UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2018

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

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

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

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

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

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

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

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

The number of shares of Registrant's Common Stock outstanding as of November 1, 2018 was 83,585,542.

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PART I—FINANCIAL INFORMATION

Item 1. Financial Statements.

HORTONWORKS, INC.

Condensed Consolidated Balance Sheets
(In thousands, except share and per share data)
(Unaudited)

	September 30, 2018	December 31, 2017
ASSETS		
Current assets:		
Cash and cash equivalents	$ 55,322	$ 62,739
Short-term investments	45,977	9,773
Accounts receivable, net	78,374	112,013
Contract assets	530	—
Deferred costs	23,778	—
Prepaid expenses and other current assets	11,111	10,809
Total current assets	215,092	195,334
Property and equipment, net	12,369	16,383
Long-term investments	3,541	—
Goodwill	34,333	34,333
Intangible assets, net	1,585	2,242
Deferred costs – noncurrent	26,062	—
Other assets	3,618	1,559
Restricted cash	9	882
Total assets	$ 296,609	$ 250,733
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)		
Current liabilities:		
Accounts payable	$ 6,275	$ 6,134
Accrued compensation and benefits	16,332	22,483
Accrued expenses and other current liabilities	9,130	10,948
Deferred revenue	163,077	194,901
Other contract liabilities	15,829	—
Total current liabilities	210,643	234,466
Long-term deferred revenue	86,279	80,269
Other long-term liabilities	827	1,034
Total liabilities	297,749	315,769
Commitments and contingencies (Note 4)		
Stockholders' deficit:		
Preferred stock, par value of $0.0001 per share—25,000,000 shares authorized; none issued or outstanding as of September 30, 2018 and December 31, 2017	—	—
Common stock, par value of $0.0001 per share—500,000,000 shares authorized as of September 30, 2018 and December 31, 2017; 83,518,001 shares issued and 83,044,900 shares outstanding as of September 30, 2018 and 72,830,962 shares issued and 72,607,893 shares outstanding as of December 31, 2017	9	8
Additional paid-in capital	944,900	842,875
Accumulated other comprehensive loss	(1,155)	(219)
Accumulated deficit	(944,894)	(907,700)
Total stockholders' deficit	(1,140)	(65,036)
Total liabilities and stockholders' equity (deficit)	$ 296,609	$ 250,733

See accompanying notes to the condensed consolidated financial statements.

HORTONWORKS, INC.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Support subscription and professional services revenue:				
Support subscription	$ 65,390	$ 53,198	$ 191,943	$ 141,088
Professional services	21,784	15,803	60,635	45,716
Total support subscription and professional services revenue	87,174	69,001	252,578	186,804
Cost of revenue:				
Support subscription	9,036	8,765	26,534	22,148
Professional services	14,753	12,578	43,432	37,517
Total cost of revenue	23,789	21,343	69,966	59,665
Gross profit	63,385	47,658	182,612	127,139
Operating expenses:				
Sales and marketing	50,446	48,176	153,889	148,921
Research and development	21,589	24,533	71,096	77,518
General and administrative	23,080	19,125	72,199	53,744
Total operating expenses	95,115	91,834	297,184	280,183
Loss from operations	(31,730)	(44,176)	(114,572)	(153,044)
Other income (expense), net	657	(786)	1,273	(2,134)
Loss before income tax expense	(31,073)	(44,962)	(113,299)	(155,178)
Income tax expense	501	406	1,527	1,101
Net loss	$ (31,574)	$ (45,368)	$ (114,826)	$ (156,279)
Net loss per share of common stock, basic and diluted	$ (0.39)	$ (0.67)	$ (1.45)	$ (2.41)
Weighted-average shares used in computing net loss per share of common stock, basic and diluted	81,797,566	67,920,575	79,166,112	64,747,020

See accompanying notes to the condensed consolidated financial statements

HORTONWORKS, INC.

Condensed Consolidated Statements of Comprehensive Loss
(In thousands)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	**2017**	**2018**	**2017**
Net loss	$ (31,574)	$ (45,368)	$ (114,826)	$ (156,279)
Items of other comprehensive (loss) income:				
Unrealized (gain) loss on investments, net of tax of $0 for all periods presented	(5)	8	(26)	28
Foreign currency translation adjustment	(273)	152	(910)	626
Total other comprehensive (loss) income	(278)	160	(936)	654
Total comprehensive loss	$ (31,852)	$ (45,208)	$ (115,762)	$ (155,625)

See accompanying notes to the condensed consolidated financial statements.

HORTONWORKS, INC.

Condensed Consolidated Statements of Cash Flows
(In thousands)
(Unaudited)

	Nine Months Ended September 30,	
	2018	**2017**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$ (114,826)	$ (156,279)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	6,388	6,524
Amortization of deferred costs	24,599	—
Amortization of premiums and discounts	(7)	263
Amortization of intangible assets	657	657
Stock-based compensation expense	82,474	79,155
Loss on early exit of lease	—	349
Effects of exchange rate changes on monetary assets and liabilities denominated in foreign currencies	(778)	1,316
Provision for losses on accounts receivable	189	102
Other	384	222
Changes in operating assets and liabilities:		
Accounts receivable	32,586	4,303
Contract assets	1,920	—
Prepaid expenses and other current assets	(793)	(3,613)
Deferred costs	(22,447)	—
Other assets	(1,758)	(2,318)
Accounts payable	7	(1,350)
Accrued expenses and other current liabilities	(1,203)	(4,261)
Accrued compensation and benefits	(5,941)	(735)
Deferred revenue	12,453	40,363
Other contract liabilities	2,795	—
Other long-term liabilities	(269)	(801)
Net cash provided by (used in) operating activities	16,430	(36,103)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchases of investments	(59,079)	(1,304)
Proceeds from maturities of investments	19,315	27,565
Purchases of property and equipment	(2,596)	(4,401)
Net cash (used in) provided by investing activities	(42,360)	21,860
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from issuance of common stock	20,310	14,985
Proceeds from exercise of warrants	4,062	—
Tax withholding shares	(4,958)	(1,172)
Payments of capital lease liability	(262)	(311)
Payment of fees for line of credit	(408)	(79)
Net cash provided by financing activities	18,744	13,423
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(1,104)	1,341
Net (decrease) increase in cash, cash equivalents and restricted cash	(8,290)	521
Cash, cash equivalents and restricted cash—Beginning of period	63,621	54,648
Cash, cash equivalents and restricted cash—End of period	$ 55,331	$ 55,169

See accompanying notes to the condensed consolidated financial statements.

HORTONWORKS, INC.

Notes to the Condensed Consolidated Financial Statements

(Unaudited)

1. DESCRIPTION OF BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Description of Business

Hortonworks, Inc. (the "Company") delivers 100 percent open-source global data management solutions so that customers can deploy modern data architectures and realize the full value of their data. The Company's enterprise-ready solutions enable organizations to govern, secure and manage data of any kind, wherever it is located, and turn it into actionable intelligence that will help them transform their businesses.

The Company's platforms allow enterprises to manage their data on a global scale, whether it is data-in-motion or data-at-rest. The Company has the expertise, experience and proven solutions to power modern data applications, including streaming analytics, data science, artificial intelligence and more.

Basis of Presentation and Consolidation

The unaudited condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles ("GAAP") in the United States ("U.S.") and applicable rules and regulations of the Securities and Exchange Commission ("SEC") regarding interim financial reporting. These financial statements have been prepared on the same basis as the Company's annual financial statements and, in the opinion of management, reflect all normal recurring adjustments, except as otherwise disclosed, that are necessary for a fair statement of the Company's results for the interim periods presented. These interim financial results are not necessarily indicative of results expected for the full fiscal year or for any subsequent interim period.

The condensed consolidated financial statements and related financial information should be read in conjunction with the audited financial statements and the related notes included in the Company's Annual Report on Form 10-K for the year ended December 31, 2017. Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. GAAP have been condensed or omitted. The condensed consolidated balance sheet as of December 31, 2017 was derived from the Company's audited financial statements for the year ended December 31, 2017, but does not include all disclosures required by U.S. GAAP as permitted by the applicable rules and regulations of the SEC regarding interim financial reporting. However, the Company believes the disclosures are adequate to make the information presented not misleading. The condensed consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. All intercompany transactions and balances have been eliminated in consolidation.

Use of Estimates

The preparation of condensed 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 condensed 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, accounting for income taxes, allowance for doubtful accounts and certain accrued liabilities. Actual results may differ from these estimates.

Recently Issued Accounting Pronouncements

In June 2018, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2018-07, *Compensation-Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting,* which expands the scope of Topic 718 to include shared-based payment transactions for acquiring goods and services from nonemployees. Under the standard, most of the guidance on such payments to nonemployees would be aligned with the requirements for share-based payments granted to employees. The ASU is effective for public companies for fiscal years beginning after December 15, 2018, with early adoption permitted. The Company is currently evaluating the effect that adoption of ASU 2018-07 will have on its condensed consolidated financial statements.

In February 2016, FASB issued ASU No. 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

HORTONWORKS, INC.

Notes to the Condensed Consolidated Financial Statements

(Unaudited)

generally straight-line basis. In July 2018, the FASB issued ASU 2018-10*, Codification Improvements to Topic 842, Leases* and ASU 2018-11, *Leases (Topic 842): Targeted Improvements*. ASU 2018-10 clarifies certain areas within ASU 2016-02.

Prior to ASU 2018-11, a modified retrospective transition was required for financing or operating leases existing at or entered into after the beginning of the earliest comparative period presented in the financial statements. ASU 2018-11 allows entities an additional transition method to the existing requirements whereby an entity could adopt the provisions of ASU 2016-02 by recognizing a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption without adjustment to the financial statements for periods prior to adoption. ASU 2018-11 also allows a practical expedient that permits lessors to not separate non-lease components from the associated lease component if certain conditions are present. An entity that elects to use the practical expedients will, in effect, continue to account for leases that commenced before the effective date in accordance with previous GAAP unless the lease is modified, except that lessees are required to recognize a right-of-use asset and a lease liability for all operating leases at each reporting date based on the present value of the remaining minimum rental payments that were tracked and disclosed under previous GAAP. ASU 2016-02, ASU 2018-10 and ASU 2018-11 (collectively, "Topic 842") will be 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 has assigned internal resources in addition to the engagement of third-party service providers, to assist in the evaluation process and to provide periodic updates to management and the Audit Committee. The Company is in the process of identifying the relevant population of potential lease arrangements and evaluating these arrangements in the context of Topic 842. The Company is also in the process of evaluating changes to its accounting policies, business processes, disclosures and controls to support recognition and disclosure. While the Company continues to evaluate the effect of adoption on its consolidated financial statements, it expects the adoption will result in the recognition of right of use assets and lease liabilities that were not previously recognized, which will increase total assets and liabilities on its consolidated balance sheets.

Recently Adopted Accounting Pronouncements

In May 2017, the FASB issued ASU No. 2017-09, *Compensation-Stock Compensation (Topic 718): Scope of Modification Accounting,* which provides guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting under Topic 718. The ASU is effective for all entities for fiscal years beginning after December 15, 2017. The Company adopted ASU 2017-09 as of January 1, 2018 and the adoption did not have an impact on its condensed consolidated financial statements as of September 30, 2018.

In November 2016, FASB issued 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. The Company adopted ASU 2016-18 as of January 1, 2018 and as a result of the adoption, the Company no longer presents the changes in restricted cash balances as a component of cash flows from investing activities, but instead includes the balances of restricted cash with cash and cash equivalents for the beginning and end of the periods presented.

In May 2014, FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*. Topic 606 supersedes the revenue recognition requirements in Accounting Standards Codification ("ASC") Topic 605, Revenue Recognition ("Topic 605"), and requires the recognition of revenue as promised goods or services are transferred to customers in an amount that reflects the consideration which the entity expects to be entitled to in exchange for those goods or services. Topic 606 also includes Subtopic 340-40, *Other Assets and Deferred Costs; Contracts with Customers*, which requires the deferral of incremental costs of obtaining a contract with a customer. Collectively, the Company refers to Topic 606 and Subtopic 340-40 as the "new standard."

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 adopted the new standard as of January 1, 2018 using the modified retrospective approach. As a result of adopting ASU 2014-09 (*Topic 606*) and its corresponding ASUs, accumulated deficit decreased by $25.1 million and as a result of adopting ASC 340-40, accumulated deficit decreased by $52.5 million as of January 1, 2018.

The most significant impact of adopting ASU 2014-09 *(Topic 606)* and its corresponding ASUs relates to the timing of revenue recognition for professional services bundled in multiple-element arrangements. In particular, because professional services revenue is recognized as the services are delivered under the new standard, such revenue is recognized in an earlier period and over a shorter timeframe, as compared to the Company's accounting policy prior to the adoption of the new standard. Also, the timing of recognition

HORTONWORKS, INC.

Notes to the Condensed Consolidated Financial Statements

(Unaudited)

changed to begin in an earlier period for some support subscriptions bundled in multiple-element arrangements compared to the Company's accounting policy prior to the adoption of the new standard for multiple-element arrangements whereby recognition generally began when both the support subscription and professional services had substantially commenced.

Prior to the adoption of ASC 340-40, incremental costs incurred to obtain a contract were expensed when incurred. Thus, the application of the new standard resulted in a significant change to the Company's accounting policy, which resulted in the Company recognizing expense in a different period, as these costs are now amortized over longer periods.

The Company elected to apply the modified retrospective method only to contracts that were not substantially complete as of January 1, 2018 and elected to consider the aggregate effect of all contract modifications as of that date. The comparative information before the effective date has not been adjusted and continues to be reported under Topic 605.

Impacts on Financial Statements

The following tables summarize the impacts of adopting Topic 606 and Subtopic 340-40 (the "new standard") on the Company's condensed consolidated financial statements for the three and nine months ended September 30, 2018. The Company's financial reporting under the new standard is included in the columns labeled "As Reported" in the tables below.

Select line items from the condensed consolidated balance sheet as of September 30, 2018 that reflect the adoption of the new standard are as follows:

	September 30, 2018		
	As Reported	Adjustments	Balances without adoption of the new standard
		(in thousands)	
ASSETS			
Contract assets	$ 530	$ (530)	$ —
Deferred costs	23,778	(23,778)	—
Deferred costs - noncurrent	26,062	(26,062)	—
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)			
Deferred revenue	163,077	29,536	192,613
Other contract liabilities	15,829	(15,829)	—
Long-term deferred revenue	86,279	11,750	98,029
Other long-term liabilities	827	(34)	793
Accumulated other comprehensive loss	(1,155)	331	(824)
Accumulated deficit	(944,894)	(76,124)	(1,021,018)

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Notes to the Condensed Consolidated Financial Statements

(Unaudited)

Select line items from the condensed consolidated statements of operations for the three and nine months ended September 30, 2018 that reflect the adoption of the new standard are as follows:

	Three Months Ended September 30, 2018		
	As Reported	Adjustments	Balances without adoption of the new standard
	(in thousands, except per share data)		
Revenues:			
Support subscription	$ 65,390	$ 861	$ 66,251
Professional services	21,784	(2,687)	19,097
Operating expenses:			
Sales and marketing	50,446	(2,049)	48,397
Net loss	(31,574)	224	(31,350)
Net loss per share of common stock, basic and diluted	(0.39)	0.01	(0.38)

	Nine Months Ended September 30, 2018		
	As Reported	Adjustments	Balances without adoption of the new standard
	(in thousands, except per share data)		
Revenues:			
Support subscription	$ 191,943	$ 5,636	$ 197,579
Professional services	60,635	(6,369)	54,266
Operating expenses:			
Sales and marketing	153,889	(2,240)	151,649
Net loss	(114,826)	1,508	(113,318)
Net loss per share of common stock, basic and diluted	(1.45)	0.02	(1.43)

Select line items from the condensed consolidated statement of cash flows for the nine months ended September 30, 2018 that reflect the adoption of the new standard are as follows:

	Nine Months Ended September 30, 2018		
	As Reported	Adjustments	Balances without adoption of the new standard
		(in thousands)	
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net loss	$ (114,826)	$ 1,508	$ (113,318)
Adjustments to reconcile net loss to net cash provided by operating activities:			
Amortization of deferred costs	24,599	(24,599)	—
Changes in operating assets and liabilities:			
Contract assets	1,920	(1,920)	—
Deferred costs	(22,447)	22,447	—
Deferred revenue	12,453	5,359	17,812
Other contract liabilities	2,795	(2,795)	—
Net cash provided by operating activities	16,430	—	16,430

See Note 7—"Revenue from Contracts with Customers" in the notes to the Company's condensed consolidated financial statements for additional information on the new standard.

With the exception of the new standards discussed above, there have been no other recent accounting pronouncements or changes in accounting pronouncements during the nine months ended September 30, 2018 that are of significance or potential significance to the

Company, as compared to the recent accounting pronouncements described in Note 2 of the Company's Annual Report on Form 10-K for the year ended December 31, 2017.

Changes in Accounting Policies

Revenue Recognition

Apache Hadoop, Apache NiFi and associated open source technology projects within the Apache Software Foundation are made freely available within the open source community. While these technologies have emerged to enable the modern data center architecture, they are complex to deploy and consume as individual components inhibiting broad adoption by enterprises. The Company's efforts are thus focused on creating a software distribution of these projects by assembling, testing and integrating key component software projects into an open platform that address the needs of enterprises. By working in concert with the Apache community to develop Connected Data Platforms, Hortonworks Data Platform ("HDP"®), Hortonworks DataFlow ("HDF"™) and other offerings, the Company's software distribution provides customers with a scalable, secure and governed environment for their data requirements.

Connected Data Platforms are made available under an Apache open source license. Open source software is an alternative to proprietary developed software and represents a different distribution 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 education services (professional services) arrangements with its enterprise customers. The Company's professional services provide assistance in the implementation process and education 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 education services are generally priced based on attendance.

The Company determines revenue recognition through the following steps, which are described in more detail below:

- Identification of the contract or contracts with a customer
- Identification of the performance obligation(s) in the contract
- Determination of the transaction price
- Allocation of the transaction price to the performance obligation(s) in the contract
- Recognition of revenue when, or as, a performance obligation is satisfied

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 combined for the purposes of revenue recognition.

At contract inception, the Company assesses the support and services product offerings or bundle of product offerings in its contracts to identify performance obligations that are distinct. A performance obligation is distinct when it is separately identifiable from other items in a bundled package and if a customer can benefit from it on its own or with other resources that are readily available to the customer. To identify its performance obligations, the Company considers all of the product offerings promised in the contract. The Company has concluded that its contracts with customers do not contain warranties that give rise to a separate performance obligation.

The Company works with partners in various capacities to both identify end-users for their product offerings and to provide those product offerings to end-users. The Company determines whether it is responsible for providing the actual product or service as a principal, or for arranging for the product or service to be provided by the third-party as an agent. Judgment is applied to determine whether the Company is the principal or the agent by evaluating whether the Company has control of the product or service prior to it being transferred to the customer. The principal versus agent assessment is performed at the performance obligation level. Indicators that the Company considers to support that it has control include whether the Company is primarily responsible for fulfilling the promise to provide the specified product or service to the customer and the Company has discretion in establishing the price the customer ultimately pays for the product or service. Depending upon the level of the Company's contractual responsibilities and obligations for delivering solutions to end customers, the Company has arrangements where the Company is the principal and recognizes the gross amount invoiced to the customer and other arrangements where the Company is an agent and recognizes the net amount retained.

The transaction price is the total amount of consideration the Company expects to be entitled to in exchange for the product offerings in a contract. Sales, value-add and other taxes the Company collects from customers concurrent with revenue-producing activities are excluded from revenue. Some of the Company's contracts with customers contain variable consideration. Variable consideration exists when the amount which the Company expects to receive in a contract is based on the occurrence or non-occurrence of future events, such as professional services invoiced upon substantive acceptance of milestones. The Company estimates variable consideration in its contracts primarily using the expected value method. In some contracts, the Company applies the most likely amount method by considering the single most likely amount in a limited range of possible consideration amounts. The Company develops estimates of variable consideration on the basis of both historical information and current trends. Variable consideration is constrained and not included in the transaction price when the Company believes a significant cumulative revenue reversal is probable. In determining if a significant revenue reversal is probable, the Company considers the amount of revenue recognized in advance of the occurrence or non-occurrence of future events that causes invoicing to be contingent, the expected timing of the occurrence or non-occurrence of future events and the likelihood of a reversal. For example, in a professional services contract when a portion of the fee is subject to a substantive acceptance provision, the Company evaluates historical acceptance rates for similar contracts, customer specific level of risk, and the time between delivery and acceptance when estimating and constraining variable consideration.

Once the Company has determined the transaction price, the total transaction price is allocated to each performance obligation in a manner depicting the amount of consideration to which the Company expects to be entitled in exchange for transferring the product(s) or service(s) to the customer (the "allocation objective"). If the allocation objective is met at contractual prices, no allocations are performed. Otherwise, the Company allocates the transaction price to each performance obligation identified in the contract on a relative stand-alone selling price basis, except when the criteria are met for allocating variable consideration or a discount to one or more, but not all, performance obligations in the contract. The Company allocates variable consideration to one or more, but not all performance obligations when the terms of the variable payment relate specifically to the Company's efforts to satisfy the performance obligation (or transfer the distinct product or service) and when such allocation is consistent with the allocation objective when considering all performance obligations in the contract (*e.g.,* a time and materials based professional services arrangement bundled with support subscription). Determining whether the criteria for allocating variable consideration to one or more, but not all, performance obligations in the contract requires significant judgment and may affect the timing and amount of revenue recognized. The Company does not typically meet the requirements to allocate discounts to one or more, but not all, performance obligations in a contract.

In order to determine the stand-alone selling price, the Company conducts a periodic analysis to determine if there is an observable stand-alone selling price. To have observable pricing, the Company requires that a substantial majority of the stand-alone selling prices for a product offering fall within a pricing range. If a directly observable stand-alone selling price does not exist, the Company estimates a stand-alone selling price range by reviewing external and internal market factors including, but not limited to, pricing practices including historical discounting, major service groups and geographic considerations. There is also no hierarchy for how to estimate or otherwise determine the stand-alone selling price for product offerings that are not sold separately, however, the Company maximizes the use of observable data.

Selling prices are periodically analyzed to identify significant changes and if so, stand-alone selling prices are updated accordingly. The Company's process for determining stand-alone selling price requires judgment and considers multiple factors that are reasonably available and maximizes the use of observable inputs that may vary over time depending upon the unique facts and circumstances related to each performance obligation. The Company believes that this method results in an estimate that represents the price the Company would charge for the product offerings if they were sold separately.

With stand-alone selling price established as a range, if the contractually stated prices of the underlying performance obligation fall within the stand-alone selling price range, the Company will use the contractually stated price to allocate the transaction price. If the contractually stated price for one or more performance obligations in a contract fall outside of the stand-alone selling price range, the Company will use the mid-point of the stand-alone selling price range to allocate the transaction price on a relative stand-alone selling price basis.

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Revenues are recognized when the Company satisfies the performance obligations under the terms of a contract when control over the Company's product offerings is transferred, which generally occurs as support subscription and professional services are delivered to the customer. Previously, under the guidance in effect prior to the adoption of the new standard, revenue was recognized when all of the following criteria were met: (i) persuasive evidence of an arrangement exists, (ii) services have been delivered, (iii) the arrangement fee is fixed or determinable and (iv) collectability is probable. The Company's multiple element arrangements generally include support subscription combined with professional services. The Company had not established vendor specific objective evidence of fair value ("VSOE") for its support subscriptions and professional services offerings, and the Company recognized revenue on a ratable basis over the period beginning when both the support subscription and professional services had substantially commenced, and ended 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.

The following describes the nature of the Company's primary types of revenue and the revenue recognition policies and significant payment terms as they pertain to the types of transactions the Company enters into with its customers.

Support Subscription Revenue

As part of a support subscription, the Company stands ready to help customers resolve technical issues related to the installed platform. The support subscriptions are designed to assist throughout a customer's lifecycle from development to proof-of-concept, to quality assurance and testing, to production and development. Support subscription is generally offered under renewable, fixed fee contracts where payments are typically due annually in advance and may have a term of one year or multiple years. The contracts generally do not contain refund provisions for fees earned related to support services performed. A support subscription is viewed as a stand-ready performance obligation comprised of a series of distinct days of service that is satisfied ratably over time as the services are provided. A time-elapsed output method is used to measure progress because the Company's efforts are expended evenly throughout the period given the nature of the promise is a stand-ready service. Unearned support subscription revenue is included in deferred revenue and other contract liabilities. 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.

Professional Services Revenue

Professional services revenue is derived primarily from customer fees for consulting services engagements and education 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 education services are generally priced based on attendance. Time and material contracts are generally invoiced based upon hours incurred on a monthly basis and fixed fee contracts may be invoiced up-front or as milestones are achieved throughout the project. Professional services revenue is typically recognized over time as the services are rendered. Depending on the nature of the consulting services engagement (*e.g*., time and materials basis, fixed fee basis, etc.), various measures of progress may be used to recognize revenue. These measures of progress include recognizing revenue in an amount equal to and at the time of invoicing, a measure of time incurred relative to remaining hours expected to be delivered, or other similar measures. These measures depict the Company's efforts to satisfy professional services contracts and therefore reflect the transfer of control for the services to a customer.

Contract Costs

Contract costs, consisting primarily of sales commissions and payroll taxes, that are incremental to obtaining a contract with a customer are capitalized and recorded as deferred costs. The Company expects to recover deferred contract costs over the period of benefit from the underlying contracts. The amortization period for recovery is consistent with the timing of transfer to the customer of services to which the capitalized costs relate. Contract costs that relate to an underlying transaction are expensed commensurate with recognition of revenue as performance obligations are satisfied. Contract costs that are incurred in excess of those relating to an underlying transaction are not considered commensurate with recognition of revenue as performance obligations are satisfied, and are amortized on a straight-line basis over the anticipated average customer life of five years. Under the guidance in effect prior to the adoption of the new standard, the Company previously expensed these costs as incurred. Contract costs were $49.8 million as of September 30, 2018. For the three and nine months ended September 30, 2018, amortization expense for the contract costs were $9.2 million and $24.6 million, respectively, and there was no impairment loss in relation to the costs capitalized. The Company does not incur direct fulfillment-related costs of a nature required to be capitalized and amortized.

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Deferred Revenue and Contingent Revenue

Deferred revenue consists of amounts invoiced to customers but not yet recognized as revenue. The Company records revenue and a corresponding contract asset when consideration allocated to a transferred product offering is more than the amount billable to customers in the current period. Under the guidance in effect prior to the adoption of the new standard, the Company previously limited the amount of revenue recognized for delivered elements to the amount that was not contingent on the future delivery of product offerings, or subject to the Company's future performance obligations.

Contract Assets

Contract assets consist of the right to consideration in exchange for product offerings that the Company has transferred to a customer when that right is conditional and is not only subject to the passage of time (*e.g.*, performance prior to invoicing on fixed fee professional service arrangements with substantive acceptance). When the Company has unconditional rights to consideration, except for the passage of time, a receivable will be recorded on the condensed consolidated balance sheets. The Company does not typically include extended payment terms in its contracts with customers.

Contract Liabilities

Contract liabilities represent an obligation to transfer product offerings for which the Company has received consideration, or for which an amount of consideration is due from the customer (*e.g.*, support subscription arrangements where consideration is paid annually in advance). Contract liabilities are comprised of short-term and long-term deferred revenue and other contract liabilities. The Company's contract balances will be reported in a net contract asset or liability position on a contract-by-contract basis at the end of each reporting period.

Other than the changes to the above policies, there have been no other material changes to the Company's significant accounting policies described in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017 that have had a material impact on the Company's condensed consolidated financial statements and related notes.

2. FAIR VALUE MEASUREMENTS

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

	September 30, 2018			
	Gross Amortized Costs	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
U.S. Treasury securities	$ 4,155	$ 8	$ (4)	$ 4,159
Certificates of deposit	6,500	—	—	6,500
Commercial paper	12,100	—	(4)	12,096
Corporate notes and bonds	27,037	6	(30)	27,013
Total investments in available-for-sale securities	$ 49,792	$ 14	$ (38)	$ 49,768

	December 31, 2017			
	Gross Amortized Costs	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
U.S. Treasury bills	$ 8,612	$ 4	$ —	$ 8,616
Certificates of deposit	750	—	—	750
Commercial paper	3,498	—	(1)	3,497
Corporate notes and bonds	5,806	—	(1)	5,805
Total investments in available-for-sale securities	$ 18,666	$ 4	$ (2)	$ 18,668

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

	September 30, 2018		December 31, 2017	
	Gross Amortized Cost	Estimated Fair Value	Gross Amortized Cost	Estimated Fair Value
Due within one year	$ 46,242	$ 46,227	$ 18,666	$ 18,668
Due after one year through five years	3,550	3,541	—	—
Total investments in available-for-sale securities	$ 49,792	$ 49,768	$ 18,666	$ 18,668

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

	September 30, 2018		
	Level 1	Level 2	Total
Cash equivalents:			
Money market funds	$ 10,268	$ —	$ 10,268
Certificates of deposit	—	250	250
Short-term investments:			
U.S. Treasury securities	3,585	—	3,585
Certificates of deposit	—	6,250	6,250
Commercial paper	—	12,096	12,096
Corporate notes and bonds	—	24,046	24,046
Long-term investments:			
U.S. Treasury securities	574	—	574
Certificates of deposit	—	—	—
Corporate notes and bonds	—	2,967	2,967
Total financial assets	$ 14,427	$ 45,609	$ 60,036

	December 31, 2017		
	Level 1	Level 2	Total
Cash equivalents:			
Money market funds	$ 25,947	$ —	$ 25,947
U.S. Treasury bills	3,599	—	3,599
Commercial paper	—	3,497	3,497
Corporate notes and bonds	—	1,799	1,799
Short-term investments:			
U.S. Treasury bills	5,017	—	5,017
Certificates of deposit	—	750	750
Corporate notes and bonds	—	4,006	4,006
Total financial assets	$ 34,563	$ 10,052	$ 44,615

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 securities. 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 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 and other current assets, accounts payable, accrued compensation and benefits and accrued expenses and other current liabilities approximate fair value. In certain cases, where there is limited activity or less transparency around inputs to valuation, securities would be classified as Level 3 within the valuation hierarchy.

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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 nine months ended September 30, 2018 and the year ended December 31, 2017, the Company did not make any transfers between Level 1 or Level 2 investments. As of September 30, 2018 and December 31, 2017, the Company did not have any Level 3 financial assets or liabilities.

Gross unrealized gains and losses were not material as of September 30, 2018 and December 31, 2017. Realized gains and losses were not material for both the three and nine months ended September 30, 2018 and 2017. As of September 30, 2018 and December 31, 2017, there were no securities that were in an unrealized loss position for more than 12 months.

3. INTANGIBLE ASSETS, NET

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

	September 30, 2018		
	Gross Carrying Amount	Accumulated Amortization	Net
Developed technology	$ 4,395	$ (2,810)	$ 1,585
Intangible assets, net	$ 4,395	$ (2,810)	$ 1,585

	December 31, 2017		
	Gross Carrying Amount	Accumulated Amortization	Net
Developed technology	$ 4,395	$ (2,153)	$ 2,242
Intangible assets, net	$ 4,395	$ (2,153)	$ 2,242

The amortizable intangible assets have a useful life of five years. For both the three months ended September 30, 2018 and 2017, the Company recognized amortization expense for intangible assets of $0.2 million and for both the nine months ended September 30, 2018 and 2017, the Company recognized amortization expense for intangible assets of $0.7 million in operating expenses. Based on the net carrying amount of intangibles subject to amortization, the estimated amortization expense for the remaining three months of 2018 and each of the succeeding 12-month periods ending December 31, 2019 and 2020 is $0.2 million, $0.9 million and $0.5 million, respectively.

4. COMMITMENTS AND CONTINGENCIES

Operating Leases

The Company has many operating lease agreements primarily involving office space facilities. These leases are non-cancelable with original lease periods up to 15 years, which expire between 2018 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 subtenants under non-cancelable operating leases.

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As of September 30, 2018, future minimum lease commitments under non-cancelable leases are as follows (in thousands):

	Leases
Three months ending December 31, 2018	$ 1,170
Years ending December 31, 2019	5,857
2020	5,873
2021	5,382
2022	4,762
Thereafter	17,889
Gross lease payments	40,933
Less: Non-cancelable subtenant receipts	(391)
Net lease payments	$ 40,542

Rent expense incurred under operating leases was $2.3 million and $2.5 million for the three months ended September 30, 2018 and 2017, respectively, and $6.7 million and $7.3 million for the nine months ended September 30, 2018 and 2017, 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.

On April 13, 2017, a derivative action was filed in the Court of Chancery of the State of Delaware, captioned *Steinberg v. Bearden, et al.*, Case No. 2017-0286-AGB, purportedly filed by a Hortonworks shareholder on behalf of the Company against certain of the Company's directors and executive officers. The derivative complaint alleges that the defendants breached their fiduciary duties to the Company and allegedly made false or misleading statements regarding the Company's business and operations. The derivative action includes claims for, among other things, unspecified damages in favor of the Company, corporate actions to purportedly improve the Company's corporate governance, and an award of costs and expenses to the derivative plaintiffs, including attorneys' fees. On May 30, 2018, the court granted defendants' motion to dismiss with prejudice.

5. DEBT

Amended and Restated Revolving Credit Agreement

On November 2, 2016, the Company entered into a $30.0 million senior secured revolving credit facility (the "Original Credit Agreement") with Silicon Valley Bank (the "Bank"), and on November 1, 2017, the Company amended its Original Credit Agreement to increase its borrowing capacity to $50.0 million, documented as an amendment and restatement of its two-year senior secured revolving credit facility (as amended and restated, the "Amended and Restated Credit Agreement"). Amounts outstanding under the Amended and Restated Credit Agreement are payable on or before November 1, 2020 and will accrue interest per annum at a rate equal to the London Interbank Offered Rate plus 3.50 percent. Pursuant to the terms of the Amended and Restated 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 0.45 percent per annum on the unused commitments. In addition, the Company is required to maintain a balance of at least $15.0 million on account with the Bank. The Amended and Restated Credit Facility currently has no subsidiary guarantors.

The Amended and Restated Credit Agreement contains customary negative covenants and certain financial covenants that require the Company to maintain a minimum trailing 12-month non-GAAP operating profit and a minimum adjusted quick ratio.

As of September 30, 2018, the Company had no borrowings outstanding under the Amended and Restated Credit Agreement and was in compliance with all financial covenants.

6. STOCKHOLDERS' EQUITY (DEFICIT)

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.

2011 Stock Option and Grant Plan

In December 2014, in connection with the closing of the Company's IPO, the Hortonworks, Inc. 2011 Stock Option and Grant Plan, as amended (the "2011 Plan"), was terminated as to future grants 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 September 30, 2018, options to purchase 2,907,071 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 shares that had been available for issuance but not covered by outstanding awards under the 2011 Plan rolled into the 2014 Plan following the consummation of the IPO. The 2014 Plan allows the plan administrator to make equity-based incentive awards to the Company's full or part-time officers, employees, non-employee directors and consultants. An amendment and restatement of the 2014 Plan (the "Amended 2014 Plan") to increase the number of shares reserved for issuance, among other things, was approved by the Board of Directors in April 2016 and by the Company's stockholders in May 2016.

The Company initially reserved 6,000,000 shares of the Company's common stock for the issuance of awards under the 2014 Plan. This was in addition to the 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 and that rolled into the 2014 Plan. The 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 plan administrator. This number is subject to adjustment in the event of a stock split, stock dividend or other change in the Company's capitalization. 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.

In April, June and July 2015, under the 2014 Plan, the Company granted an aggregate of 421,484 performance-based restricted stock units ("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 earnings before interest, taxes, depreciation and amortization growth and revenue growth relative to the linear ranking of a pre-selected group of the Company's peers.

In September 2017, under the Amended 2014 Plan, the Company granted 714,711 market-based PSUs to the Company's Chief Executive Officer that vest upon (a) the achievement of a specific market-based performance goal related to the price of the Company's common stock over forty consecutive trading days during a performance cycle of four years, with such performance cycle commencing on September 10, 2017 and (b) the Chief Executive Officer remaining employed through achievement of the performance goal. If the Company achieves the performance goal within the performance cycle, and the Chief Executive Officer remains employed through such achievement, 100 percent of the PSUs will vest upon achievement of the market-based performance goal.

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As of September 30, 2018, options to purchase shares of stock, restricted stock units ("RSUs") and PSUs covering an aggregate of 9,731,054 shares of common stock were outstanding under the Amended 2014 Plan.

On January 1, 2018, the shares reserved for issuance under the Amended 2014 Plan was increased by 3,637,815 shares. As of September 30, 2018, there were 26,293,667 shares reserved for issuance under the Amended 2014 Plan, of which 555,813 shares remained available for issuance.

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, 2018, the shares reserved for issuance under the ESPP was increased by 727,563 shares. As of September 30, 2018, there were 4,734,330 shares reserved for issuance under the ESPP, of which 1,909,668 remained available for purchase.

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.

As of September 30, 2018, there was $3.1 million of unrecognized stock-based compensation expense related to the ESPP, which is expected to be recognized over a weighted-average period of 0.60 years.

Stock Options

A summary of information related to stock options for the nine months ended September 30, 2018 is presented below:

	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, 2017	4,490,445	$ 11.08	6.14	$ 41,525
Granted	—	—		
Exercised	(1,043,938)	9.20		
Canceled/forfeited	(121,151)	19.15		
Outstanding—September 30, 2018	3,325,356	11.37	5.49	$ 38,198
Exercisable—September 30, 2018	3,280,006	$ 11.22	5.47	$ 38,131

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 three and nine months ended September 30, 2018 was $5.4 million and $11.9 million, respectively. The aggregate intrinsic value of options exercised for the three and nine months ended September 30, 2017 was $7.4 million and $12.8 million, respectively.

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As of September 30, 2018, there was $0.4 million of unrecognized stock-based compensation expense related to unvested stock options which is expected to be recognized over a weighted-average period of 0.46 years.

Restricted Stock

A summary of information related to restricted stock for the nine months ended September 30, 2018 is presented below:

	Number of Shares Issued Outside the Stock Plans	Weighted-Average Grant Date Fair Value Per Share (*)
Unvested balance—December 31, 2017	137,919	$ 23.76
Granted	—	—
Vested	(137,919)	23.76
Canceled/forfeited	—	—
Unvested balance—September 30, 2018	—	$ —

(*) 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, Inc. The remaining 137,919 shares were vested as of September 30, 2018.

No restricted stock was granted during the three or nine months ended September 30, 2018. The fair value of the restricted stock vested during both the three and nine months ended September 30, 2018 was $3.1 million and the fair value of the restricted stock vested during the three and nine months ended September 30, 2017 was $2.3 million.

As of September 30, 2018, there was no unrecognized stock-based compensation expense related to restricted stock.

Restricted Stock Units

A summary of information related to RSUs for the nine months ended September 30, 2018 is presented below:

	Number of Shares Issued Under Stock Plans	Weighted-Average Grant Date Fair Value Per Share
Unvested balance—December 31, 2017	9,579,841	$ 13.10
Granted	5,037,789	19.75
Vested	(4,932,258)	13.65
Canceled/forfeited	(1,087,314)	13.83
Unvested balance—September 30, 2018	8,598,058	$ 16.59

The fair value of the RSUs that vested during the three and nine months ended September 30, 2018 was $31.8 million and $93.8 million, respectively. The fair value of the RSUs that vested during the three and nine months ended September 30, 2017 was $24.1 million and $68.0 million, respectively.

As of September 30, 2018, there was $122.9 million of unrecognized stock-based compensation expense related to RSUs to be recognized over a weighted-average period of 1.52 years.

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Performance-Based Restricted Stock Units

A summary of information related to PSUs for the nine months ended September 30, 2018 is presented below:

	Number of Shares Issued Under Stock Plans	Weighted-Average Grant Date Fair Value Per Share
Unvested balance—December 31, 2017	839,857	$ 14.58
Granted	—	—
Vested	(84,818)	19.19
Canceled/forfeited	(40,328)	21.57
Unvested balance—September 30, 2018	714,711	$ 13.39

The fair value of the PSUs that vested during the three and nine months ended September 30, 2018 was $0.4 million and $1.7 million, respectively. The fair value of PSUs vested during the three and for the nine months ended September 30, 2017 was $0.6 million and $1.9 million, respectively.

As of September 30, 2018, there was no unrecognized stock-based compensation expense related to PSUs.

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 are shares that have not vested and are deemed to be restricted stock; they are subject to a vesting schedule identical to the vesting schedule of the related options, as well as certain other restrictions. 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 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 condensed 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.

All shares of restricted stock and early exercised options have vested and there were no repurchase liabilities as of September 30, 2018. 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, 2017 was 10,500, which had repurchase prices ranging from $8.46 to $14.22 per share. The liability for shares subject to repurchase as of December 31, 2017 was immaterial.

Stock-Based Compensation Expense

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018	2017	2018	2017
Cost of revenue	$ 2,500	$ 2,090	$ 7,476	$ 5,489
Sales and marketing	7,736	10,011	22,735	26,606
Research and development	6,042	9,463	23,331	30,401
General and administrative	8,466	6,969	28,932	16,659
Total stock-based compensation expense	$ 24,744	$ 28,533	$ 82,474	$ 79,155

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. In 2017, Verizon Communications, Inc. ("Verizon") acquired the operating assets of Yahoo!. Yahoo! was subsequently renamed Altaba Inc. ("Altaba"), and the July 2011 warrant remained an asset of Altaba.

In June 2014, the Company issued to Yahoo! 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 were 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. As described above, in 2017, Verizon acquired the operating assets of Yahoo!, and Yahoo! was subsequently renamed Altaba. The June 2014 warrant remained an asset of Altaba.

The warrants vested upon consummation of the Company's IPO in December 2014 and would have expired nine years from the date of issuance. On January 31, 2018, Altaba (formerly, Yahoo!) net exercised the warrants issued in July 2011 and June 2014 for a total of 3,522,730 shares of the Company's common stock.

7. REVENUE FROM CONTRACTS WITH CUSTOMERS

The following table reflects the Company's contract assets and contract liabilities (in thousands):

	September 30, 2018	January 1, 2018
Accounts receivable, net	$ 78,374	$ 112,073
Contract assets	$ 530	$ 2,457
Short-term deferred revenue	$ 163,077	$ 162,299
Other contract liabilities	15,829	13,071
Long-term deferred revenue	86,279	77,138
Total contract liabilities	$ 265,185	$ 252,508

Impairment losses recognized on the Company's accounts receivable were nil and $0.2 million for three and nine months ended September 30, 2018, respectively. No impairment loss was recognized on the Company's contract assets during the three and nine months ended September 30, 2018.

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Significant changes in the contract assets and the contract liabilities balances during the period are as follows (in thousands):

	Contract Assets	Contract Liabilities
January 1, 2018	$ 2,457	$ 252,508
Amount transferred to receivables from contract assets	(2,457)	—
Contract asset additions	2,302	—
Performance obligations satisfied during the period that were included in the contract liability balance at the beginning of the period	—	(58,907)
Increases due to invoicing prior to satisfaction of performance obligations	—	55,933
March 31, 2018	2,302	249,534
Amount transferred to receivables from contract assets	(2,263)	—
Contract asset additions	265	—
Performance obligations satisfied during the period that were included in the contract liability balance at the beginning of the period	—	(62,691)
Increases due to invoicing prior to satisfaction of performance obligations	—	72,279
June 30, 2018	$ 304	$ 259,122
Amount transferred to receivables from contract assets	(263)	—
Contract asset additions	489	—
Performance obligations satisfied during the period that were included in the contract liability balance at the beginning of the period	—	(61,639)
Increases due to invoicing prior to satisfaction of performance obligations	—	67,702
September 30, 2018	$ 530	$ 265,185

Performance Obligations

During the three months ended September 30, 2018, there was no net revenue recognized from the Company’s performance obligations that was satisfied in previous periods. During the nine months ended September 30, 2018, net revenue recognized from the Company’s performance obligations satisfied in previous periods was immaterial and was primarily related to contract modifications.

As of September 30, 2018, approximately $350.5 million of revenue is expected to be recognized from remaining performance obligations in the amount of approximately $234.4 million over the next 12 months and approximately $116.1 million thereafter.

Practical Expedients

The Company elected to apply a practical expedient related to significant financing components. The practical expedient states that the promised amount of consideration for the effects of a significant financing component is not adjusted if the Company expects, at contract inception, that the period between when the Company transfers a promised product offering to a customer and when the customer pays for that product offering will be one year or less.

8. NET LOSS PER SHARE OF COMMON STOCK

Basic net loss per share of common stock is calculated by dividing net loss by the weighted-average number of shares of common stock 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 shares of common stock. As the Company had net losses for the three and nine months ended September 30, 2018 and 2017, all potential shares of common stock were determined to be anti-dilutive.

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

	Three Months Ended September 30, 2018	Three Months Ended September 30, 2017	Nine Months Ended September 30, 2018	Nine Months Ended September 30, 2017
Net loss	$ (31,574)	$ (45,368)	$ (114,826)	$ (156,279)
Weighted-average shares used in computing net loss per share of common stock	81,797,566	67,920,575	79,166,112	64,747,020
Net loss per share, basic and diluted	$ (0.39)	$ (0.67)	$ (1.45)	$ (2.41)

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 since including them would have been anti-dilutive:

	Nine Months Ended September 30, 2018	Nine Months Ended September 30, 2017
Outstanding stock options	3,325,356	5,345,379
Unvested restricted stock	—	137,919
Unvested RSUs	8,598,058	11,790,527
Unvested PSUs	714,711	858,699
Estimated ESPP shares to be issued	52,035	68,212
Common stock subject to repurchase	—	15,553
Common stock warrants	—	3,250,000
Exercise and conversion of common stock warrants	—	476,368
Total	12,690,160	21,942,657

9. INCOME TAXES

The effective tax rate for the three months ended September 30, 2018 was (1.6) percent compared to (0.9) percent for the same period of 2017. The effective tax rate for the nine months ended September 30, 2018 was (1.3) percent compared to (0.7) percent for the same period of 2017. The income tax expense for the three and nine months ended September 30, 2018 and 2017 was determined based upon estimates of the Company's effective income tax rates in various jurisdictions. The difference between the consolidated effective income tax rate and the U.S. federal statutory rate is primarily attributable to state income taxes, foreign income taxes, the effect of certain permanent differences and full valuation allowance against net deferred tax assets.

On December 22, 2017, the Tax Cuts and Jobs Act (the "Act") was signed into law. The SEC issued Staff Accounting Bulletin No. 118 ("SAB 118") on December 23, 2017 regarding application of the Act which was also codified by the FASB upon the issuance on ASU No. 2018-05, *Income Taxes (Topic 740): Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118 (SEC Update)* in March 2018. The Act provides a "measurement period," lasting through December 22, 2018, to allow registrants time to obtain, prepare and analyze information to complete the accounting required under ASC 740, *Income Taxes*. While the Company was able to make reasonable estimates under SAB 118 for the impact of the reduction in the corporate tax rate and the deemed repatriation transition tax, the Company has not completed its analysis of other changes to the Act. The final impacts of the Act may differ, possibly materially, due to, among other things, changes in interpretations of the Act, any legislative action to address questions that arise because of the Act, any changes in accounting standards for income taxes or related interpretations in response to the Act or any updates or changes to estimates the Company has utilized under SAB 118. The Company will continue to analyze the impact of the Act as additional information and guidance is provided and complete its analysis within the measurement period, which the Company anticipates will end in December 2018, in accordance with SAB 118.

On July 24, 2018, the U.S. Court of Appeals for the Ninth Circuit ("Ninth Circuit Court of Appeals") overturned the U.S. Tax Court's unanimous 2015 decision in *Altera v. Commissioner*, holding that the Internal Revenue Service ("IRS") did not violate the rulemaking procedures required by the Administrative Procedures Act. In *Altera v. Commissioner*, the taxpayer challenged IRS regulations that required participants in qualified cost sharing arrangements to share stock-based compensation costs. The U.S. Tax Court had invalidated those regulations, in part because the Treasury Department ("Treasury") failed to adequately consider significant taxpayer

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comments when adopting them. The Ninth Circuit Court of Appeals decision reverses the U.S. Tax Court's decision on this issue, holding that the Treasury's rule was not arbitrary and capricious because Treasury provided a sufficient basis for its decision making. On August 7, 2018, the July 24, 2018 decision was withdrawn. On October 16, 2018, a rehearing was held, however, no decision has been made by the court. As of September 30, 2018, there has been no further updates to this case or the Company's position.

10. SEGMENT AND GEOGRAPHICAL INFORMATION

Disaggregation of Revenue

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 the Company operates in one reportable segment.

The following table disaggregates the Company's revenue by customer domicile (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2018(*)	2017	2018(*)	2017
United States	$ 58,348	$ 48,830	$ 170,924	$ 135,049
Rest of world	28,826	20,171	81,654	51,755
Total revenue	$ 87,174	$ 69,001	$ 252,578	$ 186,804

(*) As noted in Note 1—"Description of Business and Summary of Significant Accounting Policies," the Company adopted the new standard as of January 1, 2018 using the modified retrospective approach. As a result of adopting ASU 2014-09 *(Topic 606)* and its corresponding ASUs, accumulated deficit decreased by $25.1 million as of January 1, 2018. Accordingly, the revenues reported for the three and nine months ended September 30, 2018 reflect the new standard, while the revenues reported for the three and nine months ended September 30, 2017 do not. The impact of the new standard on total revenues was $1.8 million and $0.7 million for the three and nine months ended September 30, 2018, respectively.

Tangible Long-Lived Assets

The following table summarizes the Company's tangible long-lived assets by country (in thousands):

	September 30, 2018	December 31, 2017
United States	$ 6,746	$ 10,671
Ireland	1,977	2,120
India	2,175	2,578
Rest of world	1,471	1,014
Total property and equipment, net	$ 12,369	$ 16,383

11. SUBSEQUENT EVENT

On October 3, 2018, the Company announced that it entered into an Agreement and Plan of Merger and Reorganization by and among the Company, Cloudera, Inc. ("Cloudera") and Surf Merger Corporation, a wholly-owned subsidiary of Cloudera ("Merger Agreement") for a proposed "merger of equals" transaction, pursuant to which and subject to the conditions in the Merger Agreement, the Surf Merger Corporation will merge with and into the Company (the "Merger"), with the Company surviving the Merger as a wholly-owned subsidiary of Cloudera. Subject to the terms and conditions set forth in the Merger Agreement, at the effective time of the Merger (the "Effective Time"), each share of common stock, par value $0.0001 per share, of the Company ("Hortonworks Common Stock") issued and outstanding immediately prior to the Effective Time (other than the shares that are owned by Hortonworks,

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Cloudera or Surf Merger Corporation) will be converted into the right to receive 1.305 (the "Exchange Ratio") newly issued shares of common stock (the "Cloudera Common Stock"), par value $0.00005 per share, of Cloudera (the "Hortonworks Common Stock Merger Consideration"). No fractional shares of Cloudera Common Stock will be issued in the Merger, and Hortonworks stockholders will receive cash in lieu of fractional shares as part of the Hortonworks Common Stock Merger Consideration, as specified in the Merger Agreement. Shares of Cloudera Common Stock will be listed on the New York Stock Exchange ("NYSE"). The Exchange Ratio is expected to result in Hortonworks common stockholders owning approximately 40 percent of the outstanding shares of Cloudera Common Stock (calculated on a fully diluted basis) immediately following the Effective Time.

The consummation of the Merger is subject to customary closing conditions, including (i) the absence of any adverse law or order promulgated, entered, enforced, enacted or issued by any governmental entity that prohibits, restrains or makes illegal the consummation of the Merger, (ii) the SEC having declared effective the Form S-4 Registration Statement of Cloudera which will contain the joint proxy statement/prospectus of the parties in connection with the Merger, (iii) the adoption of the Merger Agreement by the affirmative vote of the holders of a majority of the outstanding shares of Hortonworks Common Stock entitled to vote thereon, (iv) the approval of the issuance of shares of Cloudera Common Stock pursuant to the Merger Agreement by the affirmative vote of a majority of votes present or represented by proxy at Cloudera's stockholder meeting in connection with the Merger, (v) the expiration or termination of the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, (vi) the authorization for listing on the NYSE, subject to official notice of issuance, of the shares of Cloudera Common Stock to be issued in the Merger and the shares of Cloudera Common Stock to be issued upon the exercise or settlement, as applicable, of the options and restricted stock units assumed by Cloudera pursuant to the Merger Agreement, (vii) the receipt of certain opinions from legal counsel regarding the intended tax treatment of the Merger, (viii) subject to certain materiality exceptions, the accuracy of certain representations and warranties of each of Cloudera and Hortonworks contained in the Merger Agreement and the compliance by each party with the covenants contained in the Merger Agreement, and (ix) the absence of a material adverse effect with respect to each of Cloudera and Hortonworks. The parties expect the Merger will be completed in the first quarter of calendar year 2019.

Simultaneously with the execution and delivery of the Merger Agreement, each of the officers and directors of Cloudera, in their respective capacities as stockholders of Cloudera (together with certain of their respective affiliates), have entered into support agreements with Hortonworks (the "Cloudera Support Agreements"), pursuant to which such individuals have agreed, among other things, to vote their respective shares of Cloudera Common Stock in favor of the approval of the issuance of shares of Cloudera Common Stock pursuant to the Merger Agreement, against any alternative proposal and against any action or agreement that would reasonably be expected to impede, interfere with, postpone, prevent or delay the consummation of, the transactions contemplated by the Merger Agreement. The persons signed the Cloudera Support Agreements currently beneficially own an aggregate of approximately 19 percent of the outstanding Cloudera Common Stock.

Simultaneously with the execution and delivery of the Merger Agreement, each of the directors and executive officers of Hortonworks, in their respective capacities as stockholders of Hortonworks (together with certain of their respective affiliates), have entered into support agreements with Cloudera (the "Hortonworks Support Agreements"), pursuant to which such individuals have agreed, among other things, to vote their respective shares of Hortonworks Common Stock in favor of the adoption of the Merger Agreement, against any alternative proposal and against any action of agreement that would reasonably be expected to impede, interfere with, postpone, prevent or delay the consummation of, the transactions contemplated by the Merger Agreement. The persons signing the Hortonworks Support Agreements currently beneficially own an aggregate of 14 percent of the outstanding Hortonworks Common Stock.

The Merger Agreement contains representations and warranties and covenants customary for a transaction of this nature. Neither Cloudera nor the Company is permitted to solicit, initiate, induce or knowingly encourage or facilitate, any alternative transaction proposals from third parties or to engage in discussions or negotiations with third parties regarding any alternative transaction proposals. Notwithstanding this limitation, prior to a party's stockholders approving the transaction, such party may under certain circumstances provide information to and participate in discussions or negotiations with third parties with respect to an alternative transaction proposal that its board of directors has determined in good faith constitutes or is reasonably likely to lead to a superior proposal. Each party's board of directors may change its recommendation to its stockholders (subject to the other party's right to terminate the Merger Agreement following such change in recommendation) in response to a superior proposal or an intervening event if the board of directors determines in good faith that the failure to take such action would reasonably be expected to be inconsistent with the directors' fiduciary duties under the General Corporation Law of the State of Delaware. Upon termination of the Merger Agreement under certain specified circumstances, Cloudera or Hortonworks may be required to pay the other party a termination fee of $95.0 million or $65.0 million, respectively. In addition, if the Merger Agreement is terminated by Cloudera or Hortonworks as a result of the other party's failure to obtain stockholder approval, then the non-terminating party may be required to reimburse the terminating

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party for its documented out-of-pocket expenses, up to a maximum amount of $20.0 million (if the Merger Agreement is terminated as a result of a failure of Hortonworks to obtain stockholder approval) or $30.0 million (if the Merger Agreement is terminated as a result of a failure of Cloudera to obtain stockholder approval).

In connection with the proposed Merger, on November 5, 2018 Cloudera filed a registration statement on Form S-4 with the SEC, which includes a preliminary prospectus for the issuance of shares of Cloudera common stock in the Merger, a preliminary proxy statement of Cloudera for use in connection with the solicitation of proxies for the Cloudera stockholder meeting, and a preliminary proxy statement of Hortonworks for use in connection with the solicitation of proxies for the Hortonworks stockholder meeting (the “joint proxy statement/prospectus”). When final, a definitive copy of the joint proxy statement/prospectus will be sent to Cloudera and Hortonworks stockholders.

Item 2. 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 the condensed consolidated financial statements and the related notes included elsewhere in this Quarterly Report on Form 10-Q and with our audited consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the Securities and Exchange Commission. 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, including statements relating to our anticipated merger with Cloudera, Inc. 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 quarterly report.

Overview

Hortonworks, Inc. ("Hortonworks," the "Company," "we" or "us") delivers 100 percent open-source global data management solutions so that customers can deploy modern data architectures and realize the full value of their data. Our enterprise-ready solutions enable organizations to govern, secure and manage data of any kind, wherever it is located, and turn it into actionable intelligence that will help them transform their businesses.

Our platforms allow enterprises to manage their data on a global scale, whether it is data-in-motion or data-at-rest. We have the expertise, experience and proven solutions to power modern data applications, including streaming analytics, data science, artificial intelligence and more.

We are committed to driving innovation and market adoption of open source technologies within open source communities. We do this by sharing all of our open source product development in order to continue advancement of open source software. We distribute the Hortonworks Data Platform ("HDP") and Hortonworks DataFlow ("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.

On October 3, 2018, we announced that we had entered into an Agreement and Plan of Merger and Reorganization with Cloudera, Inc. ("Cloudera") for a proposed "merger of equals" transaction (the "Merger"). Under the terms of the agreement, each Hortonworks share will be converted into the right to receive 1.305 Cloudera shares, resulting in Cloudera stockholders owning approximately 60 percent of the equity of the combined company and Hortonworks shareholders owning approximately 40 percent. The transaction is subject to Hortonworks and Cloudera stockholder approval, United States ("U.S.") antitrust clearance, and other customary closing conditions, and is expected to close during the first quarter of calendar year 2019. For more information, see Note 11—"Subsequent Events" in the notes to our condensed consolidated financial statements.

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 customers with development input and the opportunity to work more closely with our developers. We price 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, support subscription revenue varies depending on the scale of our customers' deployments and the scope of the support agreement. Professional services revenue is derived primarily from customer fees for consulting services engagements and education services. Our consulting services are provided primarily on a time and materials basis and, to a lesser extent, a fixed fee basis, and education services are generally 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 education. Our revenue is subject to fluctuations based upon our success in addressing these factors.

We anticipate that our strategic initiatives will, over time, decrease the percentage of our total revenue that comes from professional services, and grow our subscription revenue, which together will drive profitability. Our early growth strategy was 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 is to expand our partner network and leverage our partners to deliver a larger proportion of professional services to our customers on our behalf. 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. In addition, we expect that sales through partners will continue to grow as a proportion of our revenue for the foreseeable future

Our ability to successfully implement these strategies is subject to challenges, risks and uncertainties. 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, increased competition, 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 or sustain 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. See Item 1A—"Risk Factors" for more information regarding risks that may affect our business and results of operations.

In addition, because we have not established vendor-specific objective evidence of fair value ("VSOE") for our support subscription and professional services offerings, the results of operations as presented under generally accepted accounting principles ("GAAP") in the U.S. through the end of year 2017 may have reflected period-to-period fluctuations that did not correlate with our underlying support subscription and professional services business performance. Effective January 1, 2018, we adopted Accounting Standards Update ("ASU") No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*, which may reduce such fluctuations. The adoption of this standard may also cause variability in period-to-period comparisons of our financial statements when comparing periods prior to and after adoption of the standard. See Note 1—"Description of Business and Summary of Significant Accounting Policies" in the notes to our condensed consolidated financial statements for more information.

We have achieved significant growth in recent periods. Our revenue for the three months ended September 30, 2018 and 2017 was $87.2 million and $69.0 million, respectively, and our revenue for the nine months ended September 30, 2018 and 2017 was $252.6 million and $186.8 million, respectively. We incurred net losses for the three months ended September 30, 2018 and 2017 of $31.6 million and $45.4 million, respectively, and net losses for the nine months ended September 30, 2018 and 2017 of $114.8 million and $156.3 million, respectively. We had operating cash flow of $16.4 million for the nine months ended September 30, 2018 compared to negative operating cash flow of $36.1 million in the nine months ended September 30, 2017.

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 and overall adoption of enterprise data management software solutions built on open source technology. 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 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 servers in a cluster, or nodes, core or edge devices, data under management and/or the scope of support 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 for Growth. We will continue to focus on long-term growth. We believe that our market opportunities (including HDP, HDF and Hortonworks DataPlane Service™) 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 internationally to drive additional revenue. We also expect to invest in research and development to enhance and expand our offerings. 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 net proceeds from 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, which we believe will drive improved gross margins and profitability over time given that professional services have a lower gross margin than our support subscriptions. 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 enter into sales arrangements pursuant to which we provide support subscription and/or professional services offerings. 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 through December 31, 2017, for arrangements providing both support subscription and professional services offerings, we typically recognized 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 were 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 was negatively impacted under U.S. GAAP through December 31, 2017. We adopted ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* effective January 1, 2018. See Note 1—"Description of Business and Summary of Significant Accounting Policies" in the notes to our condensed 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:

Customer Cohort Multiple. Our ability to retain our customers and expand support subscription revenue from them over time is an indicator of the long-term value of our customer relationships. We measure the value of this expansion within our customer base using a cohort multiple. We believe that the cohort multiple provides visibility into our customers' adoption of our products over time.

We calculate a cohort multiple using cohort classes and cohort expansion. A cohort class is a group of new logo customers that execute an initial support subscription contract within a given quarter. Cohort expansion, in turn, is the aggregate value of all invoices sent to a cohort class for support subscription services after its initial contract through a specific period. The cohort multiple is the average cohort expansion of a set of cohort classes over a specific number of quarters from initial contract inception.

As of September 30, 2018, there were 15 cohort classes for which we had cohort expansion data over an eight-quarter period. The cohort expansion multiple for this set of cohort classes, as of September 30, 2018, was 4.9.

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 approximately 1,500 and 1,300 as of September 30, 2018 and 2017, respectively.

Components of Results of Operations

Revenue

We generate revenue primarily through selling support subscription offerings and consulting and/or education services to our enterprise customers. On occasion, we sell engineering services as well as premium subscription offerings that provide customers 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 education services are sold separately, we recognize revenue as the services are performed. We have multiple-element arrangements with many of our enterprise customers which include support subscriptions sold together with professional services. For our multiple-element arrangements, the total transaction price is allocated to each subscription or service in a manner depicting the amount of consideration to which we expect to be entitled in exchange for transferring the subscriptions or services to the customer. Revenue is recognized for each subscription or service based upon the amount of revenue allocated to each subscription or service. Revenue related to support subscriptions are recognized ratably over the term of support and revenue related to consulting and/or educational services are recognized as services are performed.

Cost of Revenue

Cost of support subscription revenue consists primarily of personnel costs (including cash compensation, 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 cash compensation, 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 cash compensation, 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 cash compensation, 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 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 cash compensation, benefits and stock-based compensation expense) for our executive, finance, human resources, information technology, 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. 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 tables set forth selected condensed consolidated statements of operations data for each of the periods presented in dollars and as a percentage of revenue:

	Three Months Ended September 30, 2018(*)	Three Months Ended September 30, 2017	Nine Months Ended September 30, 2018(*)	Nine Months Ended September 30, 2017
	(in thousands)			
Support subscription and professional services revenue:				
Support subscription	$ 65,390	$ 53,198	$ 191,943	$ 141,088
Professional services	21,784	15,803	60,635	45,716
Total support subscription and professional services revenue	87,174	69,001	252,578	186,804
Cost of revenue:				
Support subscription	9,036	8,765	26,534	22,148
Professional services	14,753	12,578	43,432	37,517
Total cost of revenue	23,789	21,343	69,966	59,665
Gross profit	63,385	47,658	182,612	127,139
Operating expenses:				
Sales and marketing	50,446	48,176	153,889	148,921
Research and development	21,589	24,533	71,096	77,518
General and administrative	23,080	19,125	72,199	53,744
Total operating expenses	95,115	91,834	297,184	280,183
Loss from operations	(31,730)	(44,176)	(114,572)	(153,044)
Other income (expense), net	657	(786)	1,273	(2,134)
Loss before income tax expense	(31,073)	(44,962)	(113,299)	(155,178)
Income tax expense	501	406	1,527	1,101
Net loss	$ (31,574)	$ (45,368)	$ (114,826)	$ (156,279)

	Three Months Ended September 30, 2018(*)	Three Months Ended September 30, 2017	Nine Months Ended September 30, 2018(*)	Nine Months Ended September 30, 2017
	(as a percentage of revenue)			
Support subscription and professional services revenue:				
Support subscription	75%	77%	76%	76%
Professional services	25	23	24	24
Total support subscription and professional services revenue	100	100	100	100
Cost of revenue:				
Support subscription	10	13	11	12
Professional services	17	18	17	20
Total cost of revenue	27	31	28	32
Gross profit	73	69	72	68
Operating expenses:				
Sales and marketing	58	70	61	80
Research and development	25	36	28	41
General and administrative	26	27	29	29
Total operating expenses	109	133	118	150
Loss from operations	(36)	(64)	(46)	(82)
Other income (expense), net	1	(1)	1	(1)
Loss before income tax expense	(35)	(65)	(45)	(83)
Income tax expense	1	1	—	1
Net loss	(36)%	(66)%	(45)%	(84)%

(*) As noted in Note 1—"Description of Business and Summary of Significant Accounting Policies," the Company adopted the new standard as of January 1, 2018 using the modified retrospective approach. As a result of adopting ASU 2014-09 *(Topic 606)* and its corresponding ASUs, accumulated deficit decreased by $25.1 million and as a result of adopting ASC 340-40, *Other Assets and Deferred Costs; Contracts with Customers* ("ASC 340-40") accumulated deficit decreased by $52.5 million as of January 1, 2018. Accordingly, the revenues reported for the three and nine months ended September 30, 2018 reflect the new standard, while the revenues reported for the three and nine months ended September 30, 2017 do not. The impact of the new standard on total revenues was $1.8 million and $0.7 million for the three and nine months ended September 30, 2018, respectively.

Comparison of the Three and Nine Months Ended September 30, 2018 and 2017

Revenue

	Three Months Ended September 30, 2018	Three Months Ended September 30, 2017	% Change	Nine Months Ended September 30, 2018	Nine Months Ended September 30, 2017	% Change
	(in thousands)			(in thousands)		
Support subscription and professional services revenue:						
Support subscription	$ 65,390	$ 53,198	23%	$ 191,943	$ 141,088	36%
Professional services	21,784	15,803	38%	60,635	45,716	33%
Total support subscription and professional services revenue	$ 87,174	$ 69,001	26%	$ 252,578	$ 186,804	35%

Support subscription revenue for the three and nine months ended September 30, 2018 increased $12.2 million and $50.9 million, respectively, compared to the same periods in 2017. The increase was primarily due the sales of additional support subscriptions to our existing customers as well as growth in our support subscription customer base.

Professional services revenue for the three and nine months ended September 30, 2018 increased $6.0 million and $14.9 million, respectively, compared to the same periods in 2017. The increase was primarily due to the growth in our support subscription customer base.

Cost of Revenue

	Three Months Ended September 30,		% Change	Nine Months Ended September 30,		% Change
	2018	2017		2018	2017	
	(in thousands)			(in thousands)		
Cost of revenue:						
Cost of support subscription	$ 9,036	$ 8,765	3%	$ 26,534	$ 22,148	20%
Cost of professional services	14,753	12,578	17%	43,432	37,517	16%
Total cost of revenue	$ 23,789	$ 21,343	11%	$ 69,966	$ 59,665	17%
Percentage of revenue	27%	31%		28%	32%	

Cost of support subscription revenue increased $0.3 million for the three months ended September 30, 2018 compared to the three months ended September 30, 2017. Cost of support subscription revenue increased $4.4 million for the nine months ended September 30, 2018 compared to the nine months ended September 30, 2017. The increase was primarily attributable to a $4.0 million increase in personnel-related expenses as a result of an increase in headcount to support new customer growth.

Cost of professional services revenue increased $2.2 million for the three months ended September 30, 2018 compared to the three months ended September 30, 2017. The increase was primarily attributable to a $1.9 million increase in personnel-related expenses as a result of an increase in headcount. Cost of professional services revenue increased $5.9 million for the nine months ended September 30, 2018 compared to the nine months ended September 30, 2017. The increase was primarily attributable to an increase in personnel-related expenses of $5.2 million, which included $1.9 million of stock-based compensation expense as a result of an increase in headcount.

Sales and Marketing

	Three Months Ended September 30,		% Change	Nine Months Ended September 30,		% Change
	2018	2017		2018	2017	
	(in thousands)			(in thousands)		
Sales and marketing	$ 50,446	$ 48,176	5%	$ 153,889	$ 148,921	3%
Percentage of revenue	58%	70%		61%	80%	

Sales and marketing expenses increased $2.3 million for the three months ended September 30, 2018 compared to the three months ended September 30, 2017. This increase was primarily attributable to accounting under ASC 340-40 which was adopted in January 2018. The Company recognized $2.1 million in commission expense that would not have been recognized prior to the adoption of ASC 340-40. The increase was also due to a $1.7 million increase in travel, marketing related and equipment and software expenses. These increases were partially offset by a $2.3 million decrease in stock-based compensation expense, primarily related to a decrease in expense for restricted stock units (“RSUs”) granted to existing employees. Sales and marketing expenses increased $5.0 million for the nine months ended September 30, 2018 compared to the nine months ended September 30, 2017. The increase was primarily attributable to an increase in marketing programs expense of $3.3 million, which included expenses related to hosting the two Dataworks Summits in the second quarter and other marketing-related expenses such as roadshows, webinars and targeted campaigns and a $2.2 million increase in commission expense as a result of the adoption of ASC 340-40. The increase was also related to an increase in travel as well as equipment and software expenses of $2.7 million. These increases were partially offset by a decrease in stock-based compensation expense of $3.9 million, primarily related to a decrease in expense for RSUs granted to existing employees and a decrease in expense for performance-based restricted stock units (“PSUs”) due to cancellations.

Research and Development

	Three Months Ended September 30, 2018	Three Months Ended September 30, 2017	% Change	Nine Months Ended September 30, 2018	Nine Months Ended September 30, 2017	% Change
	(in thousands)			(in thousands)		
Research and development	$ 21,589	$ 24,533	(12)%	$ 71,096	$ 77,518	(8)%
Percentage of revenue	25%	36%		28%	41%	

Research and development expenses decreased $2.9 million for the three months ended September 30, 2018 compared to the three months ended September 30, 2017. The decrease was primarily attributable to a decrease in personnel-related expenses of $3.0 million, which included $3.4 million of stock-based compensation expense, primarily related to a decrease in expense for RSUs granted to existing employees. Research and development expenses decreased $6.4 million for the nine months ended September 30, 2018 compared to the nine months ended September 30, 2017. The decrease was primarily attributable to a decrease in personnel-related expenses of $7.3 million, which included $7.1 million of stock-based compensation expense, primarily related to a decrease in expense for RSUs granted to existing employees. The decrease was offset by an increase in travel as well as equipment and software expenses of $1.1 million.

General and Administrative

	Three Months Ended September 30, 2018	Three Months Ended September 30, 2017	% Change	Nine Months Ended September 30, 2018	Nine Months Ended September 30, 2017	% Change
	(in thousands)			(in thousands)		
General and administrative	$ 23,080	$ 19,125	21%	$ 72,199	$ 53,744	34%
Percentage of revenue	26%	27%		29%	29%	

General and administrative expenses increased $4.0 million for the three months ended September 30, 2018 compared to the three months ended September 30, 2017. The increase was primarily attributable to an increase in personnel-related expenses of $2.1 million, which included $1.5 million of stock-based compensation expense, primarily related to expense for PSUs granted to existing employees. The increase was also primarily attributable to an increase in outside services of $1.9 million due to an increase in legal fees related to the proposed merger with Cloudera.

General and administrative expenses increased $18.5 million for the nine months ended September 30, 2018 compared to the nine months ended September 30, 2017. The increase was primarily attributable to an increase personnel-related expenses of $14.2 million, which included $12.3 million of stock-based compensation expense, primarily related to expense for RSUs and PSUs granted to existing employees. The increase was also attributable to an increase in outside services of $4.1 million primarily related to the implementation efforts of ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* and ASC 340-40*, Other Assets and Deferred Costs; Contracts with Customers* as well as an increase in legal fees related to the proposed merger with Cloudera.

Liquidity and Capital Resources

As September 30, 2018, our principal sources of liquidity were cash and cash equivalents and investments totaling $104.8 million, compared to $72.5 million at December 31, 2017, which were held for working capital purposes. Our cash equivalents are comprised primarily of money market funds and certificates of deposit. Our short-term investments are comprised primarily of U.S. Treasury securities, certificates of deposit, commercial paper and corporate notes and bonds and our long-term investments are comprised of U.S Treasury securities and corporate notes and bonds. The following table summarizes our cash flows for the periods indicated:

	Nine Months Ended September 30, 2018	Nine Months Ended September 30, 2017
	(in thousands)	
Cash provided by (used in) operating activities	$ 16,430	$ (36,103)
Cash (used in) provided by investing activities	(42,360)	21,860
Cash provided by financing activities	18,744	13,423

Our current operations are financed from funds derived from 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 and access to our revolving credit facility, will be sufficient to meet our working capital and capital expenditure requirements for the next 12 months.

Our expected future capital requirements 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 and take advantage of business opportunities. 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 necessary or desirable, our business, results of operations and financial condition could 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 $114.8 million was adjusted to exclude non-cash items, operating activities provided $16.4 million of cash during the nine months ended September 30, 2018. During the nine months ended September 30, 2018, significant non-cash items included stock-based compensation expense of $82.5 million and depreciation and amortization expense of $31.6 million. Changes in our operating assets and liabilities resulted in net cash generated of $17.4 million. Cash was generated within our operating assets and liabilities during the nine months ended September 30, 2018 from (i) a decrease in accounts receivable of $32.6 million due to the timing of customer collections, (ii) a net increase of $15.2 million in deferred revenue and other contract liabilities and (iii) a decrease in contract assets of $1.9 million. Offsetting these cash generating items within operating assets and liabilities during the nine months ended September 30, 2018 were (i) an increase in deferred costs of $22.4 million, (ii) a decrease in accrued compensation and benefits of $5.9 million and (iii) a $1.2 million decrease in accrued expenses and other current liabilities.

After our net loss of $156.3 million was adjusted to exclude non-cash items, operating activities used $36.1 million of cash during the nine months ended September 30, 2017. During the nine months ended September 30, 2017, significant non-cash items included stock-based compensation expense of $79.2 million and depreciation and amortization expense of $7.4 million. Changes in our operating assets and liabilities resulted in net cash generated of $31.6 million. Cash was generated within our operating assets and liabilities during the nine months ended September 30, 2017 from (i) an increase of $40.4 million in deferred revenue as a result of growth in our support subscription customer base, coupled with our ratable revenue recognition of multiple-element arrangement professional services revenue due to our lack of VSOE for support subscriptions and professional services offerings and (ii) a decrease in accounts receivable of $4.3 million due to the timing of customer collections. Offsetting these cash generating items within operating assets and liabilities during the nine months ended September 30, 2017 were (i) a decrease in accrued expenses and other current liabilities of $4.3 million, (ii) an increase in prepaid expenses and other current assets of $3.6 million, (iii) an increase in other assets of $2.3 million and (iv) a decrease in accounts payable of $1.4 million due to the timing of vendor payments.

Investing Activities

Cash used in investing activities for the nine months ended September 30, 2018 was $42.4 million. The outflows of cash associated with investing activities during the nine months ended September 30, 2018 were related to purchases of investments and property and equipment of $59.1 million and $2.6 million, respectively, which were offset by maturity of investments of $19.3 million.

Cash provided by investing activities for the nine months ended September 30, 2017 was $21.9 million. The primary inflow of cash associated with investing activities during the nine months ended September 30, 2017 was related to the maturity of investments of $27.6 million, which was partially offset by purchases of property and equipment and investments of $4.4 million and $1.3 million, respectively.

Financing Activities

Cash provided by financing activities for the nine months ended September 30, 2018 was $18.7 million, and was primarily related to the proceeds related to the issuance of common stock and the exercise of warrants of $20.3 million and $4.1 million, respectively.

These proceeds were partially offset by $5.0 million of payments to satisfy the tax liabilities of employees upon vesting of equity awards.

Cash provided by financing activities for the nine months ended September 30, 2017 was $13.4 million, and was primarily related to the proceeds related to the issuance of common stock of $15.0 million which was partially offset by $1.2 million of payments to satisfy the tax liabilities of employees upon vesting of equity awards.

Revolving Credit Facility

We maintain a senior secured revolving credit facility with Silicon Valley Bank (the "Bank"). On November 2, 2016, we entered into a $30.0 million senior secured revolving credit facility with the Bank (the "Original Credit Agreement"), and on November 1, 2017, we entered into a $50.0 million senior secured revolving credit facility with the Bank, documented as an amendment and restatement of the Original Credit Agreement (the "Amended and Restated Credit Facility"). The Amended and Restated Credit Facility matures on November 1, 2020 and currently has no subsidiary guarantors. Any outstanding loans drawn under it are due at maturity. Outstanding borrowings may be paid at any time prior to maturity. In addition, we are required to maintain a balance of at least $15.0 million on account with the Bank.

As of September 30, 2018, we had no borrowings outstanding under our Amended and Restated Credit Facility and we were in compliance with all financial covenants, which included maintaining a minimum trailing 12-month non-GAAP operating profit and a minimum adjusted quick ratio.

Contractual Obligations and Other Commitments

The following table summarizes our contractual obligations as of September 30, 2018:

	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)	$ 1,170	$ 11,730	$ 10,144	$ 17,889	$ 40,933
Capital lease obligations	90	—	—	—	90
Total contractual obligations	$ 1,260	$ 11,730	$ 10,144	$ 17,889	$ 41,023

(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 September 30, 2018, 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 $0.4 million due in the future under non-cancelable subleases.

Off-Balance Sheet Arrangements

Through September 30, 2018, 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 condensed consolidated financial statements in accordance with U.S. GAAP. In the preparation of these condensed 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.

As a result of our adoption of ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* and Subtopic 340-40, *Other Assets and Deferred Costs; Contracts with Customers* on January 1, 2018, our accounting policies have been updated as follows:

Revenue Recognition

Apache Hadoop, Apache NiFi and associated open source technology projects within the Apache Software Foundation are made freely available within the open source community. While these technologies have emerged to enable the modern data center architecture, they are complex to deploy and consume as individual components inhibiting broad adoption by enterprises. Our efforts are thus focused on creating a software distribution of these projects by assembling, testing and integrating key component software projects into an open platform that address the needs of enterprises. By working in concert with the Apache community to develop Connected Data Platforms, HDP, HDF and other offerings, our software distribution provides customers with a scalable, secure and governed environment for their data requirements.

Connected Data Platforms are made available under an Apache open source license. Open source software is an alternative to proprietary developed software and represents a different distribution 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, we do not typically generate any direct revenue from our software development activities.

We generate the predominant amount of our revenue through support (support subscription) and consulting and education services (professional services) arrangements with our enterprise customers. Our professional services provide assistance in the implementation process and education related activities.

We price 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. Our consulting services are priced primarily on a time and materials basis, and to a lesser extent, a fixed fee basis, and education services are generally priced based on attendance.

We determine revenue recognition through the following steps, which are described in more detail below:

- Identification of the contract or contracts with a customer
- Identification of the performance obligation(s) in the contract
- Determination of the transaction price
- Allocation of the transaction price to the performance obligation(s) in the contract
- Recognition of revenue when, or as, a performance obligation is satisfied

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

At contract inception, we assess the support and services product offerings or bundle of product offerings in our contracts to identify performance obligations that are distinct. A performance obligation is distinct when it is separately identifiable from other items in a bundled package and if a customer can benefit from it on its own or with other resources that are readily available to the customer. To identify its performance obligations, we consider all of the product offerings promised in the contract. We have concluded that our contracts with customers do not contain warranties that give rise to a separate performance obligation.

We work with partners in various capacities to both identify end-users for their product offerings and to provide those product offerings to end-users. We determine whether we are responsible for providing the actual product or service as a principal, or for arranging for the product or service to be provided by the third-party as an agent. Judgment is applied to determine whether we are the principal or the agent by evaluating whether we have control of the product or service prior to it being transferred to the customer. The principal versus agent assessment is performed at the performance obligation level. Indicators that we consider to support that we have control include whether we are primarily responsible for fulfilling the promise to provide the specified product or service to the customer, we have inventory risk and we have discretion in establishing the price the customer ultimately pays for the product or service. Depending upon the level of our contractual responsibilities and obligations for delivering solutions to end customers, we have arrangements where we are the principal and recognizes the gross amount invoiced to the customer and other arrangements where we are an agent and recognizes the net amount retained.

The transaction price is the total amount of consideration we expect to be entitled to in exchange for the product offerings in a contract. Sales, value-add and other taxes we collect from customers concurrent with revenue-producing activities are excluded from revenue.

Some of our contracts with customers contain variable consideration. Variable consideration exists when the amount which we expect to receive in a contract is based on the occurrence or non-occurrence of future events, such as professional services invoiced upon substantive acceptance of milestones. We estimate variable consideration in our contracts primarily using the expected value method. In some contracts, we apply the most likely amount method by considering the single most likely amount in a limited range of possible consideration amounts. We develop estimates of variable consideration on the basis of both historical information and current trends. Variable consideration is constrained and not included in the transaction price when the we believe a significant cumulative revenue reversal is probable. In determining if a significant revenue reversal is probable, we consider the amount of revenue recognized in advance of the occurrence or non-occurrence of future events that causes invoicing to be contingent, the expected timing of the occurrence or non-occurrence of future events and the likelihood of a reversal. For example, in a professional services contract when a portion of the fee is subject to a substantive acceptance provision, we evaluate historical acceptance rates for similar contracts, customer specific level of risk, and the time between delivery and acceptance when estimating and constraining variable consideration.

Once we have determined the transaction price, the total transaction price is allocated to each performance obligation in a manner depicting the amount of consideration to which we expect to be entitled in exchange for transferring the product(s) or service(s) to the customer (the “allocation objective”). If the allocation objective is met at contractual prices, no allocations are performed. Otherwise, we allocate the transaction price to each performance obligation identified in the contract on a relative stand-alone selling price basis, except when the criteria are met for allocating variable consideration or a discount to one or more, but not all, performance obligations in the contract. We allocate variable consideration to one or more, but not all performance obligations when the terms of the variable payment relate specifically to our efforts to satisfy the performance obligation (or transfer the distinct product or service) and when such allocation is consistent with the allocation objective when considering all performance obligations in the contract (*e.g.,* a time and materials based professional services arrangement bundled with support subscription). Determining whether the criteria for allocating variable consideration to one or more, but not all, performance obligations in the contract requires significant judgment and may affect the timing and amount of revenue recognized. We do not typically meet the requirements to allocate discounts to one or more, but not all, performance obligations in a contract.

In order to determine the stand-alone selling price, we conduct a periodic analysis to determine if there is an observable stand-alone selling price. To have observable pricing, we require that a substantial majority of the stand-alone selling prices for a product offering fall within a pricing range. If a directly observable stand-alone selling price does not exist, we estimate a stand-alone selling price range by reviewing external and internal market factors including, but not limited to, pricing practices including historical discounting, major service groups and geographic considerations. There is also no hierarchy for how to estimate or otherwise determine the stand-alone selling price for product offerings that are not sold separately, however, we maximize the use of observable data.

Selling prices are periodically analyzed to identify significant changes and if so, stand-alone selling prices are updated accordingly. Our process for determining stand-alone selling price requires judgment and considers multiple factors that are reasonably available and maximizes the use of observable inputs that may vary over time depending upon the unique facts and circumstances related to each performance obligation. We believe that this method results in an estimate that represents the price we would charge for the product offerings if they were sold separately.

With stand-alone selling price established as a range, if the contractually stated prices of the underlying performance obligation fall within the stand-alone selling price range, we will use the contractually stated price to allocate the transaction price. If the contractually stated price for one or more performance obligations in a contract fall outside of the stand-alone selling price range, we will use the mid-point of the stand-alone selling price range to allocate the transaction price on a relative stand-alone selling price basis.

Revenues are recognized when we satisfy the performance obligations under the terms of a contract when control over our product offerings is transferred, which generally occurs as support subscription and professional services are delivered to the customer. Previously, under the guidance in effect prior to the adoption of the new standard, revenue was recognized when all of the following criteria were met: (i) persuasive evidence of an arrangement exists, (ii) services have been delivered, (iii) the arrangement fee is fixed or determinable and (iv) collectability is probable. Our multiple element arrangements generally include support subscription combined with professional services. We did not establish vendor specific objective evidence of fair value (“VSOE”) for our support subscriptions and professional services offerings, and we recognized revenue on a ratable basis over the period beginning when both the support subscription and professional services had substantially commenced, and ended 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.

The following describes the nature of our primary types of revenue and the revenue recognition policies and significant payment terms as they pertain to the types of transactions we enter into with our customers.

Support Subscription Revenue

As part of a support subscription, we stand ready to help customers resolve technical issues related to the installed platform. The support subscriptions are designed to assist throughout a customer's lifecycle from development to proof-of-concept, to quality assurance and testing, to production and development. Support subscription is generally offered under renewable, fixed fee contracts where payments are typically due annually in advance and may have a term of one year or multiple years. The contracts generally do not contain refund provisions for fees earned related to support services performed. A support subscription is viewed as a stand-ready performance obligation comprised of a series of distinct days of service that is satisfied ratably over time as the services are provided. A time-elapsed output method is used to measure progress because our efforts are expended evenly throughout the period given the nature of the promise is a stand-ready service. Unearned support subscription revenue is included in deferred revenue and other contract liabilities. 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 its developers.

Professional Services Revenue

Professional services revenue is derived primarily from customer fees for consulting services engagements and education services. Our consulting services are provided primarily on a time and materials basis and, to a lesser extent, a fixed fee basis, and education services are generally priced based on attendance. Time and material contracts are generally invoiced based upon hours incurred on a monthly basis and fixed fee contracts may be invoiced up-front or as milestones are achieved throughout the project. Professional services revenue is typically recognized over time as the services are rendered. Depending on the nature of the consulting services engagement (*e.g*., time and materials basis, fixed fee basis, etc.), various measures of progress may be used to recognize revenue. These measures of progress include recognizing revenue in an amount equal to and at the time of invoicing, a measure of time incurred relative to remaining hours expected to be delivered, or other similar measures. These measures depict our efforts to satisfy professional services contracts and therefore reflect the transfer of control for the services to a customer.

Contract Costs

Contract costs, consisting primarily of sales commissions and payroll taxes, that are incremental to obtaining a contract with a customer are capitalized and recorded as deferred costs. We expect to recover deferred contract costs over the period of benefit from the underlying contracts. The amortization period for recovery is consistent with the timing of transfer to the customer of services to which the capitalized costs relate. Contract costs that relate to an underlying transaction are expensed commensurate with recognition of revenue as performance obligations are satisfied. Contract costs that are incurred in excess of those relating to an underlying transaction are not considered commensurate with recognition of revenue as performance obligations are satisfied, and are amortized on a straight-line basis over the anticipated average customer life of five years. We do not incur direct fulfillment-related costs of a nature required to be capitalized and amortized.

Deferred Revenue and Contingent Revenue

Deferred revenue consists of amounts invoiced to customers but not yet recognized as revenue. We record revenue and a corresponding contract asset when consideration allocated to a transferred product offering is more than the amount billable to customers in the current period. Under the guidance in effect prior to the adoption of the new standard, we previously limited the amount of revenue recognized for delivered elements to the amount that was not contingent on the future delivery of product offerings, or subject to our future performance obligations.

Contract Assets

Contract assets consist of the right to consideration in exchange for product offerings that we have transferred to a customer when that right is conditional and is not only subject to the passage of time (*e.g*., performance prior to invoicing on fixed fee professional service arrangements with substantive acceptance). When we have unconditional rights to consideration, except for the passage of time, a receivable will be recorded on the condensed consolidated balance sheets. We typically do not include extended payment terms in our contracts with customers.

Contract Liabilities

Contract liabilities represent an obligation to transfer product offerings for which we have received consideration, or for which an amount of consideration is due from the customer (*e.g.*, support subscription arrangements where consideration is paid annually in advance). Contract liabilities are comprised of short-term and long-term deferred revenue and other contract liabilities. Our contract balances will be reported in a net contract asset or liability position on a contract-by-contract basis at the end of each reporting period.

Other than the changes to the above critical accounting policies, there have been no other material changes to our critical accounting policies and estimates as compared to the critical accounting policies and estimates described in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017.

Recently Issued Accounting Pronouncements

See Note 1—"Description of Business and Summary of Significant Accounting Policies" in the notes to our condensed consolidated financial statements.

Item 3. 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 $104.8 million as of September 30, 2018 and $72.5 million as of December 31, 2017. Cash and cash equivalents are comprised primarily of cash deposits, money market funds, U.S. Treasury securities, certificate of deposit, commercial paper and corporate notes and bonds. Our short-term investments are primarily comprised of U.S. Treasury securities, certificates of deposit, commercial paper and corporate notes and bonds. Our long-term investments are primarily comprised of U.S. Treasury securities, certificate of deposit 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 condensed consolidated financial statements.

The interest rate under our revolving credit facility is variable; accordingly, interest expense for periods in which amounts are outstanding under the revolving credit facility could be adversely affected by increases in interest rates. As of September 30, 2018, we had no outstanding balance under our revolving credit facility. For additional description of our revolving credit facility, refer to Note 5—"Debt" in the notes to our condensed consolidated financial statements.

Foreign Currency Risk

Since we conduct a portion of our business using foreign currencies, primarily the Euro, British Pound Sterling and Canadian Dollars, we are exposed to foreign currency risk. To the extent our entities hold monetary assets or liabilities, earn revenues or incur costs in currencies other than the functional currency, they are exposed to foreign exchange gains or losses that impact our net loss. Holding all other currency values constant, the effect of a hypothetical 10 percent change in the U.S. dollar could impact our financial results by approximately $4.1 million. In addition, as we maintain foreign subsidiaries that use local currency as their functional currency, we are also subject to foreign currency translation risk.

To date, we have not entered into any foreign currency hedging contracts, but we may plan to do so in the future if our exposure to foreign currency risk should become more significant.

Item 4. 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 Quarterly Report on Form 10-Q. 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. Management necessarily applies its judgment in evaluating the cost benefit relationship of possible controls and procedures. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control

There has not been any change in our internal control over financial reporting that occurred during the three months ended September 30, 2018, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting. Management is in the process of evaluating the impact of the new lease accounting standard on its accounting policies, processes and controls.

Limitations on Effectiveness of Controls and Procedures

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

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

For a description of our material legal proceedings, see “Legal Proceedings” in Note 4—“Commitments and Contingencies” in the notes to our condensed consolidated financial statements, which is incorporated herein by reference.

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 the Merger

Our stockholders will receive a fixed ratio of 1.305 shares of Cloudera Common Stock for each share of Hortonworks Common Stock regardless of any changes in market value of Hortonworks Common Stock or Cloudera Common Stock before the completion of the merger.

At the effective time of the Merger, each share of Hortonworks Common Stock will be converted into the right to receive 1.305 shares of Cloudera Common Stock. There will be no adjustment to the exchange ratio (except for adjustments to reflect the effect of any stock split, reverse stock split, stock dividend, reorganization, recapitalization, reclassification or other like change with respect to Cloudera Common Stock or Hortonworks Common Stock), and the parties do not have a right to terminate the Merger Agreement based upon changes in the market price of either Cloudera Common Stock or Hortonworks Common Stock. Accordingly, the dollar value of Cloudera Common Stock that Hortonworks stockholders will receive upon completion of the Merger will depend upon the market value of Cloudera Common Stock at the time of completion of the Merger, which may be different from, and lower or higher than, the closing price of Cloudera Common Stock on the last full trading day preceding the public announcement on October 3, 2018, that Hortonworks and Cloudera entered into the Merger Agreement, the last full trading day prior to the date that the joint proxy statement/prospectus is filed with the SEC or the last full trading day prior to the date of the stockholder meetings. Moreover, completion of the Merger may occur some time after the requisite stockholder approvals have been obtained. The market value of Hortonworks Common Stock has varied since Hortonworks entered into the Merger Agreement and will continue to vary in the future due to changes in the business, operations or prospects Hortonworks, market assessments of the Merger, regulatory considerations, market and economic considerations, and other factors both within and beyond the control of Hortonworks.

Failure to successfully integrate the businesses of Hortonworks and Cloudera in the expected time-frame may adversely affect the combined company's future results.

Hortonworks and Cloudera entered into the Merger Agreement with the expectation that the merger will result in various benefits, including certain cost savings and operational efficiencies or synergies. To realize these anticipated benefits, the businesses of Hortonworks and Cloudera must be successfully integrated. Historically, Hortonworks and Cloudera have been independent companies, and they will continue to be operated as such until the completion of the Merger. The integration may be complex and time consuming and may require substantial resources and effort. The management of the combined company may face significant challenges in consolidating the operations of Hortonworks and Cloudera, integrating the two companies' technologies, procedures, and policies, as well as addressing the different corporate cultures of the two companies. If the companies are not successfully integrated, the anticipated benefits of the Merger may not be realized fully or at all, or may take longer to realize than expected.

Customer uncertainties related to the Merger could adversely affect the businesses, revenues and gross margins of Hortonworks and the combined company.

In response to the announcement of the Merger or due to ongoing uncertainty about the Merger, our customers may delay or defer purchasing decisions or elect to switch to other suppliers. In particular, prospective customers could be reluctant to purchase the products and services of Hortonworks or the combined company due to uncertainty about the direction of the combined company's offerings and willingness to support existing products. To the extent that the Merger creates uncertainty among those persons and organizations contemplating purchases such that customers delay, defer or change purchases in connection with the planned Merger, the revenues of Hortonworks or the combined company would be adversely affected. Customer assurances may be made by Hortonworks to address their customers' uncertainty about the direction of the combined company's product and related support offerings, which may result in additional obligations of Hortonworks or the combined company. As a result of any of these actions, quarterly revenues and net earnings of Hortonworks or the combined company could be substantially below expectations of market analysts and a decline in the companies' respective stock prices could result.

Certain directors and executive officers of Hortonworks have interests in the Merger that may be different from, or in addition to, the interests of Hortonworks stockholders.

Executive officers of Hortonworks negotiated the terms of the Merger Agreement under the direction of our Board of Directors. Our Board of Directors unanimously approved the Merger Agreement and the transactions contemplated thereby and unanimously recommended that Hortonworks stockholders vote in favor of the Merger Agreement. These directors and executive officers may have interests in the Merger that are different from, or in addition to, or may be deemed to conflict with, yours. These interests include the continued employment of certain executive officers of Hortonworks by Cloudera, the continued positions of certain directors of Hortonworks as directors of the combined company and the indemnification of former Hortonworks directors and officers by the combined company. With respect to our directors and executive officers, these interests also include the treatment in the Merger of employment agreements, change of control and severance agreements, stock options, restricted stock units, performance stock units and other rights held by these directors and executive officers, including the right to vesting acceleration upon or following a change of control under various equity awards and agreements. Our stockholders should be aware of these interests when they consider the recommendation of our Board of Directors that they vote in favor of the Merger Agreement.

Provisions of the Merger Agreement may deter alternative business combinations and could negatively impact our stock prices if the Merger Agreement is terminated in certain circumstances.

In connection with the execution and delivery of the Merger Agreement, each of Hortonworks and Cloudera agreed to immediately cease all existing activities, discussions or negotiations with any persons previously conducted with respect to certain acquisition proposals and acquisition transactions relating to Hortonworks and Cloudera. The Merger Agreement prohibits Hortonworks and Cloudera from soliciting, initiating, or knowingly encouraging or facilitating certain acquisition proposals with any third party, subject to exceptions set forth in the Merger Agreement. The Merger Agreement does not allow either Hortonworks or Cloudera to terminate the Merger Agreement in the event that it receives an alternative acquisition proposal. The Merger Agreement also provides for the payment by Cloudera of a termination fee of $95 million if the Merger Agreement is terminated in certain circumstances (relating to, amongst other things, certain breaches of Cloudera's no-shop obligations, failure by Cloudera's board of directors to recommend the Merger, and failure by Cloudera to bring the Merger before a vote to the stockholders) in connection with a competing third party acquisition proposal for Cloudera and for the payment by Hortonworks of a termination fee of $65 million if the Merger Agreement is terminated in certain circumstances (relating to, amongst other things, certain breaches of Hortonworks' no-shop obligations, failure by the Hortonworks board to recommend the merger, and failure by Hortonworks to bring the Merger before a vote to the stockholders) in connection with a competing third party acquisition proposal for Hortonworks. These provisions limit our ability to pursue offers from third parties that could result in greater value to Hortonworks stockholders. The obligation to pay the termination fee also may discourage a third party from pursuing an acquisition proposal. If the Merger is terminated and we determine to seek another business combination, we cannot assure our stockholders that we will be able to negotiate a transaction with another company on terms comparable to the terms of the Merger, or that we will avoid incurrence of any fees associated with the termination of the Merger Agreement.

In the event the Merger is terminated by Cloudera or Hortonworks in circumstances that obligate either party to pay the termination fee to the other party, including where either party terminates the Merger Agreement because the other party's board withdraws its support of the Merger, our stock prices may decline.

We are subject to business uncertainties and contractual restrictions while the proposed transactions are pending, which could adversely affect our business and operations.

Due to ongoing uncertainty about the Merger, it is possible that some customers, suppliers and other persons with whom we have a business relationship may delay or defer certain business decisions or might decide to seek to terminate, change or renegotiate their relationships with us, which could negatively affect our revenues, as well as the market price of Hortonworks Common Stock, regardless of whether the Merger is completed.

Under the terms of the Merger Agreement, we are subject to certain restrictions on the conduct of its business prior to completing the Merger, which may adversely affect our ability to execute certain of our business strategies, including the ability in certain cases to enter into contracts, acquire or dispose of assets, incur indebtedness or incur capital expenditures. Such limitations could negatively affect our businesses and operations prior to the completion of the Merger.

Hortonworks and, following the completion of the Merger, the combined company, must continue to retain, recruit and motivate executives and other key employees, and failure to do so could negatively affect the combined company.

For the Merger to be successful, we must continue to retain, recruit and motivate executives and other key employees during the period before the Merger is completed. Further, the combined company must be successful at retaining, recruiting and motivating key employees following the completion of the Merger in order for the benefits of the transaction to be fully realized. Our employees may experience uncertainty about their future roles with the combined company until, or even after, strategies with regard to the combined company are announced and executed. The potential distractions related to the Merger may adversely affect our ability and, following completion of the Merger, the combined company, to keep executives and other key employees focused on business strategies and goals, to address other important personnel matters and to retain them at all. A failure by us or, following the completion of the Merger, the combined company, to attract, retain and motivate executives and other key employees during the period prior to or after the completion of the Merger could have a negative impact on our businesses.

If the proposed Merger is not completed, we will have incurred substantial costs that may adversely affect our financial results and operations and the market price of Hortonworks Common Stock.

If the Merger is not completed, the prices of Hortonworks Common Stock may decline to the extent that the current market prices of Hortonworks Common Stock reflect a market assumption that the Merger will be completed. In addition, we have incurred and will incur substantial costs in connection with the proposed Merger. These costs are primarily associated with the fees of attorneys, accountants and our financial advisors. In addition, we have diverted significant management resources in an effort to complete the Merger and are each subject to restrictions contained in the Merger Agreement on the conduct of our business during the pendency of the Merger. If the Merger is not completed, we will have received little or no benefit in respect of such costs incurred. Also, if the Merger is not completed under certain circumstances specified in the Merger Agreement, we may be required to pay a termination fee to the other party of $95 million and $65 million, respectively.

Further, if the Merger is not completed, we may experience negative reactions from the financial markets and our suppliers, customers and employees. Each of these factors may adversely affect the trading price of Hortonworks Common Stock and our financial results and operations.

The Merger is subject to the receipt of consents and approvals from governmental entities that may impose conditions that could have an adverse effect on us or could cause a termination of the Merger Agreement prior to completion of the Merger.

Completion of the Merger is conditioned upon the expiration or termination of the applicable waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended.

The reviewing governmental authorities may not permit the Merger at all or may impose restrictions or conditions on the Merger that may seriously harm the combined company if the Merger is completed. These conditions could include a complete or partial license, divestiture, spin-off or the holding separate of assets or businesses. Any delay in the completion of the Merger could diminish the anticipated benefits of the Merger or result in additional transaction costs, loss of revenue or other effects associated with uncertainty about the transaction.

Hortonworks and Cloudera also may agree to restrictions or conditions imposed by governmental authorities in order to obtain regulatory approval, and these restrictions or conditions could harm the combined company’s operations. No additional stockholder approvals are expected to be required for any decision by us, after the special meeting of Hortonworks stockholders, to agree to any terms and conditions necessary to resolve any regulatory objections to the Merger.

In addition, during or after the statutory waiting periods, and even after completion of the Merger, governmental authorities could seek to block or challenge the Merger as they deem necessary or desirable in the public interest. In addition, in some jurisdictions, a competitor, customer or other third party could initiate a private action under the antitrust laws of such jurisdiction challenging or seeking to enjoin the Merger, before or after it is completed. Hortonworks or the combined company may not prevail, or may incur significant costs, in defending or settling any action under antitrust laws.

Our stockholders will not be entitled to appraisal rights in the Merger.

Appraisal rights are statutory rights that, if applicable under law, enable stockholders to dissent from an extraordinary transaction, such as a merger, and to demand that the corporation pay the fair value for their shares as determined by a court in a judicial proceeding instead of receiving the consideration offered to stockholders in connection with the extraordinary transaction. Under the General Corporation Law of the State of Delaware, as amended, stockholders do not have appraisal rights if the shares of stock they hold, as of the record date for determination of stockholders entitled to vote at the meeting of stockholders to act upon a merger, are either (i) listed on a national securities exchange or (ii) held of record by more than 2,000 holders. Notwithstanding the foregoing, appraisal rights are available if stockholders are required by the terms of the merger agreement to accept for their shares anything other than (a) shares of stock of the surviving corporation, (b) shares of stock of another corporation that will either be listed on a national securities exchange or held of record by more than 2,000 holders, (c) cash instead of fractional shares or (d) any combination of clauses (a) through (c).

Because Hortonworks Common Stock is listed on The Nasdaq Global Select Market LLC and is expected to continue to be so listed on the record date for our special meeting, our stockholders will not be entitled to appraisal rights in the Merger with respect to their shares of Hortonworks Common Stock. Because holders of Hortonworks Common Stock will also receive shares of Cloudera Common Stock in the Merger and cash in lieu of fractional shares, holders of Hortonworks Common Stock will also not be entitled to appraisal rights in the Merger with respect to their shares of Hortonworks Common Stock.

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 $114.8 million and $156.3 million for the nine months ended September 30, 2018 and 2017, respectively. As a result, we had an accumulated deficit of $944.9 million as of September 30, 2018. It is difficult for us to predict our future results of operations because 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, Hortonworks Data Platform ("HDP"), Hortonworks DataFlow ("HDF"), Hortonworks Cybersecurity Platform ("HCP") and other offerings. In addition, as we grow, we will incur additional significant legal, accounting and other expenses. 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 arrangements, slowing demand for our offerings, 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 arrangements 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 offerings or pricing models to accurately predict the long-term rate of 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, professional services, on-premises and cloud-based offerings. As the markets for our offerings mature, or as competitors introduce new products or services that compete with ours, we may be unable to attract new customers at the same price or based on the same pricing model as we have used historically. Moreover, large 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, professional services, on-premises and cloud-based offering 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 customer agreements. As a result, customers renewing and expanding their relationships with us will be critical to our business. Our customers have no obligation to continue their relationships with us after the expiration of the initial agreement period and may renew for fewer elements of our offerings or on different pricing terms. We have limited historical data with respect to customer renewals, including those 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 customer renewals. Our customers' renewals may decline or fluctuate as a result of a number of factors, including their dissatisfaction with our pricing or our offerings and their ability to continue their operations and spending levels.

Additionally, customers may elect to internally implement and self-support Hadoop deployments or other offerings similar to ours rather than contracting with us for them. If our customers do not renew their agreements 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 professional services 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. 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 and rapidly evolving. 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 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 many of our offerings. 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 offerings, 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 offerings may be harmed. Our partners may cease marketing our offerings 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 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 compete effectively, our business and operating results could be harmed.

We compete with Hadoop distribution vendors such as Cloudera Inc. and MapR Technologies, Inc., as well as enterprise software vendors, system providers and infrastructure companies that provide support subscription, professional services, on-premises or cloud-based offerings similar to our own. We also compete with cloud computing vendors that offer certain big data processing services, such as Amazon.com, Inc. Although we have entered into the Merger Agreement to merge with Cloudera, we can provide no assurances that such transaction will close within the anticipated time frame or at all. Other established system providers not currently focused on offerings similar to ours, including traditional data warehouse solution providers such as Teradata Corporation, SAP AG and Dell EMC, or open source distributed data platform providers, including non-relational NoSQL database providers such as MongoDB, Inc. and DataStax, Inc. may expand their products and services to more directly compete with us. Finally, some potential customers may elect to implement and self-support Hadoop deployments or other offerings similar to ours internally rather than purchasing them. 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 offerings, 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 product offerings with such products and services, our business will suffer.

The competitive position of our Connected Data Platforms, on-premises and cloud-based offerings 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 our product offerings, 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 our product offerings, that provider may choose not to support our product offerings. We intend to facilitate the compatibility of our product offerings 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, Apache Metron and associated open source technologies. Additionally, members of the corresponding Apache Software Foundation Project Management Committees ("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 from our offerings.

Our subscription-based offerings 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.

Demand for our offerings may fluctuate based on numerous factors, including the spending levels and growth of our current and prospective customers and general economic conditions. In addition, our 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 offerings may meet resistance from our customers or demand may decline for other reasons. Consequently, we may need to develop new and appropriate marketing and pricing strategies for our solutions. If we are unable to adapt to changes in the marketplace or if demand for our offerings 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, professional services, on-premises and cloud-based offerings to our existing customers. If our existing customers do not purchase additional or incremental support subscription or other offerings, 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 customer arrangements that we will enter into during the quarter. In addition, the contract value of our support subscriptions and other offerings varies substantially among customers, and a single, large customer contract 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 cash flow 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 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 and other product offerings;
- the timing of recognizing the expense for contract acquisition costs, especially considering our current practice under the existing accounting standards;
- the renewals of our support subscription and other arrangements with our customers;
- changes in the competitive dynamics of our market;
- customers delaying purchasing decisions in anticipation of new software or software enhancements or in anticipation of our merger with Cloudera;
- the timing of satisfying revenue recognition criteria under applicable standards;
- 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 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 various open source projects such as the Apache Hadoop Project, the Apache NiFi Project or the Apache Metron Project by the Apache Software Foundation, migration of open source technology to an organization other than the Apache Software Foundation, or any other actions taken by the Apache Software Foundation or Apache projects 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 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.

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 1,410 as of September 30, 2018 from approximately 1,150 at September 30, 2017, and have increased our revenue to $252.6 million in the nine months ended September 30, 2018 from $186.8 million in the nine months ended September 30, 2017. 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, professional services, on-premises and cloud-based offerings 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 Quarterly Report on Form 10-Q, 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 our product offerings, potentially reducing the demand for and putting price pressure on our solutions. We cannot guarantee that we will be 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 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 our Connected Data Platforms may not be reproduced or distributed, may negatively impact our distribution or development of all or a portion of the platforms. In addition, at some time in the future it is possible that Apache Hadoop, Apache NiFi or Apache Metron 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.

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.

Our product offerings 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 our Connected Data Platforms, on-premises or cloud-based offerings after deployment. This risk is increased by the fact that much of the code in our product offerings 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 our product offerings 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 our offerings.

In addition, errors in our Connected Data Platform, on-premises or cloud-based offerings 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 product offerings could result in customer dissatisfaction and harm our business, results of operations, financial condition and growth prospects.

Our Connected Data Platforms, on-premises and cloud-based offerings 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. The technology underlying our product offerings, such as Hadoop and NiFi, is very complicated, technically, 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 product offerings 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, on-premises and cloud-based offerings to maximize their potential, and our offerings may perform inadequately if they are not implemented or used correctly or as intended. The incorrect or improper implementation or use of our offerings, our failure to train customers on how to efficiently and effectively use them, or our failure to provide effective solutions 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.

Interruptions or performance problems associated with our website and internal technology 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 our offerings 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 offerings. 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 offerings 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 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 the 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 continue expanding into international markets. We also have a number of distributor and reseller relationships for our offerings 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 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 also requires significant attention from our management and requires additional management and other resources in these markets. Our ability to continue expanding 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 sell our offerings through sales personnel in a variety of geographic regions, including North America, Asia Pacific, Europe and Latin America, and currently have operations in those same regions. We also have development teams and a number of distributor and reseller relationships for our offerings 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, including laws governing data practices and privacy;
- increased financial accounting and reporting burdens and complexities;
- political, social and economic instability abroad, such as the United Kingdom’s ongoing efforts to 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.

The enactment of legislation implementing changes in the United States of taxation of international business activities or the adoption of other tax reform policies could materially impact our financial position and results of operations.

Recent changes to United States tax laws, including limitations on the ability of taxpayers to claim and utilize foreign tax credits and the deferral of certain tax deductions until earnings outside of the United States are repatriated to the United States, as well as changes to United States tax laws that may be enacted in the future, could impact the tax treatment of our foreign earnings. Due to expansion of our international business activities, any changes in the United States taxation of such activities may increase our worldwide effective tax rate and adversely affect our financial position and results of operations.

Changes in accounting principles and guidance could result in unfavorable accounting charges or effects.

We prepare our financial statements in accordance with principles generally accepted in the United States. These principles are subject to interpretation by the SEC and various bodies formed to create and interpret appropriate accounting principles and guidance. A change in these principles or guidance, or in their interpretations, may have a material effect on our reported results, as well as our processes and related controls, and may retroactively affect previously reported results. For example, in May 2014, the Financial Accounting Standards Board issued Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* and Accounting Standards Codification 340-40, *Other Assets and Deferred Costs; Contracts with Customers* (the "new standard"). Effective January 1, 2018, we adopted the new standard using the modified retrospective approach. The new standard has significant impacts to the timing and amount of revenue recognized in future periods as compared to prior periods, as well as to the capitalization and amortization of contract acquisition costs (*e.g.*, sales commissions).

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, Inc., 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 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, quality assurance and data migration and analysis. Failure to adequately protect and defend our intellectual property rights in these areas may diminish the value of our offerings, 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 North America, Asia Pacific, Europe and Latin America, and have issued patent claims in North America. 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 and open source software users or distributors have received notices claiming misappropriation, misuse or infringement of other parties' intellectual property rights. In the future, we, open source software users or distributors and Apache projects may receive similar notices. To the extent software developed within Apache projects gain greater market visibility, we, open source software users or distributors and Apache projects 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 or accessed when our users visit our website or elect to use our support tools, or when they provide or allow access to personal information in many contexts such as when signing up for certain services, utilizing certain of our offerings, registering for seminars, participating in a survey, connecting with other users and Hadoop, NiFi and Metron 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. In June 2018, California passed the California Consumer Privacy Act (the "CCPA"), which will provide new data privacy rights for consumers and new operation requirements for companies and will become effective on January 1, 2020. We are continuing to assess the impact of the CCPA on our business. 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 may 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 became effective in May 2018. We have assessed the impact of the GDPR on our operations and have undertaken remedial activities to comply with the requirements, but there can be no assurance that our remedial activities will avoid or mitigate potential violations of the GDPR. 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.

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 software from an open source project that we include in our product offerings, our customers and potential customers may lose trust in the security of our 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 the 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.

Economic downturns or negative conditions in the general economy both in the United States and abroad could harm our business and results of operations and cause a decrease in corporate spending on enterprise software in general.

General worldwide economic conditions have experienced, and in the future may experience, significant downturns. Fluctuations in economic 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, customers may choose to develop or utilize in-house self-support capabilities as an alternative to purchasing our other offerings. Moreover, competitors may respond to market conditions by lowering prices of their offerings. In addition, the increased pace of consolidation in certain industries may result in reduced overall spending on our offerings.

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, and although the Merger Agreement restricts us from incurring any long-term or short-term debt or issuing any debt securities outside the ordinary course of business, 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 our offerings, 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. In addition, the Merger Agreement limits our ability to engage in equity or debt financings. If we are unable to obtain adequate financing or financing on terms that are satisfactory to us when we require it and comply with the Merger Agreement, as applicable, 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, amortizable intangible assets or capitalized contract acquisition costs become impaired, we may be required to record a significant charge to earnings.

Under generally accepted accounting principles in the United States, we test goodwill for impairment at least annually, and we review our amortizable intangible assets and capitalized contract acquisition costs for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. 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 lower growth rates in our industry. Factors that may be considered a change in circumstances indicating that the carrying value of our capitalized contract acquisition costs may not be recoverable include increased costs associated with the delivery of services. 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, amortizable intangible assets or capitalized contract acquisition costs is determined, which could harm our results of operations.

Due to the Merger, the ability of the combined company to use net operating losses to offset future taxable income may be restricted and these net operating losses could expire or otherwise be unavailable.

As of December 31, 2017, we had federal and state and local tax net operating loss carryforwards ("NOLs") of $525.3 million and $405.7 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. If the Merger is completed, our existing NOLs may be subject to limitations and the combined company may not be able to fully use these NOLs to offset future taxable income. In addition, if the combined company undergoes any subsequent ownership change, its ability to utilize NOLs could be further limited. There is also a risk that, due to regulatory changes, such as suspensions on the use of NOL carryforwards, eliminations of loss carrybacks and limitations on the use of future losses associated with the Tax Cuts and Jobs Act, or other unforeseen reasons, some or all of 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 utilization of all 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 stockholders, or both. For example, we have entered into a strategic relationship and/or customer relationship with Red Hat, Inc. ("Red Hat"), and our director Paul Cormier is an employee of Red Hat. 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.

Catastrophic events may disrupt our business.

Our corporate headquarters is 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, cloud-based 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. It is possible that in the process of such evaluation and testing, we may identify one or more material weaknesses. If we 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 at the end of the current fiscal year. 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.

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:

- uncertainties related to our proposed Merger with Cloudera;
- 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;
- 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. We have in the past and may in the future face securities litigation, which 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.

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.

The requirements of being a public company, including the additional requirements we must comply with when we cease to be an emerging growth company" after the end of this fiscal year, 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.

We will remain an "emerging growth company," as defined in the federal securities laws, through the end of this fiscal year, after which we will qualify as a "large accelerated filer," due to at least $700 million of our equity securities being held by non-affiliates as of the end of the second quarter of this fiscal year. During this period, 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 exemption from stockholder approval of any golden parachute payments not previously approved. After we are no longer an emerging growth company, we will be required to comply with these additional laws, rules and regulations. Compliance with these laws, 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. In addition, because we will no longer be an emerging growth company after the end of this fiscal year, our independent registered public accounting firm will be required to formally audit and attest to the effectiveness of our internal control over financial reporting pursuant to Section 404 as part of our Form 10-K for the fiscal year ended December 31, 2018. 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 engaged outside consultants 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.

Both being a public company and complying with 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 Securities and Exchange Commission, 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 are currently limited by the Merger Agreement from issuing dividends to our stockholders. 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.

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 2. Unregistered Sales of Equity Securities and Use of Proceeds.

Sales of Unregistered Securities

None.

Issuer Purchases of Equity Securities

The Company has no publicly announced plan or program for the purchase of shares.

Item 6. Exhibits.

The following documents are filed as part of this report:

1. Condensed Consolidated Financial Statements

2. Exhibits

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

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EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporated by Reference Form	File No.	Exhibit	Filing Date	Filed Herewith
2.1∞	Agreement and Plan of Merger and Reorganization, dated as of October 3, 2018, by and among Hortonworks, Inc., Cloudera, Inc. and Surf Merger Corporation.	8-K	001-36780	2.1	October 3, 2018	
10.1	Form of Hortonworks Support Agreement.	8-K	001-36780	10.1	October 3, 2018	
10.2	Form of Cloudera Support Agreement.	8-K	001-36780	10.2	October 3, 2018	
31.1	Certification of Chief Executive 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
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.INS	XBRL Instance Document					X
101.SCH	XBRL Taxonomy Extension Schema Document					X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document					X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document					X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document					X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document					X

* The certifications attached as Exhibit 32.1 that accompany this Quarterly Report on Form 10-Q, 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 Quarterly Report on Form 10-Q, irrespective of any general incorporation language contained in such filing.

∞ The schedules to the Agreement and Plan of Merger and Reorganization have been omitted from this filing pursuant to Item 601(b)(2) of Regulation S-K. Registrant will furnish copies of such schedules to the Securities and Exchange Commission upon request by the Commission.

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: November 8, 2018

By: /s/ Scott Davidson
Scott Davidson
Chief Financial Officer and Chief Operating Officer
(Principal Financial Officer and duly authorized signatory)

Exhibit 31.1

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Robert Bearden, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Hortonworks, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a–15(e) and 15d–15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant’s other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the Audit Committee of the registrant’s Board of Directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: November 8, 2018

By: /s/ Robert Bearden

Robert Bearden
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Scott Davidson, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Hortonworks, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a–15(e) and 15d–15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the Audit Committee of the registrant's Board of Directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 8, 2018

By: /s/ Scott Davidson
Scott Davidson
Chief Financial Officer and Chief Operating Officer
(Principal Financial Officer)

Exhibit 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**

I, Robert Bearden, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report on Form 10-Q of Hortonworks, Inc. for the quarter ended September 30, 2018 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Quarterly Report on Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of Hortonworks, Inc.

Date: November 8, 2018	By:	/s/ Robert Bearden
	Name:	Robert Bearden
	Title:	Chief Executive Officer

I, Scott Davidson, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report on Form 10-Q of Hortonworks, Inc. for the quarter ended September 30, 2018 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Quarterly Report on Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of Hortonworks, Inc.

Date: November 8, 2018	By:	/s/ Scott Davidson
	Name:	Scott Davidson
	Title:	Chief Financial Officer and Chief Operating Officer