of unvested shares and tax withholding shares	(520)		
Payment of contingent consideration related to an acquisition	(1,625)		
Payments of acquisition-related liabilities	(3,526)		
Payments of capital lease liability	(172)	(170)	
Payment of fees for line of credit	(243)		
Proceeds from payments of principal on promissory notes			4,865
Repurchase of restricted shares related to promissory notes			(2,909)
Proceeds from sale of preferred stock, net of issuance costs			149,547
Proceeds from initial public offering and concurrent private placement, net of issuance costs			110,359
Proceeds from follow-on public offering, net of issuance costs	88,153		
Payments for deferred offering costs		(835)	
Net cash provided by financing activities	91,533	9,412	264,442
Effect of exchange rate changes on cash and cash equivalents	(602)	(442)	
Net increase (decrease) in cash and cash equivalents	17,584	(93,336)	103,780
Cash and cash equivalents Beginning of period	35,748	129,084	25,304
Cash and cash equivalents End of period	$ 53,332	$ 35,748	$ 129,084

See the accompanying notes to the consolidated financial statements.

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HORTONWORKS, INC.

Consolidated Statements of Cash Flows (continued)

(In thousands)

	Years Ended December 31,		
	2016	**2015**	**2014**
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:			
Cash paid for income taxes	$ 1,074	$ 330	$ 76
Cash paid for interest	$ 52	$ 14	$ 7
SUPPLEMENTAL DISCLOSURES OF NON-CASH INVESTING AND FINANCING INFORMATION:			
Promissory notes canceled with respect to repurchases of restricted stock	$	$	$ (301)
Fair value of shares issued in connection with acquisitions	$	$ 27,593	$ 1,815
Conversion of preferred stock to common stock upon initial public offering	$	$	$ 252,614
Purchases of property and equipment included in accounts payable and accrued expenses and other current liabilities	$ 10	$ 1,337	$ 5,026
Initial public offering and concurrent private placement costs included in accounts payable and accrued expenses and other current liabilities	$	$	$ 756
Equipment acquired through capital lease	$ 682	$	$ 476
Prepaid offering fees	$ (460)	$	$

See the accompanying notes to the consolidated financial statements.

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HORTONWORKS, INC.

Notes to Consolidated Financial Statements

1. ORGANIZATION AND DESCRIPTION OF BUSINESS

Hortonworks, Inc. (the Company) was incorporated in Delaware in 2011 and is an industry-leading innovator that creates, distributes and supports a new class of enterprise data management software solutions built on open source technology. The Company s customers use our enterprise-scale Connected Data Platforms to build transformational data applications fueled by actionable intelligence from data in motion, information that flows over a network, such as the internet or corporate networks, and data at rest, information that is stored in digital form in a file system, database or other storage medium.

The Company s data-at-rest solution, Hortonworks Data Platform (HDP), is an enterprise-scale data management platform built entirely on open source software including Apache Hadoop. HDP combines computer servers with local storage and open source software technology to create a reliable distributed compute and storage platform for large data sets that is secure and scalable up to petabytes of data within thousands of servers or nodes. At the core of HDP is the next generation computing and resource management framework called Yet Another Resource Negotiator (YARN), which enables a centralized data architecture for batch, interactive and real-time workloads to be executed simultaneously on both a single cluster and data set with the comprehensive security, governance and operational services enterprise customers require. HDP integrates with existing data center technologies to support best-of-breed data architectures and enables our customers to collect, store, process and analyze increasing amounts of existing and new data types in a way that augments rather than replaces their existing data center infrastructures.

The Company s data-in-motion solution, Hortonworks DataFlow (HDF), is an enterprise-scale data ingest and stream processing platform built entirely on open source software including Apache NiFi. HDF is complementary to HDP and accelerates the flow of data in motion into HDP to support full fidelity analytics. HDF is a real-time, integrated, secure and adaptive platform capable of ingesting any type of data in motion from traditional data sources to new data types such as sensor and machine data, server log data, clickstream data, geo-location data, social and sentiment data and other data generated by documents and other file types. HDF enables customers to collect, curate and analyze their data in motion in order to deliver real-time business insights and actionable intelligence.

In December 2014, the Company completed its initial public offering and concurrent private placement (collectively, the IPO) of 7,673,986 shares of common stock, including 486,486 shares in a concurrent private placement and 937,500 shares of common stock from the full exercise of the option to purchase additional shares granted to the underwriters, at a price of $16.00 per share. The Company received net cash proceeds of $109.6 million from the sale of shares of common stock. Immediately prior to the closing of the IPO, all shares of the Company s outstanding convertible preferred stock automatically converted into 21,949,525 shares of common stock.

In February 2016, the Company completed a follow-on public offering of an aggregate of 9,688,750 shares of its common stock, including 1,263,750 additional shares sold pursuant to the full exercise of the option to purchase additional shares by the underwriters, at a public offering price of $9.50 per share. Net proceeds to the Company were approximately $87.7 million after deducting underwriting discounts and commissions and offering expenses.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation and Consolidation

The consolidated financial statements have been prepared in accordance with generally accepted accounting principles (GAAP) in the United States (U.S.) and include the accounts of the Company and its wholly owned subsidiaries. All intercompany transactions and balances have been eliminated in consolidation.

HORTONWORKS, INC.

Notes to Consolidated Financial Statements

Out-of-Period Adjustment

During the year ended December 31, 2016, the Company recorded an out-of-period adjustment related to revenue recognition for customer contracts with acceptance clauses, resulting in an increase of total revenue by approximately $0.7 million. The adjustment was primarily associated with the four quarterly periods ended December 31, 2015. The Company evaluated the adjustment considering both quantitative and qualitative factors and concluded the adjustment was not material to previously issued and current period financial statements.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, and expenses, the related disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of expenses during the reporting period. The Company bases its estimates and judgments on its historical experience, knowledge of current conditions and its beliefs regarding what may occur in the future given available information. Estimates, assumptions and judgments are used for, but are not limited to, revenue recognition, stock-based awards and warrants, accounting for income taxes, allowance for doubtful accounts, valuation and determination of other-than-temporary impairments of notes receivable and certain accrued liabilities. Actual results may differ from these estimates.

Concentration of Risk

Credit Risk

Financial instruments, which potentially subject the Company to concentration of credit risk, consist primarily of cash and cash equivalents and investments. The Company places its cash and cash equivalents with major financial institutions, which management assesses to be of high-credit quality.

The Company s investment policies limit investments to those that are investment grade, liquid securities and restricts placement of these investments to issuers evaluated as creditworthy.

Concentration of Revenue and Accounts Receivable

The Company generally does not require collateral or other security in support of accounts receivable. Allowances are provided for individual accounts receivable when the Company becomes aware of a customer s inability to meet its financial obligations, such as in the case of bankruptcy, deterioration in the customer s operating results or change in financial position. If circumstances related to customers change, estimates of the recoverability of receivables would be further adjusted. The Company also considers broad factors in evaluating the sufficiency of its allowances for doubtful accounts, including the length of time receivables are past due, significant one-time events, creditworthiness of customers and historical experience.

Significant customers are those which represent 10 percent or more of the Company s total revenue or gross accounts receivable balance for each respective consolidated statement of operations and consolidated balance sheet period. For both the years ended December 31, 2016 and 2015, Microsoft, Inc. (Microsoft) accounted for less than 10 percent of the Company s total revenue and for the year ended December 31, 2014, Microsoft accounted for approximately 22 percent of the Company s total revenue. There were no other significant customers that represent 10 percent or more of the Company s total revenue for the periods presented.

As of both December 31, 2016 and 2015, there were no customers which represented 10 percent or more of the Company s gross accounts receivable balance.

HORTONWORKS, INC.

Notes to Consolidated Financial Statements

Cash and Cash Equivalents

Cash and cash equivalents consist of cash, money market funds, certificates of deposit and commercial paper with original maturities of three months or less at the time of purchase.

Operating cash deposits held with banks may exceed the amount of insurance provided on such deposits. Generally, these deposits may be redeemed upon demand and are maintained with financial institutions with reputable credit and therefore bear minimal credit risk. The Company seeks to mitigate its credit risk by spreading such risk across multiple counterparties and monitoring the risk profiles of these counterparties.

Investments

The Company classifies its debt securities as trading, available-for-sale or held-to-maturity, depending on management s intent at the time of purchase. Unrealized losses on available-for-sale securities are charged against net earnings when a decline in fair value is determined to be other-than-temporary. The Company s management reviews several factors to determine whether a loss is other-than-temporary, such as the length and extent of the fair value decline and the financial condition and near term prospects of the issuer. For debt securities, management also evaluates whether the Company has the intent to sell or will likely be required to sell before its anticipated recovery. Realized gains and losses are accounted for on the specific identification method.

Available-for-sale debt instruments with original maturities at the date of purchase greater than approximately three months and remaining maturities of less than one year are classified as short-term investments. Available-for-sale debt instruments with remaining maturities beyond one year are classified as long-term investments.

Fair Value Measurement

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in the principal market (or most advantageous market, in the absence of a principal market) for the asset or liability in an orderly transaction between market participants at the measurement date. Further, entities are required to maximize the use of observable inputs and minimize the use of unobservable inputs in measuring fair value, and to utilize a three-level fair value hierarchy that prioritizes the inputs used to measure fair value. The three levels of inputs used to measure fair value are as follows:

Level 1 Quoted prices in active markets for identical assets or liabilities.

Level 2 Observable inputs other than quoted prices included within Level 1, including quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; and inputs other than quoted prices that are observable or are derived principally from, or corroborated by, observable market data by correlation or other means.

Level 3 Unobservable inputs that are supported by little or no market activity, are significant to the fair value of the assets or liabilities, and reflect the Company s own assumptions about the assumptions market participants would use in pricing the asset or liability developed based on the best information available in the circumstances.

Restricted Cash

Restricted cash includes collateral used to secure a credit card, and may not be used or transferred until the restriction is released by the issuing bank. Restricted cash also includes amounts to secure letters of credit issued in lieu of deposits on office space.

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HORTONWORKS, INC.

Notes to Consolidated Financial Statements

Software Development Costs

The Company develops open source software that is generally freely available on the Apache Hadoop platform. Capitalization of software development costs begins upon the establishment of technological feasibility and ceases when the product is available for general release. There is usually a very minimal passage of time between the achievement of technological feasibility and the availability of the Company s software for general release. Accordingly, there are no capitalized software development costs for the years ended December 31, 2016 and 2015.

Internal Use Software

The Company s capitalized internal use software costs were not material for the years ended December 31, 2016 and 2015.

Property and Equipment

Property and equipment are stated at cost. Depreciation is computed using a straight-line method over the estimated useful lives, determined to be two years for purchased software, two to three years for computer equipment, and five years for network and communication equipment and furniture and fixtures. Expenditures for repairs and maintenance are charged to expenses as incurred. Leasehold improvements and capital leases are amortized on a straight-line basis over the term of the lease, or the useful life of the assets, whichever is shorter.

Goodwill and Long-Lived Assets

Goodwill is tested for impairment on an annual basis and between annual tests if events or circumstances indicate that an impairment loss may have occurred. The test is based on a comparison of the reporting unit s book value to its estimated fair market value. The annual impairment test is performed by the Company during the fourth quarter of each fiscal year using the opening consolidated balance sheet as of the first day of the fourth quarter, with any resulting impairment recorded in the fourth quarter of the fiscal year. During the year ended December 31, 2016, the Company determined that the fair value of its sole reporting unit exceeded its carrying value, and as a result, no goodwill impairment was recorded in fiscal 2016.

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. In such instances, the recoverability of assets to be held and used is measured first by a comparison of the carrying amounts of the assets or asset groups to future undiscounted net cash flows expected to be generated by the assets or asset groups. If such assets or asset groups are considered to be impaired, an impairment loss would be recognized if the carrying amount of the assets or asset groups exceeds the fair value of the assets or asset groups. During the year ended December 31, 2016, the Company recognized an impairment charge of $2.7 million in operating expenses due to a promissory note and related interest receivable. During the fourth quarter of 2016, the Company determined that it is probable that the promissory note receivable and related interest receivable are unrecoverable due to our estimate of the third-party service provider s illiquidity and unfavorable rate of cash use. Other than the promissory note and related interest receivable impairment, to date, the Company believes that no other impairment has occurred in fiscal 2016.

Common Stock Warrant Liability

Warrants for common stock that did not meet the requirements for equity classification because the number of shares were variable based on future issuances of Series D preferred shares or warrants were previously classified as liabilities on the accompanying consolidated balance sheets and carried at their estimated fair value. At the end of each reporting period, any changes in fair value were recorded as a component of other expense

HORTONWORKS, INC.

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until the consummation of the Company s IPO in December 2014. Upon the consummation of the IPO, the warrants were reclassified to additional paid-in capital within stockholders equity, as the requirements for equity classification were met.

Revenue Recognition

Apache Hadoop is a freely available open source based software platform. While it has emerged as an enabling technology for the modern data center architecture, there are limitations related to the traditional Hadoop offering that may inhibit broad adoption by enterprises. The Company s software development efforts are thus focused on creating an enterprise-grade Hadoop platform by working in concert with the Apache community to develop HDP and HDF.

HDP and HDF are available under an Apache open source license. Open source software is an alternative to proprietary software and represents a different model for the development and licensing of commercial software code than that typically used for proprietary software. Because open source software code is generally freely shared, the Company does not typically generate any direct revenue from its software development activities.

The Company generates the predominant amount of its revenue through support (support subscription) and consulting and training services (professional services) arrangements with its enterprise customers. The Company provides telephone support, web support, security updates, bug fixes, functionality enhancements and upgrades to the technology and new versions of the software, if and when available. The Company s professional services provide assistance in the implementation process and training related activities.

The Company prices support subscription offerings based on the number of servers in a cluster, or nodes, core or edge devices, data under management and/or the scope of support provided. The Company s consulting services are priced primarily on a time and materials basis, and to a lesser extent, a fixed fee basis, and training services are priced based on attendance.

Under the Company s support subscription and professional services arrangements, revenue is recognized when (i) persuasive evidence of an arrangement exists; (ii) the services have been delivered; (iii) the arrangement fee is fixed or determinable; and (iv) collectability is probable.

Support Subscription Revenue

In single-element arrangements, support subscription fees are recognized on a ratable basis over the support subscription term. The Company s support subscription arrangements do not typically contain refund provisions for fees earned related to support services performed.

Professional Services Revenue

Professional services revenue is derived from customer fees for consulting services engagements and training services. The Company s consulting services are provided primarily on a time and materials basis and, to a lesser extent, a fixed fee basis, and training services are priced based on attendance. Revenue from professional services, when such services are sold in single-element arrangements, is recognized as the services are performed.

Multiple-Element Arrangements

The Company s multiple-element arrangements generally include support subscription combined with professional services. The Company has not established vendor-specific objective evidence of fair value

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(VSOE) for its support subscriptions and professional services offerings, and the Company recognizes revenue on a ratable basis over the period beginning when both the support subscription and professional services have substantially commenced, and ending at the conclusion of the support subscription or professional services period, whichever is longer. Under the Company s multiple-element arrangements, the support subscription element generally has the longest service period and the professional services element is performed during the earlier part of the support subscription period. On occasion, the Company may sell engineering services and/or a premium subscription agreement that provides a customer with development input and the opportunity to work more closely with its developers.

The Company s agreements with customers often include multiple support subscription and/or professional services elements, and these elements are sometimes included in separate contracts. The Company considers an entire customer arrangement to determine if separate contracts should be considered linked arrangements for the purposes of revenue recognition.

Revenue recognition requires judgment, including whether a software arrangement includes multiple elements, and if so, whether VSOE exists for those elements. A portion of revenue may be recorded as unearned due to undelivered elements. Changes to the elements in a software arrangement, the ability to identify the VSOE for those elements and the VSOE of all respective elements could materially impact the amount of earned and unearned revenue in a given period.

Revenue from Strategic Relationships and Reseller Arrangements

The Company has strategic relationships and reseller arrangements with third parties (collectively, Partners). Under these arrangements, the Company is not the primary obligor for what is ultimately sold by the Partners to their end customers. The amount recognized as revenue from sales to end users represents the amount due to the Company from the Partners and is generally recognized on a ratable basis over the applicable services term under support subscription revenue.

Equity Instruments Issued to Customers

The Company has entered into warrant and share purchase agreements with certain customers. For such arrangements, the fair value of the underlying securities is recognized as contra-revenue to the extent cumulative revenue from the customer is available to offset the fair value of the security on the measurement date. If cumulative revenue from the customer is less than the fair value of the security, the excess is recorded as cost of sales. See additional discussion at Note 10 Stockholders Equity and Note 15 Related Party Transactions.

Deferred Revenue

Deferred revenue consists of amounts billed to customers but not yet recognized in revenue.

As of December 31, 2016 and 2015, substantially all of the Company s accounts receivable represents amounts billed to customers but not yet received or recognized as revenue and are thus recorded as deferred revenue.

Accounts Receivable and Allowance for Doubtful Accounts

Accounts receivable are recorded at the invoiced amount, net of allowances for doubtful accounts. The allowance for doubtful accounts is based on the assessment of the collectability of accounts. The Company regularly reviews the adequacy of the allowance for doubtful accounts by considering the age of each outstanding invoice

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and the collection history of each customer to determine whether a specific allowance is appropriate. When deemed uncollectable, accounts receivable are reserved via the allowance for doubtful accounts and charged against bad debt expense or the related deferred revenue, as applicable.

Cost of Revenue

Cost of support subscription revenue consists primarily of personnel costs (including salaries, benefits and stock-based compensation expense) for employees, including support engineers, associated with the Company s support subscription offerings mainly related to technology support and allocated shared costs. Cost of professional services revenue consists primarily of personnel costs (including salaries, benefits and stock-based compensation expense) for employees and fees to subcontractors associated with the Company s professional service contracts, travel costs and allocated shared costs.

The Company allocates shared costs such as rent, information technology and employee benefits to all departments based on headcount. As such, allocated shared costs are reflected in cost of revenue and each operating expense category. Additionally, during the year ended December 31, 2014, cost of support subscription and professional services revenue included expenses of $47.4 million and $0.6 million, respectively, related to the vesting of the Yahoo! stock warrant (the 2011 Yahoo! Warrant) upon the Company s IPO. Cost of revenue for support subscription and professional services is expensed as incurred.

Sales and Marketing Expenses

Sales and marketing expenses consist primarily of personnel costs (including salaries, commissions, benefits and stock-based compensation expense) for the Company s sales and marketing employees. In addition, sales and marketing expense include the cost of advertising, online marketing, promotional events, corporate communications, product marketing, other brand-building activities, plus allocated shared costs. All costs of advertising, including cooperative marketing arrangements, are expensed as incurred. Advertising expense totaled $9.1 million, $11.1 million and $7.2 million for the years ended December 31, 2016, 2015 and 2014, respectively.

Research and Development Expenses

Research and development expenses consist primarily of personnel costs (including salaries, benefits and stock-based compensation expense) for the Company s research and development employees, costs associated with subcontractors and equipment lease expenses, plus allocated shared costs. The Company s research and development expenses include costs for development related to the distribution of its solutions, including security updates, fixes, functionality enhancements, upgrades to the technology and new versions of the software, quality assurance personnel, technical documentation personnel and at times, expenses related to engineering resources for its subscription and professional services offerings.

General and Administrative Expenses

General and administrative expenses consist primarily of personnel costs (including salaries, benefits and stock-based compensation expense) for our executive, finance, human resources, IT, legal and other administrative employees. In addition, general and administrative expenses include fees for third-party professional services, including consulting, accounting and legal services and other corporate expenses and allocated overhead.

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Stock-Based Compensation Expense

The Company recognizes compensation costs related to employee stock options, restricted stock unit (RSU) and performance stock unit (PSU) awards and participation in the Company s 2014 Employee Stock Purchase Plan (ESPP) based on the estimated fair value on the date of grant, net of estimated forfeitures. The Company estimates the grant date fair value of options using the Black-Scholes option pricing model. The Company estimates the grant date fair value of RSU and PSU stock awards based upon the closing market price of the Company s common stock on the grant date. The Company estimates fair value of each ESPP purchase at the beginning of the offering period using the Black-Scholes option pricing model. The respective grant date fair values of stock options, RSU and PSU stock awards and each ESPP purchase are recognized on a straight-line basis over the requisite service periods, which are the vesting periods.

The Company recognizes compensation costs related to restricted stock based on the estimated fair value of the underlying stock option using the Black-Scholes option pricing model or, in the case of restricted stock granted in connection with an acquisition, based upon the fair market value of the underlying common shares.

The Company accounts for stock options and RSUs issued to non-employees based on the fair value of the awards as determined using the Black-Scholes option pricing model and the closing market price of the Company s common stock, respectively. The fair value of stock options and RSUs granted to non-employees are remeasured each period as the stock options and RSUs vest, and the resulting change in value, if any, is recognized in the consolidated statements of operations during the period the related services are performed.

Income Taxes

The Company accounts for income taxes using an asset and liability approach. Deferred income tax assets and liabilities are computed for differences between the financial statement and income tax basis of assets and liabilities that will result in taxable or deductible amounts in the future. Such deferred income tax asset and liability computations are based on enacted tax laws and rates applicable to periods in which the differences are expected to affect taxable income. A valuation allowance is established, when necessary, for any portion of deferred income tax assets where it is considered more likely than not that it will not be realized.

The tax effects of the Company s income tax positions are recognized only if determined more likely than not to be sustained based solely on the technical merits as of the reporting date. The Company considers many factors when evaluating and estimating its tax positions and tax benefits, which may require periodic adjustments and which may not accurately anticipate actual outcomes.

Foreign Currency

The financial statements of foreign subsidiaries, for which the U.S. dollar is the functional currency and which have certain transactions denominated in a local currency, are remeasured into U.S. dollars. The remeasurement of local currencies into U.S. dollars creates remeasurement adjustments that are included in net income. Foreign exchange net gains and losses are included in the consolidated statements of operations within operating expenses. The net gains and losses were immaterial in 2016, 2015 and 2014.

For subsidiaries with non-U.S. dollar functional currencies, the impact of changes in foreign currency exchange rates resulting from the translation of foreign currency financial statements into U.S. dollars for financial reporting purposes is included in other comprehensive loss. Assets and liabilities are translated into U.S. dollars at exchange rates in effect at the balance sheet date. Income and expense items are translated at average rates for the period. Foreign transaction gains and losses are recorded as they are realized and were immaterial in 2016, 2015, and 2014.

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Net Loss Per Share of Common Stock

Basic net loss per share of common stock is calculated by dividing the net loss by the weighted-average number of common shares outstanding during the period, less restricted common stock and common stock issued that is subject to repurchase, and excludes any dilutive effects of share-based awards. Diluted net loss per share of common stock is the same as basic net loss per share of common stock, because the effects of potentially dilutive securities are anti-dilutive.

Recently Issued Accounting Pronouncements

In November 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash*, which provides guidance to decrease the diversity in practice in the classification and presentation of changes in restricted cash on the statements of cash flows. The ASU is effective for public companies for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Early adoption is permitted. The Company does not anticipate that ASU 2016-18 will have a material impact on its consolidated financial statements.

In August 2016, FASB issued ASU No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*, which provides guidance to decrease the diversity in practice in how certain cash receipts and cash payments are presented and classified in the statements of cash flows. The ASU is effective for public companies for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. Early adoption is permitted. The Company does not anticipate that ASU 2016-15 will have a material impact on its consolidated financial statements.

In March 2016, FASB issued ASU No. 2016-09, *Compensation-Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting*, which simplifies several aspects of the accounting for employee share-based payment transactions for both public and non-public entities, including the accounting for income taxes, forfeitures, and statutory tax withholding requirements, as well as classification in the statements of cash flows. The ASU is effective for public companies for fiscal years beginning after December 15, 2016, including interim periods within those fiscal years. Early adoption is permitted. The Company will adopt the new standard as of January 1, 2017. As a result of adopting this standard, the Company will make an accounting policy election to account for forfeitures as they occur. This change will be applied on a modified retrospective basis, resulting in an expected cumulative-effect adjustment decreasing retained earnings by approximately $0.6 million as of January 1, 2017.

In February 2016, FASB issued ASU 2016-02, *Leases (Topic 842),* which, for operating leases, requires a lessee to recognize a right-of-use asset and a lease liability, initially measured at the present value of the lease payments, in its balance sheet. The standard also requires a lessee to recognize a single lease cost, calculated so that the cost of the lease is allocated over the lease term, on a generally straight-line basis. The ASU is effective for public companies for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Early adoption is permitted. The Company is currently evaluating the effect that the adoption of ASU 2016-02 will have on its consolidated financial statements.

In May 2014, FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*, which will replace most existing revenue recognition guidance in U.S. GAAP when it becomes effective. The ASU requires an entity to recognize the amount of revenue to which it expects to be entitled upon transfer of promised goods or services to customers. ASU 2014-09 defines a five-step process in order to achieve this core principle, which may require the use of judgment and estimates, and also requires expanded qualitative and quantitative disclosures relating to the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers, including significant judgments and estimates used.

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In August 2015, FASB issued ASU No. 2015-14, *Revenue from Contracts with Customers (Topic 606): Deferral of Effective Date*, which defers the effective date of ASU 2014-09 by one year allowing early adoption as of the original effective date January 1, 2017. The deferral results in the new revenue standard being effective for the Company January 1, 2018. Additional ASUs have been issued to amend or clarify the new standard as follows:

ASU No. 2016-12 *Revenue from Contracts with Customers (Topic 606)*: *Narrow-Scope Improvements and Practical Expedients* was issued in May 2016. ASU 2016-12 amends the new revenue recognition standard to clarify the guidance on assessing collectability, measuring non-cash consideration, presenting sales taxes and certain transition matters.

ASU No. 2016-10 *Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing* was issued in April 2016. ASU 2016-10 addresses implementation issues identified by the FASB-International Accounting Standards Board Joint Transition Resource Group (TRG) for Revenue Recognition concerning identifying performance obligations and accounting for licenses of intellectual property.

ASU No. 2016-08 *Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net)* was issued in March 2016. ASU 2016-08 requires an entity to determine whether the nature of its promise to provide goods or services to a customer is performed in a principal or agent capacity and to recognize revenue in a gross or net manner based on its principal or agent designation.

The new standard permits adoption either by using (i) a full retrospective approach for all periods presented or (ii) a modified retrospective approach with the cumulative effect of initially applying the new standard recognized at the date of initial application and providing certain additional disclosures. The Company is adopting the new standard as of January 1, 2018 using the modified retrospective approach. The Company s decision was based on a number of factors such as the significance of the impact of the new standard on the Company s financial results, system readiness, including that of software procured from third-party providers, and the Company s ability to accumulate and analyze the information necessary to assess the cumulative effect of the new standard through January 1, 2018.

The Company is continuing to evaluate the impact of the new standard on its accounting policies, processes, and system requirements. The Company has assigned internal resources in addition to the engagement of third-party service providers to assist in the evaluation and to provide periodic updates to management and the Audit Committee. Furthermore, the Company has made and will continue to make investments in systems to enable timely and accurate reporting under the new standard. While the Company continues to assess all potential impacts under the new standard, there is the potential for significant impacts to the timing and amount of support subscription and professional services revenue recognized, as well as the potential capitalization and amortization of contract acquisition costs.

Under current industry-specific software revenue recognition guidance, the Company has concluded it has not established VSOE for support subscriptions and professional services offerings in multiple-element arrangements where support subscriptions are sold with professional services. The Company recognizes revenue on a ratable basis over the period beginning when both the support subscription and professional services have substantially commenced, and ending at the conclusion of the support subscription or professional services period, whichever is longer. The new standard, which does not retain the concept of VSOE, requires an evaluation of whether support subscriptions and professional services are distinct performance obligations, and therefore should be separately recognized as the respective performance obligations are satisfied based on the standalone selling price for each performance obligation, which may not be on a ratable basis. Depending on the outcome of the Company s evaluation under the new standard, the timing of revenue recognition could change significantly for

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professional services bundled in multiple-element arrangements and currently recognized ratably due to lack of VSOE for support subscriptions. In particular, professional services revenue is likely to be recognized in an earlier period and over a shorter timeframe under the new standard compared to the Company s current accounting policy under the existing standards and guidance.

As part of its preliminary evaluation, the Company has also considered the impact of the guidance in Accounting Standards Codification 340-40*, Other Assets and Deferred Costs; Contracts with Customers*, and the interpretations of the FASB TRG for Revenue Recognition from their November 7, 2016 meeting with respect to the capitalization and amortization of incremental costs of obtaining a contract (*e.g.*, sales commissions). For contracts with an expected duration greater than one year, the new standard requires the capitalization of incremental costs that the Company incurs to obtain a contract with a customer that it would not have incurred if the contract had not been obtained, provided the Company expects to recover the costs. Such capitalized costs are then to be amortized on a systematic basis that is consistent with the transfer to the customer of the services to which such costs relate, and the amortization period may extend beyond the initial contract term if renewal commissions on expected renewals are not commensurate with the commission on the initial contract. Under the Company s current accounting policy, incremental costs incurred to obtain a contract are expensed when incurred. Thus, the application of the new standard could result in a significant change to the Company s current policy for accounting for contract acquisition costs, which may result in the Company recognizing the expense for contract acquisition costs in a different period, and potentially over a longer period, compared to the Company s current practice under the existing standards and guidance.

The Company is in the process of quantifying the impact of the new standard and related guidance as well as finalizing its accounting positions on other areas where the impact is not expected to be as significant.

3. FAIR VALUE MEASUREMENTS

The following table summarizes the investments in available-for-sale securities (in thousands):

	December 31, 2016			
	Gross Amortized Costs	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
U.S. government securities	$ 2,072	$	$	$ 2,072
Certificates of deposit	960			960
Commercial paper	2,497			2,497
Corporate notes and bonds	30,347	4	(32)	30,319
Total investments in available-for-sale securities	$ 35,876	$ 4	$ (32)	$ 35,848

	December 31, 2015			
	Gross Amortized Costs	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
U.S. Treasury bills	$ 3,493	$ 6	$	$ 3,499
U.S. government securities	2,071		(2)	2,069
Certificates of deposit	4,172		(1)	4,171
Commercial paper	10,727	2	(5)	10,724
Corporate notes and bonds	40,397		(62)	40,335
Total investments in available-for-sale securities	$ 60,860	$ 8	$ (70)	$ 60,798

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The contractual maturities of investments in available-for-sale securities were as follows (in thousands):

	December 31, 2016		December 31, 2015	
	Gross Amortized Cost	Fair Value	Gross Amortized Cost	Fair Value
Due within one year	$ 31,792	$ 31,764	$ 60,860	$ 60,798
Due after one year through five years	4,084	4,084		
Total investments in available-for-sale securities	$ 35,876	$ 35,848	$ 60,860	$ 60,798

The following table sets forth the fair value of the Company s financial assets and liabilities measured on a recurring basis by level within the fair value hierarchy (in thousands):

	December 31, 2016		
	Level 1	Level 2	Total
Assets			
Cash equivalents:			
Money market funds	$ 24,533	$	$ 24,533
Short-term investments:			
U.S. government securities		2,072	2,072
Certificates of deposit		960	960
Commercial paper		2,497	2,497
Corporate notes and bonds		26,235	26,235
Long-term investments:			
Corporate notes and bonds		4,084	4,084
Total financial assets	$ 24,533	$ 35,848	$ 60,381

	December 31, 2015			
	Level 1	Level 2	Level 3	Total
Assets				
Cash equivalents:				
Money market funds	$ 11,923	$	$	$ 11,923
Certificates of deposit		245		245

Commercial paper		2,000		2,000
Short-term investments:				
U.S. Treasury bills	3,499			3,499
U.S. government securities		2,069		2,069
Certificates of deposit		3,926		3,926
Commercial paper		8,724		8,724
Corporate notes and bonds		40,335		40,335
Total financial assets	$ 15,422	$ 57,299	$	$ 72,721
Liabilities				
Contingent consideration (Note 4)			1,651	1,651
Total financial liabilities	$	$	$ 1,651	$ 1,651

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Where applicable, the Company uses quoted market prices in active markets for identical assets to determine fair value. This pricing methodology applies to Level 1 investments, which are composed of money market funds and U.S. Treasury bills. If quoted prices in active markets for identical assets are not available, then the Company uses quoted prices for similar assets or inputs other than quoted prices that are observable, either directly or indirectly. These investments are included in Level 2 and consist of certificates of deposit, commercial paper, U.S. government securities and corporate notes and bonds. Commercial paper is valued using market prices, if available, adjusting for accretion of the purchase price to face value at maturity. The carrying amounts of accounts receivable, prepaid expenses, accounts payable, accrued expenses and other current liabilities and accrued compensation and benefits approximate fair value.

The Company entered into a three-year, $2.5 million promissory note receivable with a third-party service provider in February 2015, which bears interest at four percent per annum. The promissory note receivable is valued on a non-recurring basis and is classified as held-to-maturity within long-term investments. During the year ended December 31, 2016, the Company recognized an impairment charge of $2.7 million in operating expenses related to a promissory note and related interest receivable. During the fourth quarter of 2016, the Company determined that it is probable that the promissory note and related interest receivable are unrecoverable due to the Company s estimate of the third-party service provider s illiquidity and unfavorable rate of cash use.

In certain cases, where there is limited activity or less transparency around inputs to valuation, securities are classified as Level 3 within the valuation hierarchy. Level 3 liabilities that were measured at estimated fair value on a recurring basis consisted of the contingent consideration in connection with the Company s acquisition of SequenceIQ Hungary Kft. (SequenceIQ) which is contingent upon the achievement of certain product milestones. See Note 4 Business Combinations for additional information.

The Company estimated the acquisition date fair value of the contingent consideration payable of $1.6 million based on various estimates including a discount rate based on the estimated timing of achievement of product milestones, the probability of achievement and other risk factors, all of which the Company believes are appropriate and representative of market participant assumptions. Upon the achievement of product milestones in January 2016, the Company paid the fair value of the contingent consideration liability of $1.7 million. As of December 31, 2016, there is no contingent consideration liability outstanding.

A financial instrument s categorization within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement. The Company s assessment of the significance of a particular input to the fair value measurement in its entirety requires management to make judgments and consider factors specific to the asset or liability. During the years ended December 31, 2016 and 2015, the Company did not make any transfers between Level 1, Level 2, or Level 3 investments. As of December 31, 2016, the Company did not have any Level 3 financial assets or liabilities.

Gross unrealized gains and losses were not material as of December 31, 2016 and 2015. Realized gains and losses were not material for years ended December 31, 2016, 2015 and 2014. As of December 31, 2016 and 2015, there were no securities that were in an unrealized loss position for more than 12 months.

4. BUSINESS COMBINATIONS

Transactions completed in 2016

The Company did not complete any acquisitions during the year ended December 31, 2016.

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Transactions completed in 2015

Onyara, Inc. On August 31, 2015, the Company acquired Onyara, Inc. (Onyara), the creator of and key contributor to Apache NiFi. The acquisition enables customers to automate and secure data flows and to collect, conduct and curate real-time business insights and actions derived from data in motion. As a result of the acquisition, the Company introduced HDF powered by Apache NiFi, which simplifies and accelerates the flow of data in motion into HDP for full fidelity analytics.

The acquisition date fair value of the purchase consideration was $26.5 million, which included the following (in thousands):

Common stock (921,643 shares at fair value of $23.76 per share)	$ 21,898
Holdback of 194,259 shares of common stock for a period of 12 months for general representations and warranties	4,616
Total	$ 26,514

The total purchase consideration of $26.5 million exceeded the estimated fair value of the net tangible and identifiable intangible assets and liabilities acquired. Prior to the acquisition, Apache NiFi was open sourced in November 2014 as part of the National Security Agency Technology Transfer Program. As a result, no technology was acquired and the Company recorded goodwill of $26.4 million in connection with this transaction. The goodwill is attributable to the synergies expected from combining Onyara s operations with the Company s operations. The goodwill is not deductible for tax purposes.

Under the terms of the agreement, all outstanding shares of Onyara s capital stock, options to purchase Onyara capital stock and any other securities convertible into, exercisable for or exchangeable for shares of Onyara capital were canceled in exchange for an aggregate of approximately 1.6 million shares of the Company s common stock with a fair value of approximately $38.5 million. Of these shares, 1.1 million shares with a fair value of approximately $26.5 million were allocated to purchase consideration. The remaining 0.5 million shares with a fair value of approximately $12.0 million were considered post-combination remuneration which will be recorded as stock-based compensation expense over the vesting period of up to three years. The vesting of these RSUs is contingent upon continued employment. The related acquisition costs, consisting primarily of legal expenses in the amount of $0.4 million during the year ended December 31, 2015, were expensed as incurred.

The following table summarizes the allocation of the consideration paid of approximately $26.5 million to the fair values of the assets acquired and liabilities assumed at the acquisition date (in thousands):

Goodwill	$ 26,429

Cash	180
Tangible liabilities acquired	(95)
Total	$ 26,514

In connection with the acquisition, the Company also issued RSUs covering 0.2 million shares of the Company s common stock with a fair value of approximately $5.2 million, which is being recognized as stock-based compensation expense as the RSUs vest over three years. The vesting of these RSUs is contingent upon continued employment. As such, the Company will account for such payments as post-combination remuneration, to be recognized in operating expenses in the consolidated statements of operations as the services are performed.

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The results of operations of Onyara have been included in the Company s consolidated statements of operations from the acquisition date.

SequenceIQ. On April 23, 2015, the Company acquired 100 percent of the voting shares of SequenceIQ, an open source provider of rapid deployment tools for Hadoop, to deliver a consistent and automated solution for launching on-demand Hadoop clusters in the cloud or to any environment that supports Docker containers. This acquisition complements the Company s strategy of providing enterprise customers the broadest choice of consumption options for HDP, from on-premises deployments to cloud architectures.

The acquisition of SequenceIQ was accounted for as the purchase of a business. The related acquisition costs, consisting primarily of consulting and legal expenses, were not material during the year ended December 31, 2015 and were expensed as incurred.

The acquisition date fair value of the purchase consideration was $10.0 million, which included the following (in thousands):

Cash	$ 3,721
Cash holdback for a period of 15 months for general representations and warranties	1,875
Cash payable upon 18-month anniversary of closing date	1,651
Contingent consideration (Note 3)	1,625
Vested RSUs (49,102 shares at fair value of $21.97 per share)	1,079
Total	$ 9,951

See Note 3 Fair Value Measurements for further details on the Company s fair value methodology with respect to the contingent consideration liability.

The Company also issued to the selling shareholders RSUs covering 114,583 shares of the Company s common stock that vest over a period of up to three years. The vesting of the additional RSUs is contingent upon the continued employment of the selling shareholders that were retained as employees. As such, the Company accounted for such payments as post-combination remuneration, to be recognized in operating expenses in the consolidated statements of operations as the services are performed.

The acquisition of SequenceIQ provided the Company with developed technology. The Company determined that the fair value of the developed technology was approximately $4.4 million using the cost approach. The cost approach reflects the amount that would be required currently (at the acquisition date) to replace the service capacity of an asset. The assumptions underlying the fair value calculation include: the labor required using a burdened overhead rate, the development period, a developer s profit based on the operating profitability of market participants and the opportunity cost based on the estimated required return on investment over the development period using venture capital rates of return and private capital rates of return for enterprises at a similar stage of development as SequenceIQ. A deferred tax liability related to the fair value of the developed technology obtained in the acquisition was also recognized. The Company recognized goodwill of $5.8 million equal to the excess of the purchase consideration over the fair value of the assets acquired and the liabilities assumed inclusive of approximately $0.4 million related to a deferred tax liability recognized in the acquisition. The goodwill is attributable to the synergies expected from combining SequenceIQ s operations with the Company s operations. The goodwill is not deductible for tax purposes.

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The following table summarizes the allocation of the consideration paid of approximately $10.0 million to the fair values of the assets acquired and liabilities assumed at the acquisition date (in thousands):

Tangible assets acquired, net	$ 191
Developed technology	4,395
Goodwill	5,785
Deferred tax liabilities, net	(420)
Total	$ 9,951

The results of operations of SequenceIQ have been included in the Company s consolidated statements of operations from the acquisition date.

The Company s business combinations completed during the year ended December 31, 2015 did not have a material impact on the Company s consolidated financial statements and therefore, actual and pro forma disclosures have not been presented.

Transactions completed in 2014

XA Secure. On May 13, 2014, the Company acquired 100 percent of the voting shares of Agniv, Inc. d/b/a XA Secure (XA Secure), a developer of data security solutions across a number of information technology platforms, for approximately $4.8 million, consisting of approximately $3.0 million in cash and the issuance of 132,508 shares of the Company s common stock with a fair value of $13.70 per share on the acquisition date. The Company integrated the core security capabilities acquired across all Hadoop workloads. The acquisition of XA Secure was accounted for as the purchase of a business. The related acquisition costs, consisting primarily of legal expenses in the amount of $0.2 million during the year ended December 31, 2014, were expensed. These legal expenses were presented as general and administrative expenses on the consolidated statements of operations for the year ended December 31, 2014.

The acquisition of XA Secure provided the Company with developed technology. The Company determined that the fair value of the developed technology was approximately $4.0 million. The fair value of the developed technology was determined using the cost approach. The cost approach reflects the amount that would be required currently (at the acquisition date) to replace the service capacity of an asset. The assumptions underlying the fair value calculation include: the labor required using a burdened overhead rate, the development period, a developer s profit based on the operating profitability of market participants and the opportunity cost based on the estimated required return on investment over the development period using venture capital rates of return and private capital rates of return for enterprises at a similar stage of development as XA Secure. A deferred tax liability related to the fair value of the developed technology obtained in the acquisition was also recognized. Primarily as a result of the deferred tax liability recognized in the acquisition, the Company recognized goodwill of $2.1 million equal to the excess of the purchase consideration over the fair value of the assets acquired and the liabilities assumed. The goodwill is attributable to the synergies expected from combining XA Secure s operations with the Company s operations. The goodwill is not deductible for tax purposes.

Concurrently with the recognition of the deferred tax liability related to the developed technology acquired, the Company released a portion of the valuation allowance on its deferred tax asset balance and recognized a $1.3 million benefit to income tax expense. The benefit for income taxes resulted from the additional source of income arising from the deferred tax liability recognized, which offset the Company s deferred tax assets.

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In connection with the acquisition of XA Secure, the Company also issued 132,506 shares of restricted stock, issued 159,483 options to purchase the Company s common stock and agreed to pay a $3.9 million cash retention bonus payable over 18 months to certain key employee-shareholders of XA Secure. The restricted shares vest over 18 months and the options vest over 48 months. All vesting provisions for the stock and options, as well as the future cash payments, are contingent upon the continued service of the key employees. Thus, the Company accounts for such payments as post-combination remuneration, to be recognized in operating expenses in the consolidated statements of operations as the services are performed.

The following table summarizes the allocation of the consideration paid of approximately $4.8 million to the fair values of the assets acquired and liabilities assumed at the acquisition date (in thousands):

Developed technology	$ 3,971
Deferred tax liabilities	(1,279)
Goodwill	2,119
Total	$ 4,811

The Company s business combination completed during the year ended December 31, 2014 did not have a material impact on the Company s consolidated financial statements and therefore actual and pro forma disclosures have not been presented.

5. PROPERTY AND EQUIPMENT, NET

Property and equipment, net, consisted of the following (in thousands):

	December 31,	
	2016	**2015**
Computer equipment	$ 12,513	$ 5,856
Network and communication equipment	3,453	2,663
Purchased software	667	593
Furniture and fixtures	4,585	3,362
Capital leases	476	476
Leasehold improvements	10,871	8,204
Assets not yet in use	206	553
Property and equipment, gross	32,771	21,707
Less: accumulated depreciation	(13,390)	(6,285)

Total property and equipment, net	$ 19,381	$ 15,422

Depreciation expense for the years ended December 31, 2016, 2015 and 2014 was $7.2 million, $4.5 million and $1.2 million, respectively.

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6. GOODWILL

The changes in the carrying amount of goodwill for the years ended December 31, 2016 and 2015 were as follows (in thousands):

Net balance as of January 1, 2015	$ 2,119
Acquisitions	32,214
Net balance as of December 31, 2015	34,333
Acquisitions	
Net balance as of December 31, 2016	$ 34,333

7. INTANGIBLE ASSETS, NET

The following table summarizes the Company s intangible assets, net (in thousands):

	December 31, 2016		
	Gross Carrying Amount	**Accumulated Amortization**	**Net**
Developed technology	$ 4,395	$ (1,274)	$ 3,121
Intangible assets, net	$ 4,395	$ (1,274)	$ 3,121

	December 31, 2015		
	Gross Carrying Amount	**Accumulated Amortization**	**Net**
Developed technology	$ 4,395	$ (393)	$ 4,002
Intangible assets, net	$ 4,395	$ (393)	$ 4,002

The Company s intangible assets as of December 31, 2016 and 2015 were comprised entirely of developed technology from the Company s acquisition of SequenceIQ. The amortizable intangible assets have a useful life of five years. For the years ended December 31, 2016 and 2015, the Company recognized amortization expense for intangible assets of $0.9 million and $0.4 million, respectively, in research and development expenses. For the year ended December 31, 2014, the Company did not recognize any amortization expense. However, as a result of the Company s contribution to the Apache Software Foundation of developed technology acquired in the XA Secure acquisition in August 2014, the Company recognized a research and development expense of $4.0 million equal to the carrying value of the developed technology.

Based on the current amount of intangibles subject to amortization, the estimated amortization expense for each of the succeeding years is as follows: 2017: $0.9 million; 2018: $0.9 million; 2019: $0.9 million; and 2020: $0.5 million.

8. COMMITMENTS AND CONTINGENCIES

Operating Leases

The Company has a number of operating lease agreements primarily involving office space and data center equipment. These leases are non-cancelable with original lease periods up to 15 years, which expire between 2017 and 2031. Some of these operating lease agreements have free or adjustable rent provisions. Lease expense is recognized on a straight-line basis over the lease term. The Company subleases some excess capacity to a subtenant under a non-cancelable operating lease.

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In August 2016, the Company entered into a 15-year operating lease agreement for approximately 12,000 square feet of office space located in Cork, Ireland, which commenced in September 2016. As of December 31, 2016, the total future minimum lease payment related to this lease was approximately $5.4 million.

As of December 31, 2016, future minimum lease commitments under non-cancelable leases are as follows (in thousands):

Years Ending December 31,	Leases
2017	$ 7,237
2018	5,866
2019	2,618
2020	1,601
2021	1,019
Thereafter	3,653
Gross lease payments	21,994
Less: non-cancelable subtenant receipts	(1,229)
Net lease payments	$ 20,765

Rent expense incurred under operating leases for the years ended December 31, 2016, 2015 and 2014 was $9.9 million, $8.0 million and $4.6 million, respectively.

Capital Leases

The Company entered into various capital lease agreements beginning in April 2014 to obtain network equipment. The original term of the capital leases is five years and the capital lease obligations bear interest at rates of approximately four percent per annum. In December 2016, the Company entered into a capital lease agreement for equipment installed at its data center. The agreement has a term of two years commencing in January 2017 and bears an interest rate of six percent per annum.

As of December 31, 2016 and December 31, 2015, capital lease obligations were $0.7 million and $0.3 million, respectively. The portion of the future payments designated as principal repayment was classified as a capital lease obligation within accrued expenses and other current liabilities on the consolidated balance sheets. The Company is obligated to make future payments under the capital leases as of December 31, 2016 of $0.4 million for 2017 and $0.3 million for 2018. Interest expense related to the capital leases was approximately $7,000, $13,000 and $7,000 for the years ended December 31, 2016, 2015 and 2014, respectively.

Property and equipment under the capital leases was $0.5 million as of both December 31, 2016 and 2015. Accumulated amortization on these assets was $0.2 million and $0.1 million as of December 31, 2016 and 2015, respectively.

Legal Proceedings

From time to time, the Company is party to various litigation and administrative proceedings relating to claims arising from its operations in the normal course of business. Based on the information presently available, including discussion with legal counsel, management believes that resolution of these matters will not have a material effect on the Company s business, results of operations, financial condition or cash flows.

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On February 29, 2016, a putative class action lawsuit alleging violations of federal securities laws was filed in the U.S. District Court for the Northern District of California, captioned *Monachelli v. Hortonworks, Inc.*, Case No. 3:16-cv-00980-SI. The lawsuit names as defendants the Company, Robert G. Bearden, and Scott J. Davidson. Plaintiffs allege that the defendants violated Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 by allegedly making materially false and misleading statements regarding the Company s business and operations. On June 1, 2016, the court entered an order appointing a lead plaintiff and lead counsel. On July 28, 2016, the lead plaintiff and another named plaintiff filed an amended complaint seeking to represent a class of persons who purchased or otherwise acquired Hortonworks securities between August 5, 2015 and January 15, 2016, inclusive and sought class certification, an award of unspecified compensatory damages, an award of reasonable costs and expenses, including attorneys fees, and other further relief as the Court may deem just and proper. On December 5, 2016, the court granted Defendants motion to dismiss the amended complaint, with leave to amend. The parties thereafter engaged in settlement negotiations and have agreed in principle to a class-wide settlement that would not have a material effect on the Company s financial statements. A hearing to address preliminary approval of the settlement is scheduled for April 21, 2017.

9. DEBT

Revolving Credit Agreement

On November 2, 2016, the Company entered into a $30.0 million two-year senior secured revolving credit agreement (the Credit Agreement) with Silicon Valley Bank (the Bank). Amounts outstanding under the Credit Agreement are payable on or before November 2, 2018 and will accrue interest per annum at a rate equal to the Bank s prime rate plus 0.50 percent. Any outstanding loans drawn under the Credit Agreement may be paid at any time prior to maturity. Pursuant to the terms of the Credit Agreement, the Company agreed to pay an annual facility fee equal to 0.50 percent of the aggregate amount of the revolving credit facility commitments and an unused line fee of 0.35 percent per annum on the unused commitments. The Credit Agreement currently has no subsidiary guarantors.

The Credit Agreement contains customary reporting, affirmative and negative covenants, including negative covenants imposing limitations on, among other things, the ability of the Company and its subsidiaries to incur additional indebtedness, grant liens, consummate asset sales, make certain investments and declare or make dividends or repurchase its stock. It also contains certain financial covenants that require the Company to maintain a minimum trailing consolidated adjusted earnings before interest, taxes, depreciation and amortization (EBITDA) and a minimum adjusted quick ratio. In addition, the Company is required to maintain on account with the Bank not less than $10.0 million.

As of the date of this filing, the Company had no borrowings outstanding under the Credit Agreement and was in compliance with all financial covenants.

10. STOCKHOLDERS EQUITY

Common Stock

Each share of common stock is entitled to one vote for matters to be voted on by the stockholders of the Company. The holders of common stock are also entitled to receive dividends whenever declared by the Board of Directors from legally available funds. The Company has not paid a dividend since its inception, and has no current plans to do so.

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Common Stock Reserved for Issuance

The Company reserved shares of common stock, on an as-if converted basis, for future issuance as follows:

	December 31,	
	2016	**2015**
Common stock warrants	3,250,000	3,250,000
Exercise and conversion of common stock warrants	476,368	476,368
Common stock subject to repurchase	30,708	55,603
Outstanding stock options	7,430,094	11,552,487
Unvested restricted stock, RSUs and PSUs	11,536,846	6,642,601
Shares available for issuance under 2014 Stock Option and Incentive Plan	4,234,205	2,006,015
Shares available for purchase under 2014 Employee Stock Purchase Plan	2,451,215	2,707,648
Total	29,409,436	26,690,722

2011 Stock Option and Grant Plan

In June 2011, the Company adopted the Hortonworks, Inc. 2011 Stock Option and Grant Plan (the 2011 Plan). The 2011 Plan allows for the grant of incentive stock options (ISOs), non-statutory stock options (NSOs), restricted common stock and RSUs to the Company s full or part-time officers, employees, non-employee directors and consultants. The exercise price of an option is determined by the Board of Directors when the option is granted, and may not be less than 100 percent of the fair market value of the shares on the date of grant, provided that the exercise price of ISOs granted to a 10 percent stockholder is not less than 110 percent of the fair market value of the shares on the date of grant. ISOs granted under the 2011 Plan generally vest 25 percent after the completion of 12 months of service and the balance in equal monthly installments over the next 36 months of service, and expire 10 years from the date of grant. ISOs granted to a 10 percent stockholder expire five years from the date of grant. NSOs vest according to the specific option agreement, and expire 10 years from the date of grant.

In December 2014, in connection with the closing of the Company s IPO, the 2011 Plan was terminated and shares authorized for issuance under the 2011 Plan were canceled (except for those shares reserved for issuance upon exercise of outstanding stock options). As of December 31, 2016, options to purchase 6,623,524 shares of common stock were outstanding under the 2011 Plan pursuant to their original terms and no shares were available for future grant.

2014 Stock Option and Incentive Plan

The Hortonworks, Inc. 2014 Stock Option and Incentive Plan (the 2014 Plan) was adopted by the Company s Board of Directors in September 2014. The 2014 Plan was approved by the Company s stockholders in November 2014 and became effective immediately prior to the closing of the Company s IPO. All remaining shares available in the 2011

Plan rolled into the 2014 Plan following the consummation of the IPO. An amendment and restatement of the 2014 Plan (the Amended 2014 Plan) was approved by the Board of Directors in April 2016 and by the Company s stockholders in May 2016. The Amended 2014 Plan allows the Compensation Committee to make equity-based incentive awards to the Company s full or part-time officers, employees, non-employee directors and consultants. The exercise price of an option is determined by the Board of Directors when the option is granted, and may not be less than 100 percent of the fair market value of the shares on the date of grant, provided that the exercise price of ISOs granted to a 10 percent stockholder is not less

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than 110 percent of the fair market value of the shares on the date of grant. ISOs granted under the Amended 2014 Plan generally vest 25 percent after the completion of 12 months of service and the balance in equal monthly installments over the next 36 months of service, and expire 10 years from the date of grant. ISOs granted to a 10 percent stockholder expire five years from the date of grant. NSOs vest according to the specific option agreement, and expire 10 years from the date of grant.

The Company initially reserved 6,000,000 shares of the Company s common stock for the issuance of awards under the 2014 Plan, plus 923,732 shares of the Company s common stock that remained available for issuance under the Company s 2011 Plan as of the Company s IPO date. The amendment and restatement of the 2014 Plan increased the number of shares reserved for issuance under the Amended 2014 Plan by 7,000,000 shares. The Amended 2014 Plan also provides that the number of shares reserved and available for issuance under the plan will automatically increase each January 1, beginning on January 1, 2015, by five percent of the outstanding number of shares of the Company s common stock on the immediately preceding December 31 or such lesser number of shares as determined by the Company s Compensation Committee. This number is subject to adjustment in the event of a stock split, stock dividend or other change in the Company s capitalization.

In April, June and July 2015, under the 2014 Plan, the Company granted an aggregate of 421,484 PSUs to certain executive and senior officers (the Grantees) that vest upon (a) the achievement of specified performance targets as set by the Compensation Committee and (b) the Grantee remaining employed during the respective performance cycles over a service period of up to three years, with such service periods commencing on July 1, 2015. The performance target value for each performance cycle is based on an average of the applicable internal and external billings amounts for the respective performance cycle. The number of PSUs that vest for a given performance cycle is based on the Company s achievement of actual billings relative to the performance target value.

In October 2015, under the 2014 Plan, the Company granted an aggregate of 266,084 PSUs to the Grantees that vest upon (a) the achievement of specified performance targets as set by the Compensation Committee and (b) the Grantee remaining employed for the duration of the respective 12-month performance cycles over a service period of up to two years, with such service periods commencing on January 1, 2016. The number of PSUs that vest for a given performance cycle is based on the Company s achievement of EBITDA growth and revenue growth relative to the linear ranking of a pre-selected group of the Company s peers.

As of December 31, 2016, options to purchase shares of stock, RSUs, PSUs and restricted stock covering an aggregate of 12,067,581 shares of common stock were outstanding under the Amended 2014 Plan.

On January 1, 2016, the shares reserved for issuance under the 2014 Plan increased by 2,326,899, resulting in 19,093,426 total shares reserved for issuance under the Amended 2014 Plan as of December 31, 2016, of which 4,234,205 remained available for issuance.

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Stock Options

A summary of information related to stock options for the year ended December 31, 2016 is presented below:

	Options Outstanding			
	Number of Shares Underlying Outstanding Options	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value (in thousands)
Outstanding December 31, 2015	11,552,487	$ 9.80	7.82	$ 140,873
Options granted				
Options exercised	(1,646,314)	2.33		
Options canceled/forfeited	(2,476,079)	14.76		
Outstanding December 31, 2016	7,430,094	$ 9.81	6.73	$ 16,523
Vested and expected to vest December 31, 2016	7,311,650	$ 9.73	6.72	$ 16,487
Exercisable December 31, 2016	5,125,486	$ 8.23	6.47	$ 15,027

There were no options granted in the year ended December 31, 2016. The weighted-average grant date fair value of all options to purchase common stock granted in the years ended December 2015 and 2014 was $23.17 and $14.31 per share, respectively.

Aggregate intrinsic value represents the difference between the exercise price of the options to purchase common stock and the fair value of the Company s common stock. The aggregate intrinsic value of options exercised for the years ended December 31, 2016, 2015 and 2014 was $13.2 million, $42.9 million and $10.0 million, respectively.

Cash received from option exercises for the year ended December 31, 2016 was $3.8 million.

Restricted Stock

A summary of information related to restricted stock for the year ended December 31, 2016 is presented below:

	Number of Shares Issued Under the Stock Plans	Number of Shares Issued Outside the Stock Plans	Weighted-Average Exercise Price Per Share	Weighted-Average Grant Date Fair Value Per Share(*)	Aggregate Intrinsic Value
					(in thousands)
Unvested balance December 31, 2015	145,968	644,014	$ 0.67	$ 23.76	$ 4,551
Granted					
Vested	(145,968)	(368,179)	0.67	23.76	
Canceled/forfeited					
Unvested balance December 31, 2016		275,835	$	$ 23.76	$ 513

(*) The weighted-average grant date fair value per share relates to 1,424,946 shares of restricted stock paid as part of the acquisition of Onyara, of which 275,835 shares are unvested as of December 31, 2016. See Note 4 Business Combinations for additional information regarding this transaction.

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The fair value of the restricted stock that vested during the year ended December 31, 2016 was $4.5 million. The fair value of the restricted stock that vested during the year ended December 31, 2015 was $14.4 million and $26.5 million, related to restricted stock vesting over a requisite service period and fully vested common shares issued as part of Onyara purchase consideration, respectively. The fair value of the restricted stock that vested during the year ended December 31, 2014 was $6.1 million and $1.8 million, related to restricted stock vesting over a requisite service period and fully vested common shares issued as part of XA Secure purchase consideration, respectively.

As of December 31, 2016, there was $19.0 million of unrecognized stock-based compensation expense related to unvested stock options and restricted stock which is expected to be recognized over a weighted-average period of 1.53 years.

Restricted Stock Units and Performance Stock Units

A summary of information related to RSUs and PSUs for the year ended December 31, 2016 is presented below:

	Number of Shares Issued Under Stock Plans	Weighted-Average Grant Date Fair Value Per Share
Unvested balance December 31, 2015	5,852,619	$ 23.33
Granted	9,635,168	9.92
Vested	(2,681,838)	20.95
Canceled/forfeited	(1,544,938)	16.35
Unvested balance December 31, 2016	11,261,011	$ 13.21

The fair value of the RSUs and PSUs that vested during the year ended December 31, 2016 was $26.8 million. The fair value of the RSUs and PSUs vested during the year ended December 31, 2015 was $1.1 million and $1.1 million, related to RSUs vesting over a requisite service period and vested RSUs issued as part of SequenceIQ purchase consideration, respectively. No RSUs or PSUs vested during the year ended December 31, 2014.

As of December 31, 2016, there was $103.1 million of unrecognized stock-based compensation expense related to RSUs and PSUs which is expected to be recognized over a weighted-average period of 1.66 years.

Determining Fair Value for Employee Grants

The Company estimated the fair value of stock options granted using the Black-Scholes option pricing model with weighted-average assumptions as follows:

	Years Ended December 31,		
	2016	2015	2014
Expected term (in years)		6.00	5.77
Risk-free interest rate	%	1.59%	1.52%
Expected volatility	%	44%	46%
Dividend rate	%	%	%

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The fair value of each grant of stock options was determined using the Black-Scholes option pricing model and assumptions discussed below. Each of these inputs is subjective and generally requires significant judgment to determine.

Fair Value of Common Stock. Historically, for all periods prior to the Company s IPO, the Company estimated the fair value of common stock. The fair value of the common stock underlying the stock-based awards was determined by the Company s Board of Directors, which considered numerous objective and subjective factors to determine the fair value of common stock at each grant date. These factors included, but were not limited to: (i) contemporaneous valuations of common stock performed by third-party specialists; (ii) the lack of marketability of the Company s common stock; (iii) developments in the business; (iv) the prices paid in recent transactions involving the Company s equity securities; and (v) the likelihood of achieving a liquidity event, such as an IPO or a merger or acquisition, given prevailing market conditions.

Since the Company s IPO, the Company has used the market closing price of its common stock as reported on the NASDAQ Global Select Market.

Expected Term. The Company estimates the expected term for stock options using the simplified method due to limited historical exercise activity for the Company. The simplified method calculates the expected term as the midpoint between the vesting date and the contractual expiration date of the award.

Expected Volatility. Due to the limited trading history of its common stock, the expected volatility was derived from the average historical stock volatilities of several unrelated public companies within the Company s industry that it considers to be comparable to its business over a period equivalent to the expected term of the stock option grants.

Risk-Free Interest Rate. The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant for the expected term of the stock-based award.

Dividend Rate. The expected dividend yield is zero, as the Company does not currently pay a dividend and does not expect to do so in the foreseeable future.

Forfeiture Rate. Forfeitures are estimated based on the Company s analysis of historical stock option forfeitures. To the extent that the forfeiture rate is different than what the Company has estimated, the compensation cost associated with unrecognized stock-based compensation expense will be different from the Company s expectations.

Restricted Stock Purchase Agreements

The Company entered into restricted stock purchase agreements with certain founders and employees for the issuance of restricted common stock in exchange for services. Under the terms of the restricted stock purchase agreements, the Company has the right to repurchase any unvested shares at the original issue price (ranging from $0.18 per share to $4.76 per share) in the event of termination of service. These repurchase rights lapse over the vesting term, which varies by agreement.

The restricted stock was purchased in exchange for promissory notes (Notes) that, prior to repayment in October 2014, accrued interest at rates ranging from 0.89 to 2.89 percent annually, with interest payable annually. The principal, along with any unpaid accrued interest, was payable upon the earlier of certain corporate transactions including an IPO, the termination of services, or nine to ten years from the date of the Notes. The Company had recourse against the restricted stock issued along with the Notes and recourse of up to 80 percent of the principal amount, and up to the full amount of accrued interest, against the individual s personal assets.

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The Company accounted for the Notes as non-recourse in their entirety because the Notes are not aligned with a corresponding percentage of the underlying shares. Accordingly, the non-recourse notes received by the Company as consideration for the issuance of the restricted stock were considered as stock options for accounting purposes as the substance is similar to the grant of an option because the employee generally will relinquish the stock in lieu of repaying the Note. Non-refundable principal payments were recorded as a credit to additional paid-in capital for the underlying shares that were vested as of the repayment date and as a repurchase liability for the underlying shares that were unvested as of the repayment date. Non-refundable interest was recorded as interest income.

There were no shares of restricted stock outstanding subject to the Company s right of repurchase as of December 31, 2016. The number of shares of restricted stock outstanding subject to the Company s right of repurchase as of December 31, 2015 was 286,679 which had repurchase prices ranging from $0.18 to $1.28 per share. The liability for shares subject to repurchase as of December 31, 2015 was $0.2 million, which was included in accrued expenses and other current liabilities.

These restricted stock arrangements were accounted for similarly to stock options until the Notes were repaid. During the years ended December 31, 2016 and 2015, there were no restricted shares repurchased. During the year ended December 31, 2014, 528,745 restricted shares were repurchased from ten stockholders. Because the restricted shares were accounted for as options, the Notes were not recorded in the accompanying consolidated balance sheets and compensation cost was recognized over the requisite service period with an offsetting credit to additional paid-in capital. In October 2014, all outstanding Notes were repaid in full and the restricted stock that had vested became shares of common stock.

The fair value of the options was determined based on the Black-Scholes option pricing model using the following assumptions:

	Years Ended December 31,		
	2016	**2015**	**2014**
Expected term (in years)			5.00
Risk-free interest rate	%	%	1.58%
Expected volatility	%	%	40%
Dividend rate	%	%	%

Periodic principal payments were recorded as a credit to additional paid-in capital for the underlying shares that were vested as of the repayment date and as a repurchase liability for the underlying shares that are unvested as of the repayment date. The shares were recorded when they vested and when principal payments were received.

The interest amounts related to the Notes were recognized as interest income in the accompanying consolidated statements of operations because the interest portion of the Notes was full recourse. The interest income was not material for any period presented.

Restricted Stock and Stock Options Subject to Repurchase

The 2011 Plan allowed for the granting of options that may be exercised before the options have vested. Shares issued as a result of early exercise and shares that had not vested are deemed to be restricted stock and are subject to a vesting schedule identical to the vesting schedule of the related restricted stock and options, as well as certain other restrictions. Shares issued as a result of early exercise that have not vested are subject to

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repurchase by the Company upon termination of the purchaser s employment or services, at the price paid by the purchaser, and are not deemed to be issued for accounting purposes until those related shares vest. The amounts received in exchange for these shares have been recorded as a liability on the accompanying consolidated balance sheets and will be reclassified into common stock and additional paid-in capital as the shares vest. The Company s right to repurchase these shares generally lapses with respect to 1/48 of the original grant amount per month over four years.

The number of shares of restricted stock and early exercised options to purchase common stock outstanding subject to the Company s right of repurchase as of December 31, 2016 and 2015 was 30,708 and 342,282, respectively, which had repurchase prices ranging from $8.46 to $14.22 per share and $0.18 to $14.22 per share, respectively. The liability for shares subject to repurchase as of December 31, 2016 and 2015 was $0.4 million and $0.9 million, respectively. Of the $0.4 million liability as of December 31, 2016, $0.3 million was included in accrued expenses and other current liabilities and $0.1 million was included in other long-term liabilities. Of the $0.9 million liability as of December 31, 2015, $0.5 million was included in accrued expenses and other current liabilities and $0.4 million was included in other long-term liabilities.

2014 Employee Stock Purchase Plan

The Company s ESPP was adopted and approved by the Company s Board of Directors in September 2014, was adopted and approved by the Company s stockholders in November 2014, and was amended in August 2015 to allow employees of certain of the Company s non-U.S. subsidiaries to participate in the ESPP. The ESPP initially reserved and authorized the issuance of up to a total of 2,500,000 shares of common stock to participating employees. The ESPP provides that the number of shares reserved and available for issuance will automatically increase each January 1, beginning on January 1, 2015, by the lesser of (i) 1,000,000 shares of common stock, (ii) one percent of the outstanding number of shares of the Company s common stock on the immediately preceding December 31, or (iii) such lesser number of shares as determined by the ESPP administrator. This number is subject to adjustment in the event of a stock split, stock dividend or other change in the Company s capitalization. On January 1, 2016, the shares reserved for issuance increased by 465,225 resulting in total shares reserved for issuance under the ESPP of 3,392,473 as of December 31, 2016, of which 2,451,215 remained available for purchase.

The following table summarizes the assumptions used in the Black-Scholes option pricing model to determine fair value of the Company s common shares to be issued under the ESPP:

	Years Ended December 31,		
	2016	**2015**	**2014**
Expected term (in years)	0.5-1.0	0.5-1.0	
Risk-free interest rate	0.25%-0.70%	0.10%-0.40%	%
Expected volatility	26%-52%	35%-41%	%
Dividend rate	%	%	%

Each employee who is a participant in the ESPP may purchase shares by authorizing payroll deductions of up to 15 percent of his or her base compensation during an offering period. Unless the participating employee has previously withdrawn from the offering, his or her accumulated payroll deductions will be used to purchase shares on the last business day of the offering period at a price equal to 85 percent of the fair market value of the shares on the first business day or the last business day of the offering period, whichever is lower. Under applicable tax rules, an employee may purchase no more than $25,000 worth of shares of common stock, valued at the start of the purchase period, under the ESPP in any calendar year. There is no minimum holding period associated with shares purchased pursuant to the ESPP.

HORTONWORKS, INC.

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As of December 31, 2016, there was $1.2 million of unrecognized stock-based compensation expense related to the ESPP, which is expected to be recognized over a weighted-average period of 0.38 years.

Cash received from the purchases of shares under the ESPP for the year ended December 31, 2016 was $5.6 million.

Determining Fair Value for Non-Employees

Stock-based compensation expense related to stock options and RSUs granted to non-employees is recognized as the stock options and RSUs vest. As of December 31, 2016, the Company granted options to purchase 345,834 shares of common stock to non-employees with a weighted-average exercise price of $3.32 per share and RSUs covering 200,416 shares of common stock with a weighted-average grant date fair value of $9.46 per share. As of December 31, 2016, options to purchase 59,677 shares of common stock granted to non-employees were outstanding with a weighted-average exercise price of $2.29 per share and RSUs covering 95,529 shares of common stock granted to non-employees were outstanding with a weighted-average grant date fair value of $9.52 per share. As of December 31, 2015, the Company granted options to purchase 345,834 shares of common stock to non-employees with a weighted-average exercise price of $3.32 per share and RSUs covering 7,416 shares of common stock with a weighted-average grant date fair value of $21.71 per share. As of December 31, 2015, options to purchase 91,200 shares of common stock granted to non-employees were outstanding with a weighted-average exercise price of $1.69 per share and RSUs covering 7,416 shares of common stock granted to non-employees were outstanding with a weighted-average grant date fair value of $21.71 per share.

The Company granted non-employees options to purchase and RSUs to convert to a total of 193,000, 7,416 and 202,500 shares of common stock for the years ended December 31, 2016, 2015 and 2014, respectively. Compensation expense related to these options and RSUs was $1.3 million, $0.6 million and $1.2 million for the years ended December 31, 2016, 2015 and 2014, respectively.

The Company believes that the fair value of the stock options is more reliably measurable than the fair value of services received. The fair value of the stock options granted is calculated at each reporting date using the Black-Scholes option pricing model with the following weighted-average assumptions:

	Years Ended December 31,		
	2016	**2015**	**2014**
Expected term (in years)		6.4	8.84
Risk-free interest rate	%	1.74%	2.34%
Expected volatility	%	45%	43%
Dividend rate	%	%	%

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Stock-Based Compensation Expense

Total stock-based compensation expense, including stock-based compensation expense to non-employees, by category was as follows (in thousands):

	Years Ended December 31,		
	2016	**2015**	**2014**
Cost of revenue	$ 5,700	$ 2,702	$ 580
Sales and marketing	25,787	11,688	1,881
Research and development	36,540	15,193	2,257
General and administrative	30,796	11,356	4,314
Total stock-based compensation expense	$ 98,823	$ 40,939	$ 9,032

In February 2016, one of the executives of the Company voluntarily canceled a stock option to purchase 1,185,000 shares. As a result, the Company recognized in general and administrative expense a stock-based compensation expense of $10.0 million during the year ended December 31, 2016.

Warrants

In July 2011, the Company issued a warrant to purchase 6,500,000 shares of Series A preferred stock at an exercise price of $0.005 per share. The warrant was issued to Yahoo! Inc. (Yahoo!) in connection with the Company s Series A financing and the transactions contemplated thereby, including commercial agreements with Yahoo! providing for support subscription offerings and certain rights to technology. The ability for Yahoo! to exercise the warrant was subject to the continuation of the commercial agreement for a period of two years, which has been satisfied. Upon consummation of the Company s IPO in December 2014, the warrant automatically converted into a warrant to purchase 3,250,000 shares of common stock. As the warrant was issued to a customer, upon the occurrence of the IPO, the vesting of the warrant resulted in an immediate $4.0 million reduction in revenue, which was the cumulative revenue from Yahoo!. The $48.0 million difference between the fair value of the warrant of $52.0 million and the reduction in revenue was recognized in cost of revenue during the fourth quarter of 2014. The $52.0 million fair value of the warrant was recognized in additional paid-in capital. Refer to Note 15 Related Party Transactions for additional information regarding related party transactions.

On June 9, 2014, the Company issued a warrant to purchase a number of shares of common stock up to one percent of the sum of (i) 45,585,496, plus (ii) the number of shares of Series D preferred stock or shares of such stock issuable upon exercise of warrants to purchase such stock (on an as converted to common stock basis) issued or issuable upon exercise of warrants to purchase Series D preferred stock that are sold, if any, by the Company during the period commencing on June 9, 2014 and ending immediately prior to the occurrence of a corporate event at an exercise price of $8.46 per share. The warrant was issued to Yahoo! in exchange for the amendment of the rights held by Yahoo! under Section 2.11 of the Investors Rights Agreement to approve an acquisition of Hortonworks, which removed a competitor of Yahoo! from the list of companies over which Yahoo! has such blocking rights. Upon the Company s IPO, the common stock warrant liability was reclassified to additional paid-in capital at the then current fair value of $5.4 million. The combined value of the initial measurement and the change in the fair value of this warrant of $5.4 million is recorded as other expense in the consolidated statement of operations for the year ended December 31, 2014. As of December 31, 2016, the warrant was exercisable into 476,368 shares of common stock.

Each warrant expires nine years from the date of issuance. The warrants vested upon consummation of the Company s IPO in December 2014. As of December 31, 2016, neither warrant had been exercised into shares of common stock.

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11. NET LOSS PER SHARE OF COMMON STOCK

Basic net loss per share is calculated by dividing net loss by the weighted-average number of common shares outstanding during the period, less restricted common stock and common stock issued that is subject to repurchase, and excludes any dilutive effects of share-based awards. Diluted net loss per share of common stock is computed giving effect to all potential dilutive common shares. As the Company had net losses for the years ended December 31, 2016, 2015 and 2014, all potential common shares were determined to be anti-dilutive.

The following table sets forth the computation of basic and diluted net loss per share (in thousands, except share and per share amounts):

	Years Ended December 31,		
	2016	2015	2014
Net loss	$ (251,688)	$ (179,117)	$ (177,365)
Weighted-average shares used in computing net loss per share of common stock	57,203,067	43,318,044	7,341,465
Net loss per share, basic and diluted	$ (4.40)	$ (4.13)	$ (24.16)

The following outstanding shares of common stock equivalents were excluded from the computation of diluted net loss per share of common stock for the periods presented because including them would have been anti-dilutive:

	As of December 31,		
	2016	2015	2014
Common stock warrants	3,250,000	3,250,000	3,250,000
Exercise and conversion of common stock warrants	476,368	476,368	476,368
Common stock subject to repurchase	30,708	55,603	1,604,728
Outstanding stock options	7,430,094	11,552,487	13,953,894
Unvested restricted stock, RSUs and PSUs	11,536,846	6,642,601	1,623,222
Estimated ESPP shares to be issued	442,992	151,468	
Total	23,167,008	22,128,527	20,908,212

12. INCOME TAXES

The components of income tax expense (benefit) for the years ended December 31, 2016, 2015 and 2014 are as follows (in thousands):

	Years Ended December 31,		
	2016	2015	2014
Current:			
Federal	$	$	$
State and local	67	58	18
Foreign	1,130	514	150
Total current tax expense	1,197	572	168
Total deferred tax expense (benefit)	27	(140)	(1,279)
Total income tax expense (benefit)	$ 1,224	$ 432	$ (1,111)

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The components of loss before income taxes by United States and foreign jurisdictions are as follows (in thousands):

	Years Ended December 31,		
	2016	**2015**	**2014**
United States	$ 209,882	$ 137,713	$ 149,629
Foreign	40,582	40,972	28,847
Total loss before income tax	$ 250,464	$ 178,685	$ 178,476

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company s deferred tax assets are as follows (in thousands):

	December 31,	
	2016	**2015**
Deferred tax assets:		
Net operating loss carryforwards	$ 132,744	$ 87,128
Research and development credit	8,997	3,971
Warrant expense	19,312	19,422
Depreciation and amortization	1,105	415
Accruals and reserves	3,005	2,125
Deferred revenue	9,093	5,547
Stock-based compensation expense	15,865	10,446
Other	2,037	1,244
Gross deferred tax assets	192,158	130,298
Valuation allowance	(192,152)	(130,178)
Intangibles	(312)	(400)
Net deferred tax liabilities	$ (306)	$ (280)

The following is a reconciliation of the statutory federal income tax rate to the Company s effective tax rate:

	Years Ended December 31,		
	2016	**2015**	**2014**
Tax at federal statutory rate	34.00%	34.00%	34.00%

State and local taxes, net of federal benefit	2.54	2.93	4.21
Permanent differences and other items not individually material	(0.08)	(0.26)	(0.77)
Warrant expense			(1.03)
Stock-based compensation expense	(8.24)	(2.29)	
Credits	2.01	0.62	0.49
Foreign tax differential	(5.97)	(8.01)	(5.58)
Change in valuation allowance	(24.75)	(27.23)	(30.70)
Income tax expense	(0.49)%	(0.24)%	0.62%

The Company s effective tax rate for the period ended December 31, 2016 was lower than the statutory tax rate primarily because of the valuation allowance on its U.S. and foreign deferred tax assets and the losses of foreign subsidiaries taxed at lower rates, partially offset by state taxes and tax credits. The losses of the foreign subsidiaries were generated primarily by the Company s cost sharing agreement with its Netherlands operations.

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The benefit for income taxes for the year ended December 31, 2014 relates primarily to the release of a valuation allowance of $1.3 million associated with nondeductible intangible assets recorded as part of the XA Secure acquisition, partially offset by state minimum income tax and income tax on the Company s earnings in foreign jurisdictions. In connection with the acquisition of XA Secure, a deferred tax liability was established for the book-tax basis differences related to the acquired developed technology. The net deferred tax liability from this acquisition creates an additional source of income to offset the Company s deferred tax assets. As such, the impact on the acquiring Company s deferred tax assets and liabilities caused by an acquisition are recorded in the acquiring Company s consolidated financial statements outside of acquisition accounting. The income tax expense for the years ended December 31, 2016, 2015 and 2014 relates to state minimum income tax and income tax on the Company s earnings in foreign jurisdictions.

A valuation allowance is provided when it is more likely than not that the deferred tax assets will not be realized. The Company has established a valuation allowance to offset net deferred tax assets at December 31, 2016 due to the uncertainty of realizing future tax benefits from its net operating loss carryforwards (NOLs) and other deferred tax assets. The net valuation allowance increased by approximately $62.0 million during the year ended December 31, 2016. As of December 31, 2016, the Company had NOL carryforwards for federal, state and local and foreign tax purposes of approximately $381.0 million, $320.2 million and $0.1 million, respectively. The NOL carryforwards will expire at various dates beginning in 2031 (federal), 2018 (state and local) and 2020 (foreign), unless previously utilized. The Company also has federal and state research and development tax credit carryforwards of approximately $7.8 million and $6.3 million, respectively. The federal tax credits will expire at various dates beginning in 2031, unless previously utilized. The state tax credits do not expire and will carry forward indefinitely until utilized.

As a result of certain realization requirements of the accounting guidance for stock-based compensation expense, the table of deferred tax assets and liabilities shown above does not include certain deferred tax assets as of December 31, 2016 and 2015 that arose directly from (or the use of which was postponed by) tax deductions related to equity compensation in excess of compensation recognized for financial reporting. Approximately $38.4 million of federal NOLs and $24.3 million of state NOLs relate to stock-based compensation expense deductions in excess of book expense, the tax effect of which would be to credit additional paid-in capital if realized.

Current laws impose substantial restrictions on the utilization of NOLs and credit carryforwards in the event of an ownership change within a three-year period as defined by the Internal Revenue Code Section 382. If there should be an ownership change, the Company s ability to utilize its carryforwards could be limited.

The Company has not recorded a provision for deferred U.S. tax expense that could result from the remittance of foreign undistributed earnings since the Company intends to reinvest the earnings of these foreign subsidiaries indefinitely. The amount of unrecognized deferred tax liability related to these earnings is insignificant.

The Company recorded unrecognized tax benefits for uncertain tax positions of approximately $3.5 million and $1.6 million as of December 31, 2016 and 2015, respectively, of which none would impact the effective tax rate, if recognized, since the benefit would be offset by an increase in the valuation allowance.

The Company s policy is to recognize interest and penalties accrued on any unrecognized tax benefits as a component of income tax expense. During the year ended December 31, 2016, the Company recognized no interest and penalties associated with unrecognized tax benefits. There are no tax positions for which it is reasonably possible that the total amounts of unrecognized tax benefits will significantly increase or decrease within 12 months of the reporting date.

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The Company files income tax returns in the U.S. federal jurisdiction, various state and local jurisdictions and foreign jurisdictions. The Company s tax years for fiscal year end 2011 and forward are subject to examination by the U.S. tax authorities and various state tax authorities, and the Company s tax years for fiscal year end 2013 and forward are subject to examination by various foreign tax authorities. As of December 31, 2016, the U.S. federal income tax returns for the tax year ended April 30, 2014 and the eight months ended December 31, 2014 were under examination.

A reconciliation of the Company s unrecognized tax benefits is as follows (in thousands):

Balance as of December 31, 2014	$ 997
Increases related to prior years tax positions	145
Increases related to current year s tax positions	443
Balance as of December 31, 2015	1,585
Increases related to prior years tax positions	875
Increases related to current year s tax positions	1,076
Balance as of December 31, 2016	$ 3,536

13. SEGMENT AND GEOGRAPHICAL INFORMATION

The Company s chief operating decision maker reviews financial information on a consolidated basis for the purposes of allocating resources and evaluating financial performance. The Company s chief operating decision maker has direct reports responsible for various functions within the Company (*e.g.* business strategy, finance, legal, business development, products, etc.) on a consolidated basis. There are no segment managers who are held accountable for operations or operating results. The Company s primary growth strategy is predicated upon the growth of the support subscription business, and the Company s key business metrics reflect this strategy. Professional services are offered with the overall goal of securing and retaining support subscription customers and growing support subscription revenue. Accordingly, management has determined that the Company operates in one reportable segment.

The Company has historically presented revenue by country, determined by location of sales office. As the Company continues to expand its international operations, presenting revenue by customer domicile would enhance the segment disclosure as it is more representative of the Company s geographic revenue. The following table summarizes the Company s revenue by customer domicile. Prior period amounts have been revised to conform with current presentation (in thousands):

	Years Ended December 31,		
	2016	**2015**	**2014**
United States	$ 137,933	$ 105,842	$ 42,234

United Kingdom	21,025	3,815	1,865
Rest of world	25,503	12,287	1,949
Total revenue	$ 184,461	$ 121,944	$ 46,048

No individual country other than the United States and the United Kingdom accounted for more than 10 percent of total revenue during any of the periods presented.

The Company s long-lived assets are primarily located in the United States and not allocated to any specific region. Therefore, geographic information is presented only for total revenue.

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14. 401(K) PLAN

The Company has a qualified defined contribution plan under Section 401(k) of the Internal Revenue Code covering eligible employees. To date, the Company has not made any matching contributions to this plan.

15. RELATED PARTY TRANSACTIONS

In June 2011, the Company entered into a two-year commercial agreement with Yahoo!, a principal shareholder, that requires the Company to provide support subscription offerings and certain rights to technology, and the Company issued a preferred stock warrant to Yahoo!. The initial total contract value was $2.0 million and was being paid in quarterly installments of $250,000. In June 2013, the commercial agreement was amended to automatically renew for an additional year on an annual basis, unless otherwise terminated by either party 60 days prior to the end of the then-current renewal period. In December 2015, the commercial agreement was further amended to extend the current term until December 30, 2018, and thereafter, the commercial agreement will automatically renew for an additional year on an annual basis, unless otherwise terminated by either party 60 days prior to the end of the then-current renewal period. Refer to Note 10 Stockholders Equity for further discussion of the 2011 Yahoo! Warrant.

In February 2012, the Company entered into a development, distribution and marketing agreement with Teradata Corporation, which at that time was a significant shareholder. Under this and subsequent arrangements, the Company is providing support subscription and professional services to Teradata and certain of its end users. In April 2012, the Company received a nonrefundable prepayment of $9.5 million from Teradata as consideration for support subscription offerings and professional services expected to be performed by the Company through December 2016. In June 2015, the Company entered into an amendment to their prior agreement with Teradata and received a second prepayment of $1.5 million in August 2015 as consideration for support subscription offerings and professional services expected to be performed by the Company through December 2017. In September 2016, the Company entered into an amendment with Teradata and received a third prepayment of $1.5 million in the same month as consideration for support subscription offerings and professional services expected to be performed by the Company through December 2018. As of February 2, 2016, Teradata was no longer a Hortonworks shareholder and as such, was not considered to be a related party as of December 31, 2016.

In September 2013, the Company entered into a common stock purchase agreement with an affiliate of AT&T Inc. (AT&T) covering the sale and issuance of 390,269 shares of the Company s stock for a nominal amount of consideration. The initial grant included restricted shares that were subject to repurchase rights by the Company. Fifty percent of the shares vested on an equal and ratable basis over an 18-month period beginning on October 1, 2013 and the remaining 50 percent of shares vested in their entirety on March 31, 2015. Concurrently, the Company also entered into a commercial agreement with AT&T to provide specified support subscription and professional services over a three-year term with a minimum annual fee of $6.0 million. Due to the lack of VSOE, this fee is being recognized ratably over the three-year term. The fair value of approximately $0.4 million related to the common shares where the repurchase right expired as of December 31, 2013 was recognized as contra-revenue. In January 2014, the Company entered into an amended stock purchase agreement with an affiliate of AT&T in which the Company relinquished its repurchase rights, at which point the fair value of the remaining shares was recognized as a reduction in revenue. The contra-revenue amount of $2.0 million was determined based on the fair value of the common stock on the date of modification of the stock purchase agreement. As of December 31, 2016, AT&T did not hold more than five percent of the Company s outstanding common stock and therefore, the Company did not consider AT&T to be a related party.

In June 2014, the Company issued a warrant to purchase a number of shares of common stock in exchange for the amendment of certain rights held by Yahoo! under the Investors Rights Agreement to approve certain

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corporate transactions involving the Company. The warrant became exercisable upon the consummation of the IPO at which point the fair value of the award was reclassified to equity. As of December 31, 2016, the warrant is exercisable for 476,368 shares of the Company s common stock. The combined value of the initial measurement and the change in the fair value of this warrant of $5.4 million was recorded as other expense in the consolidated statement of operations for the year ended December 31, 2014.

In July 2014, the Company entered into a Series D preferred stock purchase agreement with Hewlett Packard Enterprise Company (Hewlett Packard Enterprise) covering the sale and issuance of 2,051,349 shares of the Company s stock for a total of $50.0 million. Under this and subsequent arrangements, Hewlett Packard Enterprise resells the Company s support subscription services. The Company receives a net percentage of the gross dollars collected from Hewlett Packard Enterprise s end-user customers related to such support and professional services. For this related party arrangement, the Company did not record contra-revenue for the associated equity as the Series D preferred stock was issued at fair value. Hewlett Packard Enterprise was the former employer of the Company s director Martin Fink until October 2016. As Martin Fink was no longer associated with Hewlett Packard Enterprise as of December 31, 2016, the Company no longer considers Hewlett Packard Enterprise to be a related party.

The following table summarizes the Company s shares/warrants owned by entities that were related parties as of December 31, 2016, 2015 and 2014. See Note 10 Stockholders Equity for information regarding the terms of the 2011 Yahoo! Warrant and information regarding the terms of the stock warrant issued in 2014 (in thousands, except for share amounts):

	December 31, 2016
	Yahoo!
Shares/warrants owned by related party:	
Common stock	3,845,806
Common stock warrants	3,726,368

	December 31, 2015			
	Yahoo!	Teradata	AT&T	Hewlett Packard
Shares/warrants owned by related party:				
Common stock	3,845,806		15,269	2,051,349
Common stock warrants	3,726,368			

	December 31, 2014			
	Yahoo!	Teradata	AT&T	Hewlett Packard
Shares/warrants owned by related party:				
Common stock	3,845,806	2,895,742	390,269	2,051,349

Common stock warrants	3,726,368

For the years ended December 31, 2016, 2015 and 2014, the Company recognized revenue from sales to related parties net of contra-revenue of $2.6 million, $10.1 million and $2.8 million, respectively. As of December 31, 2016 and 2015, the Company s deferred revenue from related parties was $1.6 million and $8.5 million, respectively, and accounts receivable from related parties was $1.6 million and $3.9 million, respectively. The Company s payables due to related parties were immaterial as of December 31, 2016 and 2015.

The Company does not separately record routine cost of revenue and operating expenses on a per related party contract basis.

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

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Annual Report on Form 10-K. The term disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 (Exchange Act), means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC s rules and forms at the reasonable assurance level. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company s management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives.

Based on this evaluation, as of December 31, 2016, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures are designed at a reasonable assurance level and are effective to provide reasonable assurance that information we are required to disclose in reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC s rules and forms. Such information is accumulated and communicated to our management, including our Chief Executive Officer and our Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Management s Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act). Management conducted an assessment of the effectiveness of our internal control over financial reporting based on the criteria set forth in Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on the assessment, management has concluded that its internal control over financial reporting was effective as of December 31, 2016 to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with U.S. GAAP.

This Annual Report on Form 10-K does not include an attestation report of our registered public accounting firm on our internal control over financial reporting due to an exemption established by the JOBS Act for emerging growth companies.

Material Weakness and Remediation Activities

As disclosed in Item 9A on Form 10-K for the fiscal year ended December 31, 2015, we determined a review was not performed at a sufficiently detailed level to detect errors in recognition of revenue and deferred revenue for a subset of non-standard license transactions where renewal rates for post-contract support were stated upon commencement of the arrangement. Each of the transactions originated before we established and formalized Section 404 internal controls in July 2015.

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The following remedial measures were taken with the oversight of management and the Audit Committee during 2016:

- We have reinforced the usage of specific product codes to identify the non-standard license transactions;
- We are continuing to track and monitor non-standard license transactions while also obtaining approvals from management for these transactions;
- We have implemented multiple levels of review for non-standard license transactions relative to proper revenue recognition accounting treatment;
- We have enhanced the documentation related to our identification and assessment of non-standard license transactions;
- We added resources with related expertise to assist with preparation and review of the revenue recognition treatment documented for non-standard license transactions; and
- We conducted discussions with external accounting experts on large amount and non-standard license transactions regarding revenue recognition treatment.

Given the remedial measures, testing of applicable controls and the determination that controls are designed and operating effectively, management has concluded that the material weakness previously identified has been remediated as of December 31, 2016.

Changes in Internal Control over Financial Reporting

There have not been any changes in our internal control over financial reporting that occurred during the three months ended December 31, 2016 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations of Internal Controls

Our management, including our principal executive officer and principal financial officer, does not expect that our disclosure controls and procedures or our internal controls will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the control. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Item 9B. Other Information.

None.

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PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this item is incorporated by reference to our Proxy Statement for the 2017 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2016.

Our Board of Directors has adopted a Code of Business Conduct and Ethics applicable to all officers, directors and employees, which is available on the investor relations section of our website, which is located at http://investors.hortonworks.com. We intend to satisfy the disclosure requirement under Item 5.05 of Form 8-K regarding amendment to, or waiver from, a provision of our Code of Business Conduct and Ethics by posting such information on our website at the address and location specified above.

Item 11. Executive Compensation.

The information required by this item is incorporated by reference to our Proxy Statement for the 2017 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2016.

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

The information required by this item is incorporated by reference to our Proxy Statement for the 2017 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2016.

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

The information required by this item is incorporated by reference to our Proxy Statement for the 2017 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2016.

Item 14. Principal Accounting Fees and Services.

The information required by this item is incorporated by reference to our Proxy Statement for the 2017 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2016.

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PART IV

Item 15. Exhibits, Financial Statement Schedules.

The following documents are filed as part of this report:

1. Consolidated Financial Statements

See Index to Consolidated Financial Statements at Item 8 herein.

2. Consolidated Financial Statement Schedules

All schedules are omitted because the required information is either not present, not present in material amounts or is presented within the consolidated financial statements included.

3. Exhibits

The documents listed in the Exhibit Index of this Annual Report on Form 10-K are incorporated by reference or are filed with this Annual Report on Form 10-K, in each case as indicated therein (numbered in accordance with Item 601 of Regulation S-K).

Hortonworks, the Hortonworks logo, HDCloud, HDP, HDF and SmartSense are trademarks or registered trademarks of Hortonworks, Inc. and its subsidiaries in the United States and other jurisdictions. Other service marks, trademarks and tradenames referred to in the Annual Report on Form 10-K are the property of their respective owners.

Item 16. Form 10-K Summary.

None.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

Hortonworks, Inc.

Date: March 15, 2017

By: /s/ Robert Bearden

Robert Bearden, Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Robert Bearden and Scott Davidson, jointly and severally, his attorney-in-fact, with the power of substitution, for him in any and all capacities, to sign any amendments to this Annual Report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report on Form 10-K has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

Signature	Title	Date
/s/ Robert Bearden	Chief Executive Officer and Director	March 15, 2017
Robert Bearden	(Principal Executive Officer)	
/s/ Scott Davidson	Chief Financial Officer	March 15, 2017
Scott Davidson	(Principal Financial Officer)	
/s/ Scott Reasoner	Vice President, Controller and	March 15, 2017
Scott Reasoner	Principal Accounting Officer	
	(Principal Accounting Officer)	
/s/ Paul Cormier	Director	March 15, 2017
Paul Cormier		
/s/ Peter Fenton	Director	March 15, 2017
Peter Fenton		

/s/ Martin Fink	Director	March 15, 2017
Martin Fink		
/s/ Kevin Klausmeyer	Director	March 15, 2017
Kevin Klausmeyer		
/s/ Jay Rossiter	Director	March 15, 2017
Jay Rossiter		
/s/ Michelangelo Volpi	Director	March 15, 2017
Michelangelo Volpi		

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Exhibit Index

Exhibit Number	Exhibit Description	Incorporated by Reference Form	File No.	Exhibit	Filing Date	Filed Herewith
3.1	Amended and Restated Certificate of Incorporation of the Registrant.	S-1	333-200044	3.2	November 10, 2014	
3.2	Amended and Restated Bylaws of the Registrant.	S-1	333-200044	3.4	November 10, 2014	
4.1	Form of common stock certificate of the Registrant.	S-1	333-200044	4.1	December 1, 2014	
4.2	Amended and Restated Investors Rights Agreement by and among the Registrant and certain of its stockholders, dated July 23, 2014.	S-1	333-200044	4.2	December 1, 2014	
4.3	Warrant to Purchase Shares of Series A Preferred Stock issued to Yahoo! Inc. by the Registrant, dated July 1, 2011.	S-1	333-200044	4.3	November 10, 2014	
4.4	Warrant to Purchase Shares of Common Stock issued to Yahoo! Inc. by the Registrant, dated June 9, 2014.	S-1	333-200044	4.4	November 10, 2014	
10.1#	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers.	S-1	333-200044	10.1	November 10, 2014	
10.2#	2011 Stock Option and Grant Plan and forms of agreements thereunder.	S-1	333-200044	10.2	November 10, 2014	
10.3#	Amended and Restated 2014 Stock Option and Incentive Plan and forms of agreements thereunder.	10-Q	001-36780	10.1	August 9, 2016	
10.4.1#	Amended and Restated Employment Agreement by and between the Registrant and Robert Bearden, dated March 13, 2017.					X
10.4.2#	Amended and Restated Employment Agreement by and between the Registrant and Scott Davidson, dated December 12, 2016.					X
10.4.3#						X

	Amended and Restated Employment Agreement by and between the Registrant and Raj Verma, dated March 13, 2017.	
10.4.4#	Amended and Restated Form of Employment Agreement by and between the Registrant and other executive officers.	X

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Exhibit Number	Exhibit Description	Incorporated by Reference Form	File No.	Exhibit	Filing Date	Filed Herewith
10.4.5#	Form of Letter Agreement re Post-Termination Option Exercise Period.	8-K	001-36780	10.2	June 19, 2015	
10.5	Stadium Techcenter Lease between The Landing SC, LLC, as Landlord, and the Registrant, as Tenant, dated May 19, 2014.	S-1	333-200044	10.6	November 10, 2014	
10.6	Commercial Agreement, as amended, between the Registrant and Yahoo! Inc., dated June 21, 2011.	S-1	333-200044	10.7	November 10, 2014	
10.7	Amendment #3 to Commercial Agreement between the Registrant and Yahoo! Inc., dated December 29, 2015.	10-K	001-36780	10.7	March 15, 2016	
10.8#	Restricted Stock Purchase Agreement by and between the Registrant and Shaun Connolly, dated December 27, 2011.	S-1	333-200044	10.9	November 10, 2014	
10.9#	Amended and Restated 2014 Employee Stock Purchase Plan.	10-Q	001-36780	10.1	November 12, 2015	
10.10#	Senior Executive Cash Incentive Bonus Plan.	S-1	333-200044	10.11	November 10, 2014	
10.11#	Non-Employee Director Compensation Policy.	S-1	333-200044	10.12	November 10, 2014	
10.12	HDP for Microsoft Platforms Agreement between the Registrant and Microsoft Corporation, dated July 3, 2012.	S-1	333-200044	10.13	November 10, 2014	
10.13	Credit Agreement, dated as of November 2, 2016, by and between Hortonworks, Inc. and Silicon Valley Bank.	8-K	001-36780	10.1	November 3, 2016	
21.1	List of Subsidiaries.					X
23.1	Consent of Deloitte & Touche, LLP, independent registered public accounting firm.					X
31.1	Certification of Chief Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as					X

adopted pursuant to Section 302 of
the Sarbanes-Oxley Act of 2002.

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Exhibit Number	Exhibit Description	Incorporated by Reference Form	File No.	Exhibit	Filing Date	Filed Herewith
31.2	Certification of Chief Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X
32.1*	Certifications of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
101	The following materials from Hortonworks, Inc. s Annual Report on Form 10-K for the year ended December 31, 2016, formatted in XBRL (eXtensible Business Reporting Language): (i) Consolidated Balance Sheets; (ii) Consolidated Statements of Operations; (iii) Consolidated Statements of Comprehensive Loss; (iv) Consolidated Statements of Convertible Preferred Stock and Stockholders (Deficit) Equity; (v) Consolidated Statements of Cash Flows; and (vi) Notes to Consolidated Financial Statements.					X

\# Indicates management contract or compensatory plan, contract or agreement.

Confidential treatment requested as to certain portions of this exhibit, which portions have been omitted and submitted separately to the Securities and Exchange Commission.

* The certifications attached as Exhibit 32.1 that accompany this Annual Report on Form 10-K are not deemed filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Hortonworks, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Annual Report on Form 10-K, irrespective of any general incorporation language contained in such filing.