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, 2019

☐ **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 001-38267

RIBBON COMMUNICATIONS INC.

(Exact name of Registrant as specified in its charter)

DELAWARE	**82-1669692**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

4 Technology Park Drive, Westford, Massachusetts 01886
(Address of principal executive offices) (Zip code)

(978) 614-8100
(Registrant's telephone number, including area code)

N/A
(Former name, former address and former fiscal year, if changed since last report)

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

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common Stock, par value $0.0001	RBBN	The Nasdaq Global Select Market

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, 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 ☒

As of October 25, 2019, there were 110,715,311 shares of the registrant's common stock,$0.0001 par value per share, outstanding.

RIBBON COMMUNICATIONS INC.
FORM 10-Q
QUARTERLY PERIOD ENDED SEPTEMBER 30, 2019
TABLE OF CONTENTS

Cautionary Note Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains "forward-looking statements" within the meaning of the U.S. Private Securities Litigation Reform Act of 1995, which are subject to a number of risks and uncertainties. All statements other than statements of historical facts contained in this Quarterly Report on Form 10-Q, including statements regarding our future expenses, results of operations and financial position, integration activities, potential stock repurchases, remaining settlement payments, beliefs about our market capitalization, business strategy, statements about the potential impact of the merger and acquisition transactions described herein, plans and objectives of management for future operations, plans for future cost reductions, restructuring activities and plans for future product development and manufacturing are forward-looking statements. Without limiting the foregoing, the words "anticipates", "believes", "could", "estimates", "expects", "intends", "may", "plans", "seeks" and other similar language, whether in the negative or affirmative, are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Forward-looking statements are based on our current expectations and assumptions regarding our business, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements including, but not limited to, our successful integration activities with respect to acquisitions; our ability to realize the benefits from mergers and acquisitions; the effects of disruption from mergers and acquisitions, making it more difficult to maintain relationships with employees, customers, business partners or government entities; unpredictable fluctuations in quarterly revenue and operating results; failure to compete successfully against telecommunications equipment and networking companies; failure to grow our customer base or generate recurring business from our existing customers; consolidation in the telecommunications industry; credit risks; the timing of customer purchasing decisions and our recognition of revenues; economic conditions; our ability to recruit and retain key personnel; difficulties supporting our strategic focus on channel sales; difficulties retaining and expanding our customer base; difficulties leveraging market opportunities; the impact of restructuring and cost-containment activities; litigation; actions taken by significant stockholders; difficulties providing solutions that meet the needs of customers; market acceptance of our products and services; rapid technological and market change; our ability to protect our intellectual property rights and obtain necessary licenses; our ability to maintain partner, reseller, distribution and vendor support and supply relationships; our negotiating position relative to our large customers; the limited supply of certain components of our products; the potential for defects in our products; risks related to the terms of our credit agreement; higher risks in international operations and markets; the impact of increased competition; increases in tariffs, trade restrictions or taxes on our products; currency fluctuations; changes in the market price of our common stock; and/or failure or circumvention of our controls and procedures. We therefore caution you against relying on any of these forward-looking statements.

Important factors that could cause actual results to differ materially from those in these forward-looking statements are also discussed in Part I, Item 2, "Management's Discussion and Analysis of Financial Condition and Results of Operations" of this Quarterly Report on Form 10-Q and Part I, Item 1A and Part II, Item 7A, "Risk Factors" and "Quantitative and Qualitative Disclosures About Market Risk," respectively, of our Annual Report on Form 10-K/A for the year ended December 31, 2018. Also, any forward-looking statement made by us in this Quarterly Report on Form 10-Q speaks only as of the date on which this Quarterly Report on Form 10-Q was first filed. We undertake no obligation to publicly update any forward-looking statement, whether as a result of new information, future developments or otherwise.

Presentation of Information

Effective October 27, 2017, we completed the merger (the "Merger") of Sonus Networks, Inc. ("Sonus"), GENBAND Holdings Company, GENBAND, Inc. and GENBAND II, Inc. (collectively, "GENBAND"). Unless the context otherwise requires, references in this Quarterly Report on Form 10-Q to "Ribbon," "Ribbon Communications," "Company," "we," "us" and "our" and "the Company" refer to (i) Sonus Networks, Inc. and its subsidiaries prior to the Merger and (ii) Ribbon Communications Inc. and its subsidiaries upon completion of the Merger, as applicable.

PART I FINANCIAL INFORMATION

Item 1. Financial Statements

RIBBON COMMUNICATIONS INC.
Condensed Consolidated Balance Sheets
(in thousands, except share and per share data)
(unaudited)

	September 30, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 40,397	$ 43,694
Marketable securities	—	7,284
Accounts receivable, net	162,964	187,853
Inventory	14,103	22,602
Other current assets	29,880	17,002
Total current assets	247,344	278,435
Property and equipment, net	27,023	27,042
Intangible assets, net	225,762	251,391
Goodwill	389,196	383,655
Deferred income taxes	5,463	9,152
Operating lease right-of-use assets	37,132	—
Other assets	25,161	7,484
	$ 957,081	$ 957,159
Liabilities and Stockholders' Equity		
Current liabilities:		
Current portion of long-term debt	$ 2,500	$ —
Revolving credit facility	34,000	55,000
Accounts payable	25,113	45,304
Accrued expenses and other	52,650	84,263
Operating lease liabilities	7,568	—
Deferred revenue	83,423	105,087
Total current liabilities	205,254	289,654
Long-term debt, net of current	46,605	—
Long-term debt, related party	—	24,100
Operating lease liabilities, net of current	37,600	—
Deferred revenue, net of current	18,687	17,572
Deferred income taxes	4,865	4,738
Other long-term liabilities	13,055	30,797
Total liabilities	326,066	366,861
Commitments and contingencies (Note 17)		
Stockholders' equity:		
Preferred stock, $0.01 par value per share; 10,000,000 shares authorized, none issued and outstanding	—	—
Common stock, $0.0001 par value per share; 240,000,000 shares authorized; 110,156,325 shares issued and outstanding at September 30, 2019; 106,815,636 shares issued and outstanding at December 31, 2018	11	11
Additional paid-in capital	1,743,089	1,723,576
Accumulated deficit	(1,116,704)	(1,136,992)
Accumulated other comprehensive income	4,619	3,703
Total stockholders' equity	631,015	590,298
	$ 957,081	$ 957,159

See notes to the unaudited condensed consolidated financial statements.

RIBBON COMMUNICATIONS INC.
Condensed Consolidated Statements of Operations
(in thousands, except per share data)
(unaudited)

	Three months ended		Nine months ended	
	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
Revenue:				
Product	$ 61,152	$ 77,283	$ 180,691	$ 191,937
Service	76,501	75,185	221,311	219,072
Total revenue	137,653	152,468	402,002	411,009
Cost of revenue:				
Product	31,476	38,891	101,056	102,183
Service	27,300	31,343	84,807	96,208
Total cost of revenue	58,776	70,234	185,863	198,391
Gross profit	78,877	82,234	216,139	212,618
Operating expenses:				
Research and development	34,222	34,403	105,456	109,056
Sales and marketing	28,227	31,488	87,179	94,152
General and administrative	9,673	15,942	40,833	46,571
Acquisition- and integration-related	1,697	5,570	6,861	14,262
Restructuring and related	2,372	2,397	16,448	15,162
Total operating expenses	76,191	89,800	256,777	279,203
Income (loss) from operations	2,686	(7,566)	(40,638)	(66,585)
Interest expense, net	(726)	(1,420)	(3,352)	(2,754)
Other income (expense), net	(507)	(1,254)	70,128	(3,058)
Income (loss) before income taxes	1,453	(10,240)	26,138	(72,397)
Income tax benefit (provision)	197	82	(5,850)	(2,587)
Net income (loss)	$ 1,650	$ (10,158)	$ 20,288	$ (74,984)
Earnings (loss) per share:				
Basic	$ 0.01	$ (0.10)	$ 0.19	$ (0.73)
Diluted	$ 0.01	$ (0.10)	$ 0.18	$ (0.73)
Shares used to compute earnings (loss) per share:				
Basic	110,080	104,918	109,523	103,009
Diluted	110,756	104,918	110,100	103,009

See notes to the unaudited condensed consolidated financial statements.

RIBBON COMMUNICATIONS INC.
Condensed Consolidated Statements of Comprehensive Income (Loss)
(in thousands)
(unaudited)

	Three months ended		Nine months ended	
	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
Net income (loss)	$ 1,650	$ (10,158)	$ 20,288	$ (74,984)
Other comprehensive income (loss), net of tax:				
Foreign currency translation adjustments	270	(80)	326	(43)
Unrealized gain (loss) on available-for sale marketable securities, net of reclassification adjustments for realized amounts	—	23	590	(10)
Employee retirement benefits	—	156	—	156
Other comprehensive income, net of tax	270	99	916	103
Comprehensive income (loss)	$ 1,920	$ (10,059)	$ 21,204	$ (74,881)

See notes to the unaudited condensed consolidated financial statements.

RIBBON COMMUNICATIONS INC.
Condensed Consolidated Statements of Stockholders' Equity
(in thousands, except shares)
(unaudited)

Three months ended September 30, 2019

	Common stock					
	Shares	Amount	Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive income	Total stockholders' equity
Balance at July 1, 2019	110,007,237	$ 11	$ 1,740,563	$ (1,118,354)	$ 4,349	$ 626,569
Exercise of stock options	19,009		43			43
Vesting of restricted stock awards and units	130,580					—
Shares of restricted stock returned to the Company under net share settlements to satisfy tax withholding obligations	(501)		(2)			(2)
Stock-based compensation expense			2,485			2,485
Other comprehensive income					270	270
Net income				1,650		1,650
Balance at September 30, 2019	110,156,325	$ 11	$ 1,743,089	$ (1,116,704)	$ 4,619	$ 631,015

Nine months ended September 30, 2019

	Common stock					
	Shares	Amount	Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive income	Total stockholders' equity
Balance at January 1, 2019	106,815,636	$ 11	$ 1,723,576	$ (1,136,992)	$ 3,703	$ 590,298
Issuance of common stock in connection with employee stock purchase plan	139,390		506			506
Exercise of stock options	126,015		233			233
Vesting of restricted stock awards and units	1,296,966					—
Vesting of performance-based stock units	9,466					—
Shares of restricted stock returned to the Company under net share settlements to satisfy tax withholding obligations	(204,027)		(1,082)			(1,082)
Shares issued as consideration in connection with the acquisition of Anova Data, Inc.	2,948,793		15,186			15,186
Repurchase and retirement of common stock	(975,914)		(4,536)			(4,536)
Reclassification of liability to equity for bonuses converted to stock awards			1,052			1,052
Stock-based compensation expense			8,154			8,154
Other comprehensive income					916	916
Net income				20,288		20,288
Balance at September 30, 2019	110,156,325	$ 11	$ 1,743,089	$ (1,116,704)	$ 4,619	$ 631,015

RIBBON COMMUNICATIONS INC.
Condensed Consolidated Statements of Stockholders' Equity (continued)
(in thousands, except shares)
(unaudited)

Three months ended September 30, 2018

	Common stock						
	Shares	Amount	Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive income	Total stockholders' equity
Balance at July 1, 2018	102,243,477	$ 10	$ 1,688,966	$ (1,124,799)	$ 3,073	$ 567,250
Exercise of stock options	6,070		1			1
Vesting of restricted stock awards and units	44,209					—
Shares of restricted stock returned to the Company under net share settlements to satisfy tax withholding obligations	(16,757)		(113)			(113)
Shares issued as consideration in connection with acquisition of Edgewater Networks, Inc.	4,235,531	1	29,999			30,000
Assumption of equity awards in connection with acquisition of Edgewater Networks, Inc.			747			747
Stock-based compensation expense			2,516			2,516
Other comprehensive income					119	119
Net loss				(10,158)		(10,158)
Balance at September 30, 2018	106,512,530	$ 11	$ 1,722,116	$ (1,134,957)	$ 3,192	$ 590,362

Nine months ended September 30, 2018

	Common stock					
	Shares	Amount	Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive income	Total stockholders' equity
Balance at January 1, 2018	101,752,856	$ 10	$ 1,684,768	$ (1,072,426)	$ 3,069	$ 615,421
Adoption of Accounting Standards Codification 606, *Revenue from Contracts with Customers*				12,453		12,453
Exercise of stock options	8,653		11			11
Vesting of restricted stock awards and units	769,195					—
Vesting of performance-based stock units	57,768					—
Shares of restricted stock returned to the Company under net share settlements to satisfy tax withholding obligations	(311,473)		(830)			(830)
Shares issued as consideration in connection with acquisition of Edgewater Networks, Inc.	4,235,531	1	29,999			30,000
Assumption of equity awards in connection with acquisition of Edgewater Networks, Inc.			747			747
Stock-based compensation expense			7,421			7,421
Other comprehensive income					123	123
Net loss				(74,984)		(74,984)
Balance at September 30, 2018	106,512,530	$ 11	$ 1,722,116	$ (1,134,957)	$ 3,192	$ 590,362

See notes to the unaudited condensed consolidated financial statements.

RIBBON COMMUNICATIONS INC.
Condensed Consolidated Statements of Cash Flows
(in thousands)
(unaudited)

	Nine months ended	
	September 30, 2019	September 30, 2018
Cash flows from operating activities:		
Net income (loss)	$ 20,288	$ (74,984)
Adjustments to reconcile net income (loss) to cash flows provided by (used in) operating activities:		
Depreciation and amortization of property and equipment	8,824	8,270
Amortization of intangible assets	36,829	37,721
Stock-based compensation	8,154	7,421
Deferred income taxes	4,559	(39)
Foreign exchange losses	1,042	3,066
Reduction in deferred purchase consideration	(8,124)	—
Changes in operating assets and liabilities:		
Accounts receivable	25,598	24,550
Inventory	8,387	2,783
Other operating assets	(20,242)	2,796
Accounts payable	(20,260)	(7,679)
Accrued expenses and other long-term liabilities	(21,535)	(20,033)
Deferred revenue	(20,889)	(7,413)
Net cash provided by (used in) operating activities	22,631	(23,541)
Cash flows from investing activities:		
Purchases of property and equipment	(8,594)	(5,950)
Business acquisitions, net of cash acquired	—	(46,389)
Maturities of marketable securities	7,295	18,919
Net cash used in investing activities	(1,299)	(33,420)
Cash flows from financing activities:		
Borrowings under revolving line of credit	109,000	142,500
Principal payments on revolving line of credit	(130,000)	(104,500)
Proceeds from issuance of long-term debt	50,000	—
Principal payment of debt, related party	(24,716)	—
Principal payment of long-term debt	(625)	—
Payment of deferred purchase consideration	(21,876)	—
Principal payments of finance leases	(698)	(436)
Payment of debt issuance costs	(891)	(624)
Proceeds from the sale of common stock in connection with employee stock purchase plan	506	—
Proceeds from the exercise of stock options	233	43
Payment of tax withholding obligations related to net share settlements of restricted stock awards	(1,082)	(830)
Repurchase of common stock	(4,536)	—
Net cash (used in) provided by financing activities	(24,685)	36,153
Effect of exchange rate changes on cash and cash equivalents	56	(281)
Net decrease in cash and cash equivalents	(3,297)	(21,089)
Cash and cash equivalents, beginning of year	43,694	57,073
Cash and cash equivalents, end of period	$ 40,397	$ 35,984

RIBBON COMMUNICATIONS INC.
Condensed Consolidated Statements of Cash Flows (continued)
(in thousands)
(unaudited)

	Nine months ended	
	September 30, 2019	September 30, 2018
Supplemental disclosure of cash flow information:		
Interest paid	$ 3,649	$ 1,568
Income taxes paid	$ 3,527	$ 4,047
Income tax refunds received	$ 291	$ 426
Supplemental disclosure of non-cash investing activities:		
Capital expenditures incurred, but not yet paid	$ 560	$ 344
Property and equipment acquired under finance leases	$ 150	$ 1,218
Acquisition purchase consideration - deferred payments	$ 1,700	$ 30,000
Shares of common stock issued as purchase consideration	$ 15,186	$ 30,000
Acquisition purchase consideration - assumed equity awards	$ —	$ 747
Supplemental disclosure of non-cash financing activities:		
Total fair value of restricted stock awards, restricted stock units and performance-based stock units on date vested	$ 6,765	$ 5,462

See notes to the unaudited condensed consolidated financial statements.

(1) BASIS OF PRESENTATION

Business

Ribbon is a leading provider of next generation ("NextGen") software solutions to telecommunications, wireless and cable service providers and enterprises of all sizes across industry verticals. With over 1,000 customers around the globe, including some of the largest telecommunications service providers and enterprises in the world, Ribbon enables service providers and enterprises to modernize their communications networks through software and provide secure real-time communications ("RTC") solutions to their customers and employees. By securing and enabling reliable and scalable Internet Protocol ("IP") networks, Ribbon helps service providers and enterprises adopt the next generation of software-based virtualized and cloud communications technologies to drive new, incremental revenue, while protecting their existing revenue streams. Ribbon's software solutions provide a secure way for its customers to connect and leverage multivendor, multiprotocol communications systems and applications across their networks and the cloud, in a rapidly changing ecosystem of IP-enabled devices, such as smartphones and tablets. In addition, Ribbon's software solutions secure cloud-based delivery of unified communications ("UC") solutions - both for service providers transforming to a cloud-based network and for enterprises using cloud-based UC. Ribbon sells its software solutions through both direct sales and indirect channels, leveraging the assistance of resellers, and provides ongoing support to its customers through a global services team with experience in design, deployment and maintenance of some of the world's largest software IP networks.

Basis of Presentation

In the opinion of management, the accompanying unaudited condensed consolidated financial statements include all adjustments, consisting only of normal recurring items, necessary for their fair presentation with accounting principles generally accepted in the United States of America ("GAAP") and with the rules and regulations of the U.S. Securities and Exchange Commission ("SEC").

On February 28, 2019 (the "Anova Acquisition Date"), the Company acquired the business and technology assets of Anova Data, Inc. ("Anova"). The financial results of Anova are included in the Company's condensed consolidated financial statements for the period subsequent to the Anova Acquisition Date.

On August 3, 2018 (the "Edgewater Acquisition Date"), the Company completed the acquisition of Edgewater Networks, Inc. (“Edgewater”). The financial results of Edgewater are included in the Company's condensed consolidated financial statements for the periods subsequent to the Edgewater Acquisition Date.

Interim results are not necessarily indicative of results for a full year or any future interim period. The information included in this Quarterly Report on Form 10-Q should be read in conjunction with the Company's Annual Report on Form 10-K/A for the year ended December 31, 2018 (the "Annual Report"), which was filed with the SEC on March 5, 2019.

Significant Accounting Policies

The Company's significant accounting policies are disclosed in Note 2 to the Consolidated Financial Statements included in the Annual Report. There were no material changes to the significant accounting policies during the nine months ended September 30, 2019, apart from the Company's accounting policy related to accounting for leases, as discussed below.

Effective January 1, 2019, the Company adopted the Financial Accounting Standard Board's ("FASB") new standard on accounting for leases, Accounting Standards Codification ("ASC") 842, *Leases* ("ASC 842"). ASC 842 replaced existing lease accounting rules with a comprehensive lease measurement and recognition standard and expanded disclosure requirements (see Note 16). ASC 842 requires lessees to recognize most leases on their balance sheets and eliminates the current GAAP requirement for an entity to use bright-line tests in determining lease classification.

The Company elected to use the alternative transition method, which allows entities to initially apply ASC 842 at the adoption date with no subsequent adjustments to prior period lease costs for comparability. The Company elected the package of practical expedients permitted under the transition guidance, which provided that a company need not reassess whether expired or existing contracts contained a lease, the lease classification of expired or existing leases, and the amount of initial direct costs for existing leases.

In connection with the adoption of ASC 842, the Company recorded additional lease assets of$43.9 million and additional lease liabilities of $47.8 million as of January 1, 2019. The difference between the additional lease assets and lease liabilities, net of the deferred tax impact, was due to the absorption of related balances into the right-of-use assets, such as deferred rent. The adoption of this standard had no impact on the Company's condensed consolidated statements of operations or cash flows.

Principles of Consolidation

The condensed consolidated financial statements include the accounts of Ribbon and its wholly-owned subsidiaries. Intercompany transactions and balances have been eliminated in consolidation.

Use of Estimates and Judgments

The preparation of financial statements in conformity with GAAP requires Ribbon to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting periods. Significant estimates and judgments relied upon in preparing these condensed consolidated financial statements include accounting for business combinations, revenue recognition for multiple element arrangements, inventory valuations, assumptions used to determine the fair value of stock-based compensation, intangible asset and goodwill valuations, including impairments, legal contingencies and recoverability of Ribbon's net deferred tax assets and the related valuation allowances. Ribbon regularly assesses these estimates and records changes in estimates in the period in which they become known. Ribbon bases its estimates on historical experience and various other assumptions that it believes to be reasonable under the circumstances. Actual results could differ from those estimates.

Reclassifications

Certain reclassifications may be made to the previously issued financial statements to conform to the current period presentation, none of which affected the net income (loss) as previously reported.

Fair Value of Financial Instruments

The carrying amounts of the Company's financial instruments approximate their fair values and include cash equivalents, investments, accounts receivable, borrowings under a revolving credit facility, accounts payable and long-term debt.

Operating Segments

The Company operates in a single segment, as the chief operating decision maker makes decisions and assesses performance at the company level. Operating segments are identified as components of an enterprise about which separate discrete financial information is utilized for evaluation by the chief operating decision maker in making decisions regarding resource allocation and assessing performance. To date, the chief operating decision maker has made such decisions and assessed performance at the company level as one segment. The Company's chief operating decision maker is its President and Chief Executive Officer.

Recent Accounting Pronouncements

In June 2016, the FASB issued ASU 2016-13,*Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"), which adds an impairment model that is based on expected losses rather than incurred losses. Under ASU 2016-13, an entity recognizes as an allowance its estimate of expected credit losses, which the FASB believes will result in more timely recognition of such losses. In April and May 2019, the FASB issued ASU 2019-04, *Codification Improvements to Topic 326, Financial Instruments - Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments* ("ASU 2019-04") and ASU 2019-05 *Financial Instruments - Credit Losses (Topic 326): Targeted Transition Relief*("ASU 2019-05"), respectively. ASU 2019-04 provides transition relief for entities adopting ASU 2016-13 and ASU 2019-05 clarifies certain aspects of the accounting for credit losses, hedging activities and financial instruments in connection with the adoption of ASU 2016-13. ASU 2019-04 and ASU 2019-05 are effective with the adoption of ASU 2016-13, which is effective for the Company beginning January 1, 2020 for both interim and annual reporting periods, with early adoption permitted. The Company continues to assess the potential impact of the adoption of ASU 2016-13 and related amendments and currently does not believe that it will have a material impact on the Company's condensed consolidated financial statements.

The FASB has issued the following accounting pronouncements, all of which became effective for the Company on January 1, 2019 and none of which had a material impact on the Company's condensed consolidated financial statements:

In July 2018, the FASB issued ASU 2018-09, *Codification Improvements* ("ASU 2018-09"), which contains amendments to clarify, correct errors in or make minor improvements to the FASB Codification. ASU 2018-09 makes improvements to multiple topics, including but not limited to comprehensive income, debt, income taxes related to both stock-based compensation and business combinations, fair value measurement and defined contribution benefit plans.

In June 2018, the FASB issued ASU 2018-07, *Compensation - Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting* ("ASU 2018-07"), which expands the scope of ASC 718, *Compensation - Stock Compensation* ("ASC 718"), to include all share-based payment arrangements related to the acquisition of goods and services from both nonemployees and employees. As a result, most of the guidance in ASC 718 associated with employee share-based payments, including most of its requirements related to classification and measurement, applies to nonemployee share-based payment arrangements.

In February 2018, the FASB issued ASU 2018-02, *Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income* ("ASU 2018-02"), which amends ASC 220, *Income Statement - Reporting Comprehensive Income*, to allow a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the Tax Cuts and Jobs Act (the "Tax Act") and requires entities to provide certain disclosures regarding stranded tax effects. The Company did not elect to reclassify the income tax effects of the Tax Act from accumulated other comprehensive income to accumulated deficit.

In October 2016, the FASB issued ASU 2016-16, *Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory* ("ASU 2016-16"), which removes the prohibition in ASC 740, *Income Taxes*, against the immediate recognition of the current and deferred income tax effects of intra-entity transfers of assets other than inventory.

In addition, the FASB has issued the following accounting pronouncements, none of which the Company believes will have a material impact on its condensed consolidated financial statements:

In August 2018, the FASB issued ASU 2018-15, *Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract* ("ASU 2018-15"), which provides guidance on implementation costs incurred in a cloud computing arrangement ("CCA") that is a service contract. ASU 2018-15 amends ASC 350, *Intangibles - Goodwill and Other* ("ASC 350") to include in its scope implementation costs of a CCA that is a service contract and clarifies that a customer should apply the guidance in ASC 350-40 to determine which implementation costs should be capitalized in such a CCA. ASU 2018-15 is effective for the Company beginning January 1, 2020.

In August 2018, the FASB issued ASU 2018-14, *Compensation - Retirement Benefits - Defined Benefit Plans - General (Subtopic 715-20): Disclosure Framework - Changes to the Disclosure Requirements for Defined Benefit Plans* ("ASU 2018-14"), which amends ASC 715, *Compensation - Retirement Benefits*, to add, remove and clarify disclosure requirements related to defined benefit pension and other postretirement plans. ASU 2018-14 is effective for the Company beginning January 1, 2020.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement* ("ASU 2018-13"), which changes the fair value measurement requirements of ASC 820, *Fair Value Measurement*. ASU 2018-13 is effective for the Company beginning January 1, 2020 for both interim and annual reporting.

(2) BUSINESS ACQUISITIONS

Anova Data, Inc.

On the Anova Acquisition Date, the Company acquired the business and technology assets of Anova, a private company headquartered in Westford, Massachusetts that provides advanced analytics solutions (the "Anova Acquisition"). The Anova Acquisition was completed in accordance with the terms and conditions of an asset purchase agreement, dated as of January 31, 2019 (the "Anova Asset Purchase Agreement"). The Company believes that the Anova Acquisition will reinforce and extend Ribbon's strategy to expand into network optimization, security and data monetization via big data analytics and machine learning.

As consideration for the Anova Acquisition, Ribbon issued2.9 million shares of Ribbon common stock with a fair value of$15.2 million to Anova's sellers and equity holders on the Anova Acquisition Date and held back an additional 0.3 million shares with a fair value of$1.7 million, some or all of which could be issued subject to post-closing adjustments (the "Anova Deferred Consideration"). The Anova Deferred Consideration is included as a component of Accrued expenses and other current liabilities in the Company's condensed consolidated balance sheet at September 30, 2019.

The Anova Acquisition has been accounted for as a business combination and the financial results of Anova have been included in the Company's condensed consolidated financial statements for the period subsequent to the Anova Acquisition Date. The results for the three and nine months ended September 30, 2019 are not significant to the Company's condensed consolidated financial statements. The Company has not provided pro forma financial information, as the historical amounts are not significant to the Company's condensed consolidated financial statements.

As of September 30, 2019, the valuation of acquired assets, identifiable intangible assets and certain assumed liabilities was preliminary. The purchase consideration aggregating $16.9 million has been preliminarily allocated to $11.2 million of identifiable intangible assets (comprised of$7.2 million of customer relationships and $4.0 million of developed technology) and working capital items aggregating$0.1 million of net assets acquired. The remaining unallocated amount of $5.5 million has been recorded as goodwill.

The valuation of the acquired intangible assets is inherently subjective and relies on significant unobservable inputs. The Company used an income approach to value the acquired intangible assets relating to developed technology and customer relationships. The valuation for each of these intangible assets was based on estimated projections of expected cash flows to be generated by the assets, discounted to the present value at discount rates commensurate with perceived risk. The valuation assumptions take into consideration the Company's estimates of customer attrition, technology obsolescence and revenue growth projections. The Company is amortizing the identifiable intangible assets in relation to the expected cash flows from the individual intangible assets over their respective useful lives, which have a weighted average life of 7.5 years. The preliminary purchase price allocation is subject to change, and such change could be material based on numerous factors, including the final estimated fair value of the assets acquired and liabilities assumed and the amount of the final post-closing net working capital adjustment. The Company expects to finalize the valuation of the assets acquired and liabilities assumed by the fourth quarter of 2019.

The excess of purchase consideration over net tangible and identifiable intangible assets acquired was recorded as goodwill. The goodwill is deductible for tax purposes.

Edgewater Networks, Inc.

On the Edgewater Acquisition Date, the Company completed its acquisition of Edgewater, a private company headquartered in San Jose, California (the "Edgewater Acquisition"). The Edgewater Acquisition was completed in accordance with the terms and conditions of an agreement and plan of merger, dated as of June 24, 2018 (the "Edgewater Merger Agreement").

Edgewater is a market leader in Network Edge Orchestration for the small and medium enterprise and UC market. The Company believes that the Edgewater Acquisition advances its strategy by offering its global customer base a complete core-to-edge product portfolio, end-to-end service assurance and analytics solutions, and a fully integrated software-defined wide-area network ("SD-WAN") service.

As consideration for the Edgewater Acquisition, Ribbon paid, in the aggregate,$46.4 million of cash, net of cash acquired, and issued4.2 million shares of Ribbon common stock to Edgewater's selling shareholders and holders of vested in-the-money options and warrants to acquire common stock of Edgewater (the "Edgewater Selling Stakeholders") on the Edgewater Acquisition Date. Pursuant to the Edgewater Merger Agreement and subject to the terms and conditions contained therein, Ribbon agreed to pay the Edgewater Selling Stakeholders an additional $30 million of cash, $15 million of which was to be paid 6 months from the closing date and the other $15 million of which was to be paid as early as 9 months from the closing date and no later than 18 months from the closing date (the exact timing of which would depend on the amount of revenue generated from the sales of Edgewater products in 2018) (the "Edgewater Deferred Consideration"). The current portion of this deferred purchase consideration was included as a component of Accrued expenses and other, and the noncurrent portion was included as a component of Other long-term liabilities in the Company's condensed consolidated balance sheet as of December 31, 2018.

On February 15, 2019, the Company and the Edgewater Selling Stakeholders agreed to reduce the amount of Edgewater Deferred Consideration from$30 million to $21.9 million and agreed that all such deferred consideration would be payable on March 8, 2019. The Company paid the Edgewater Selling Stakeholders $21.9 million on March 8, 2019 and recorded the reduction to the Edgewater Deferred Consideration of$8.1 million in Other income (expense), net, in the Company's condensed consolidated statement of operations and as a non-cash adjustment to reconcile net income to cash flows provided by operating activities in the Company's condensed consolidated statement of cash flows for the nine months ended September 30, 2019.

The Edgewater Acquisition has been accounted for as a business combination and the financial results of Edgewater have been included in the Company's condensed consolidated financial statements for the period subsequent to its acquisition.

As of September 30, 2019, the valuation of acquired assets, identifiable intangible assets and certain assumed liabilities was final. A summary of the final allocation of the purchase consideration for Edgewater as of September 30, 2019 is as follows (in thousands):

Fair value of consideration transferred:		
Cash consideration:		
Cash paid to Edgewater Selling Stakeholders	$	51,162
Less cash acquired		(4,773)
Net cash consideration		46,389
Deferred purchase consideration		30,000
Fair value of Ribbon stock issued		30,000
Fair value of equity awards assumed (see Note 12)		747
Fair value of total consideration	$	107,136
Fair value of assets acquired and liabilities assumed:		
Current assets, net of cash acquired	$	16,098
Property and equipment		245
Intangible assets:		
Developed technology		29,500
Customer relationships		26,100
Trade names		1,100
Goodwill		48,053
Other noncurrent assets		103
Deferred revenue		(2,749)
Other current liabilities		(9,926)
Deferred revenue, net of current		(669)
Other long-term liabilities		(719)
	$	107,136

The valuation of the acquired intangible assets is inherently subjective and relies on significant unobservable inputs. The Company used an income approach to value the acquired developed technology, customer relationships and trade name intangible assets. The valuation for each of these intangible assets was based on estimated projections of expected cash flows to be generated by the assets, discounted to the present value at discount rates commensurate with perceived risk. The valuation assumptions take into consideration the Company's estimates of customer attrition, technology obsolescence and revenue growth projections. The Company is amortizing the identifiable intangible assets in relation to the expected cash flows from the individual intangible assets over their respective useful lives, which have a weighted average life of 8.4 years. Goodwill resulting from the transaction is primarily due to expected synergies between the combined companies and is not deductible for tax purposes.

The Company has not provided pro forma financial information as the historical amounts are not significant to the Company's condensed consolidated financial statements.

Acquisition- and Integration-Related Expenses

Acquisition- and integration-related expenses include those expenses related to acquisitions that would otherwise not have been incurred by the Company, including professional and services fees such as legal, audit, consulting, paying agent and other fees, and expenses related to cash payments to certain former executives of the acquired businesses in connection with their respective employment agreements. These amounts include costs related to prior acquisitions, as well as nominal amounts related to acquisitive activities. Integration-related expenses represent incremental costs related to combining the Company and its business acquisitions, such as third-party consulting and other third-party services related to merging previously separate companies' systems and processes.

The Company's acquisition- and integration-related expenses for thethree and nine months ended September 30, 2019 and 2018were as follows (in thousands):

	Three months ended		Nine months ended	
	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
Professional and services fees (acquisition-related)	$ 743	$ 2,905	$ 2,569	$ 5,314
Management bonuses (acquisition-related)	—	—	—	1,972
Integration-related expenses	954	2,665	4,292	6,976
	$ 1,697	$ 5,570	$ 6,861	$ 14,262

(3) EARNINGS (LOSS) PER SHARE

Basic earnings (loss) per share is computed by dividing net income (loss) by the weighted average number of shares outstanding during the period. For periods in which the Company reports net income, diluted net earnings per share is determined by using the weighted average number of common and dilutive common equivalent shares outstanding during the period unless the effect is antidilutive.

The calculations of shares used to compute earnings (loss) per share were as follows (in thousands):

	Three months ended		Nine months ended	
	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
Weighted average shares outstanding—basic	110,080	104,918	109,523	103,009
Potential dilutive common shares	676	—	577	—
Weighted average shares outstanding—diluted	110,756	104,918	110,100	103,009

Options to purchase the Company's common stock aggregating0.3 million shares have not been included in the computation of diluted earnings per share for the three and nine months ended September 30, 2019 because their effect would have been antidilutive. Options to purchase the Company's common stock and unvested shares of restricted and performance-based stock and stock units aggregating 3.5 million shares have not been included in the computation of diluted loss per share for the three and nine months ended September 30, 2018 because their effect would have been antidilutive.

(4) CASH EQUIVALENTS, MARKETABLE SECURITIES AND INVESTMENTS

The Company invests in debt instruments, primarily U.S. government-backed, municipal and corporate obligations, which management believes to be high quality (investment grade) credit instruments.

The Company's remaining available-for-sale securities matured during the three months ended June 30, 2019. The Company did not hold any cash equivalents at September 30, 2019. As a result of the Company no longer holding any marketable securities or investments at September 30, 2019, the remaining tax effect on the unrealized gain (loss) on available-for-sale marketable securities was realized in the three months ended June 30, 2019 and is included in the income tax provision in the Company's condensed consolidated statement of operations for the nine months ended September 30, 2019 as a reclassification from Unrealized gain (loss) on available-for-sale marketable securities in the Company's condensed consolidated statement of comprehensive income (loss) for the same nine-month period. The Company had not sold any of its available-for-sale securities during the 2019 period prior to their full maturity. The Company sold $12.5 million of its available-for-sale marketable securities in both the three and nine months ended September 30, 2018, primarily to provide cash for acquisition-related payments in connection with the Edgewater Acquisition and to support integration-related and restructuring activities in connection with the Merger. The Company recognized nominal gross gains and losses from the sales of these securities. The Company did not hold any investments that would mature beyond one year at December 31, 2018.

The amortized cost, gross unrealized gains and losses and fair value of the Company's marketable debt securities at December 31, 2018 were comprised of the following (in thousands):

	December 31, 2018			
	Amortized cost	Unrealized gains	Unrealized losses	Fair value
Cash equivalents	$ 310	$ —	$ —	$ 310
Marketable securities				
U.S. government agency notes	$ 3,998	$ —	$ (9)	$ 3,989
Corporate debt securities	3,301	—	(6)	3,295
	$ 7,299	$ —	$ (15)	$ 7,284

Fair Value Hierarchy

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or a liability. The three-tier fair value hierarchy is based on the level of independent, objective evidence surrounding the inputs used to measure fair value. A financial instrument's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement. The fair value hierarchy is as follows:

Level 1. Level 1 applies to assets or liabilities for which there are quoted prices in active markets for identical assets or liabilities.

Level 2. Level 2 applies to assets or liabilities for which there are inputs that are directly or indirectly observable in the marketplace, such as quoted prices for similar assets or liabilities in active markets or quoted prices for identical assets or liabilities in markets with insufficient volume or infrequent transactions (less active markets).

Level 3. Level 3 applies to assets or liabilities for which there are unobservable inputs to the valuation methodology that are significant to the measurement of the fair value of the assets or liabilities.

The following table shows the fair value of the Company's financial assets atDecember 31, 2018. These financial assets are comprised of the Company's available-for-sale debt securities and reported under the captions Cash and cash equivalents and Marketable securities in the condensed consolidated balance sheet (in thousands):

		Fair value measurements at December 31, 2018 using:		
	Total carrying value at December 31, 2018	Quoted prices in active markets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Cash equivalents	$ 310	$ 310	$ —	$ —
Marketable securities				
U.S. government agency notes	$ 3,989	$ —	$ 3,989	$ —
Corporate debt securities	3,295	—	3,295	—
	$ 7,284	$ —	$ 7,284	$ —

The Company's marketable securities were valued with the assistance of valuations provided by third-party pricing services, as derived from such services' pricing models. Inputs to the models may include, but are not limited to, reported trades, executable bid and asked prices, broker/dealer quotations, prices or yields of securities with similar characteristics, benchmark curves or information pertaining to the issuer, as well as industry and economic events. The pricing services may use a matrix approach, which considers information regarding securities with similar characteristics to determine the valuation for a security. The Company is ultimately responsible for the condensed consolidated financial statements and underlying estimates. Accordingly, the Company assesses the reasonableness of the valuations provided by the third-party pricing services by reviewing actual trade data, broker/dealer quotes and other similar data, which are obtained from quoted market prices or other sources.

(5) INVENTORY

Inventory at September 30, 2019 and December 31, 2018 consisted of the following (in thousands):

	September 30, 2019	December 31, 2018
On-hand final assemblies and finished goods inventories	$ 12,137	$ 19,879
Deferred cost of goods sold	2,525	3,798
	14,662	23,677
Less noncurrent portion (included in other assets)	(559)	(1,075)
Current portion	$ 14,103	$ 22,602

(6) INTANGIBLE ASSETS AND GOODWILL

The Company's intangible assets at September 30, 2019 and December 31, 2018 consisted of the following (in thousands):

September 30, 2019	Weighted average amortization period (years)	Cost	Accumulated amortization	Net carrying value
In-process research and development	*	$ 5,600	$ —	$ 5,600
Developed technology	6.83	186,880	92,446	94,434
Customer relationships	9.47	154,140	29,363	124,777
Trade names	5.20	2,000	1,049	951
Internal use software	3.00	730	730	—
	7.86	$ 349,350	$ 123,588	$ 225,762

December 31, 2018	Weighted average amortization period (years)	Cost	Accumulated amortization	Net carrying value
In-process research and development	*	$ 5,600	$ —	$ 5,600
Developed technology	6.91	182,880	63,187	119,693
Customer relationships	9.44	146,940	22,218	124,722
Trade names	5.20	2,000	624	1,376
Internal use software	3.00	730	730	—
	7.88	$ 338,150	$ 86,759	$ 251,391

* An in-process research and development intangible asset has an indefinite life until the product is generally available, at which time such asset is typically reclassified to developed technology.

Amortization expense for intangible assets for the three and nine months ended September 30, 2019 and 2018 was as follows (in thousands):

	Three months ended		Nine months ended		
	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018	Statement of operations classification
Developed technology	$ 9,522	$ 10,593	$ 29,259	$ 29,455	Cost of revenue - product
Customer relationships	2,608	2,695	7,145	7,881	Sales and marketing
Trade names	130	160	425	385	Sales and marketing
	$ 12,260	$ 13,448	$ 36,829	$ 37,721	

Estimated future amortization expense for the Company's intangible assets atSeptember 30, 2019 was as follows (in thousands):

Years ending December 31,		
Remainder of 2019	$	12,396
2020		48,815
2021		42,493
2022		35,113
2023		27,538
Thereafter		59,407
	$	225,762

The changes in the carrying value of the Company's goodwill in thenine months ended September 30, 2019 and 2018 were as follows (in thousands):

Balance at January 1		2019		2018
Goodwill	$	386,761	$	338,822
Accumulated impairment losses		(3,106)		(3,106)
		383,655		335,716
Acquisition of Anova		5,541		—
Acquisition of Edgewater		—		46,777
Balance at September 30	$	389,196	$	382,493
Balance at September 30				
Goodwill	$	392,302	$	385,599
Accumulated impairment losses		(3,106)		(3,106)
	$	389,196	$	382,493

(7) ACCRUED EXPENSES

Accrued expenses at September 30, 2019 and December 31, 2018 consisted of the following (in thousands):

		September 30, 2019		December 31, 2018
Employee compensation and related costs	$	26,326	$	42,852
Deferred purchase consideration		1,700		15,000
Other		24,624		26,411
	$	52,650	$	84,263

(8) RESTRUCTURING AND FACILITIES CONSOLIDATION INITIATIVES

The Company recorded restructuring and related expense aggregating$2.4 million and $16.4 million in the three and nine months ended September 30, 2019, respectively, and $2.4 million and $15.2 million in the three and nine months ended September 30, 2018, respectively. Restructuring and related expense includes both restructuring expense (primarily severance and related costs), estimated future variable lease costs for vacated properties with no intent or ability of sublease, and accelerated rent amortization expense.

For restructuring events that involve lease assets and liabilities, the Company applies lease reassessment and modification guidance and evaluates the right-of-use assets for potential impairment. If the Company plans to exit all or distinct portions of a facility and does not have the ability or intent to sublease, the Company will accelerate the amortization of each of those lease components through the vacate date. The accelerated amortization is recorded as a component of Restructuring and related expense in the Company's condensed consolidated statements of operations. Related variable lease expenses will continue to be expensed as incurred through the vacate date, at which time the Company will reassess the liability balance to ensure it appropriately reflects the remaining liability associated with the premises and record a liability for the estimated future variable lease costs.

The components of Restructuring and related expense for the three and nine months ended September 30, 2019 were as follows (in thousands):

	Three months ended September 30, 2019	Nine months ended September 30, 2019
Severance and related costs	$ 719	$ 11,619
Variable and other facilities-related costs	1,052	1,370
Accelerated amortization of lease assets due to cease-use	601	3,459
	$ 2,372	$ 16,448

Prior to the adoption of ASC 842, the Company recorded restructuring accruals for future lease obligations related to vacated facilities at the time that it ceased usage of the respective facility. The components of Restructuring and related expense recorded in the three and nine months ended September 30, 2018 were as follows (in thousands):

	Three months ended September 30, 2018	Nine months ended September 30, 2018
Severance and related costs	2,481	14,603
Facilities	(84)	559
	$ 2,397	$ 15,162

2019 Restructuring and Facilities Consolidation Initiative

In June 2019, the Company implemented a restructuring plan to further streamline the Company's global footprint, improve its operations and enhance its customer delivery (the "2019 Restructuring Initiative"). The 2019 Restructuring Initiative includes facility consolidations, refinement of the Company's research and development activities, and a reduction in workforce. In connection with this initiative, the Company expects to reduce its focus on hardware and appliance-based development over time and to increase its development focus on software virtualization, functional simplicity and important customer requirements. The facility consolidations under the 2019 Restructuring Initiative (the "Facilities Initiative") include a consolidation of the Company's North Texas sites into a single campus, housing engineering, customer training and support, and administrative functions, as well as a reduction or elimination of certain excess and duplicative facilities worldwide. In addition, the Company intends to substantially consolidate its global software laboratories and server farms into two lower cost North American sites. The Company continues to evaluate its properties included in the Facilities Initiative for accelerated amortization and/or right-of-use asset impairment. The Company expects that the actions under the Facilities Initiative will be completed by the end of 2020.

In connection with the 2019 Restructuring Initiative, the Company recorded restructuring expense of$7.8 million in the nine months ended September 30, 2019, comprised of $1.8 million in the three months ended September 30, 2019 and$6.0 million in the three months ended June 30, 2019. The amount recorded in the three months ended September 30, 2019 was comprised of $0.7 million for severance and related costs for approximately20 employees and $1.1 million for variable and other facilities-related costs. The amount recorded in the three months ended June 30, 2019 was primarily for severance and related costs for approximately 110 employees. The Company expects that nearly all of the amount accrued for severance and related costs will be paid by the end of the first half of 2020. The Company estimates that it will record nominal additional restructuring expense related to severance and related costs under the 2019 Restructuring Initiative.

A summary of the 2019 Restructuring Initiative accrual activity for severance and related costs for the nine months ended September 30, 2019 is as follows (in thousands):

	Balance at January 1, 2019	Initiatives charged to expense	Cash payments	Balance at September 30, 2019
Severance	$ —	$ 6,543	$ (2,620)	$ 3,923
Variable and other facilities costs	—	1,214	(220)	994
	$ —	$ 7,757	$ (2,840)	$ 4,917

Accelerated rent amortization is recognized from the date that the Company commences the plan to fully or partially vacate a facility, for which there is no intent or ability to enter into a sublease, through the final vacate date. The Company recorded $0.6 million and $3.5 million of accelerated rent amortization in the three and nine months ended September 30, 2019, respectively. The liability for the total lease payments for each respective facility is included as a component of Operating lease liabilities in the Company's condensed consolidated balance sheets, both current and noncurrent (see Note 16). The Company may incur additional future expense if it is unable to sublease other locations included in the Facilities Initiative.

Merger Restructuring Initiative

In connection with the Merger, the Company implemented a restructuring plan in the fourth quarter of 2017 to eliminate certain redundant positions and facilities within the combined companies (the "Merger Restructuring Initiative"). In connection with this initiative, the Company recorded restructuring expense of $5.2 million in the nine months ended September 30, 2019. The Company recorded $2.5 million and $14.3 million of restructuring and related expense in the three and nine months ended September 30, 2018, respectively. Of the amount recorded in the nine months ended September 30, 2019, virtually all was for severance and related costs for approximately 40 employees. The amount recorded in the nine months ended September 30, 2018 represented severance and related costs for approximately 285 employees. The Merger Restructuring Initiative is substantially complete, and the Company anticipates it will record nominal future expense in connection with this initiative. In connection with the adoption of ASC 842 effective January 1, 2019, the Company wrote off the remaining restructuring accrual related to facilities. The Company expects that the amount accrued at September 30, 2019 for severance will be paid by the end of the first half of 2020.

A summary of the Merger Restructuring Initiative accrual activity for the nine months ended September 30, 2019 is as follows (in thousands):

	Balance at January 1, 2019	Initiatives charged to expense	Adjustment for the impact of ASC 842 adoption	Cash payments	Balance at September 30, 2019
Severance	$ 1,910	$ 5,076	$ —	$ (5,818)	$ 1,168
Facilities	771	156	(771)	(156)	—
	$ 2,681	$ 5,232	$ (771)	$ (5,974)	$ 1,168

Balance Sheet Classification

The current portions of accrued restructuring are included as a component of Accrued expenses and the long-term portions of accrued restructuring are included as a component of Other long-term liabilities in the condensed consolidated balance sheets. The long-term portions of accrued restructuring totaled $0.9 million and $0.5 million at September 30, 2019 and December 31, 2018, respectively. These amounts represent future payments related to restructured facilities.

(9) DEBT

Senior Secured Credit Facility

On December 21, 2017, the Company entered into a Senior Secured Credit Facilities Credit Agreement (the "Credit Facility"), by and among the Company, as a guarantor, Sonus Networks, Inc., as the borrower ("Borrower"), Silicon Valley Bank ("SVB"), as administrative agent (in such capacity, the "Administrative Agent"), issuing lender, swingline lender and lead arranger and the lenders party thereto (each referred to individually as a "Lender", and collectively, the "Lenders"), which refinanced the prior credit agreement with SVB that the Company had assumed in connection with the Merger. The Credit Facility includes $100 million of commitments, the full amount of which is available for revolving loans, a $15 million sublimit that is available for letters of credit and a $15 million sublimit that is available for swingline loans. On June 24, 2018, the Company amended the Credit Facility to, among other things, permit the Edgewater Acquisition and related transactions. At December 31, 2018, the Company had an outstanding debt balance of $55.0 million at an interest rate of 5.96% and $2.7 million of outstanding letters of credit at an average interest rate of 1.75% under the Credit Facility. The Company was in compliance with all covenants of the Credit Facility at December 31, 2018.

On April 29, 2019, the Company entered into a syndicated, amended and restated Credit Facility (the "New Credit Facility"). The New Credit Facility provides for a $50 million term loan facility that was advanced in full on April 29, 2019 and a $100 million revolving line of credit. The New Credit Facility also includes procedures for additional financial institutions to become syndicate lenders, or for any existing lender to increase its commitment under either the term loan facility or the revolving loan facility, subject to an aggregate increase of $75 million for incremental commitments under the New Credit Facility. The New Credit Facility is scheduled to mature in April 2024. At September 30, 2019, the Company had an outstanding term loan debt balance of $49.4 million, an outstanding revolving line of credit balance of $34.0 million, with a combined average interest rate of 3.76%, and $3.4 million of outstanding letters of credit at an average interest rate of 1.50%.

The indebtedness and other obligations under the New Credit Facility are unconditionally guaranteed on a senior secured basis by the Company and each other material U.S. domestic subsidiary of the Company (collectively, the "Guarantors"). The New Credit Facility is secured by first-priority liens on substantially all of the assets of the Borrower and the Guarantors, including the Company.

The New Credit Facility requires periodic interest payments on any outstanding borrowings under the facility. The Borrower may prepay all revolving loans under the New Credit Facility at any time without premium or penalty (other than customary LIBOR breakage costs), subject to certain notice requirements.

Revolving loans under the New Credit Facility bear interest at the Borrower's option at either the Eurodollar (LIBOR) rate plus a margin ranging from 1.50% to 3.00% per year or the base rate (the highest of the Federal Funds rate plus 0.50%, or the prime rate announced from time to time in The Wall Street Journal) plus a margin ranging from 0.50% to 2.00% per year (such margins being referred to as the "Applicable Margin"). The Applicable Margin varies depending on the Company's consolidated leverage ratio (as defined in the New Credit Facility). The base rate and the LIBOR rate are each subject to a zero percent floor.

The New Credit Facility requires compliance with certain financial covenants, including a minimum consolidated quick ratio, minimum consolidated fixed charge coverage ratio and maximum consolidated leverage ratio, all of which are defined in the New Credit Facility and tested on a quarterly basis. The Company was in compliance with all covenants of the New Credit Facility at September 30, 2019.

In addition, the New Credit Facility contains various covenants that, among other restrictions, limit the Company's and its subsidiaries' ability to enter into certain types of transactions, including, but not limited to: incurring or assuming indebtedness; granting or assuming liens; making acquisitions or engaging in mergers; making dividend and certain other restricted payments; making investments; selling or otherwise transferring assets; engaging in transactions with affiliates; entering into sale and leaseback transactions; entering into burdensome agreements; changing the nature of its business; modifying its organizational documents; and amending or making prepayments on certain junior debt.

The New Credit Facility contains events of default that are customary for a secured credit facility. If an event of default relating to bankruptcy or other insolvency events with respect to a borrower occurs, all obligations under the New Credit Facility will immediately become due and payable. If any other event of default exists under the New Credit Facility, the lenders may accelerate the maturity of the obligations outstanding under the New Credit Facility and exercise other rights and remedies, including charging a default rate of interest equal to 2.00% per year above the rate that would otherwise be applicable. In addition, if any event of default exists under the New Credit Facility, the lenders may commence foreclosure or other actions against the collateral.

If any default exists under the New Credit Facility, or if the Borrower is unable to make any of the representations and warranties as stated in the New Credit Facility at the applicable time, the Borrower will be unable to borrow funds or have letters of credit issued under the New Credit Facility, which, depending on the circumstances prevailing at that time, could have a material adverse effect on the Borrower's liquidity and working capital.

Promissory Note

In connection with the Merger, on October 27, 2017, the Company issued the Promissory Note for $22.5 million to certain of GENBAND's equity holders (the "Promissory Note"). The Promissory Note did not amortize, and the principal thereon was payable in full on the third anniversary of its execution. Interest on the Promissory Note was payable quarterly in arrears and accrued at a rate of 7.5% per year for the first six months after issuance, and thereafter at a rate of 10% per year. The failure to make any payment under the Promissory Note when due and, with respect to payment of any interest, the continuation of such failure for a period of thirty days thereafter, constituted an event of default under the Promissory Note. If an event of default occurred under the Promissory Note, the payees could declare the entire balance of the Promissory Note due and payable (including principal and accrued and unpaid interest) within five business days of the payees' notification to the Company of such acceleration. Interest that was not paid on the interest payment date increased the principal amount of the Promissory Note. At December 31, 2018, the Promissory Note balance was $24.1 million, comprised of $22.5 million of principal and $1.6 million of interest converted to principal.

On April 29, 2019, concurrently with the closing of the New Credit Facility as discussed above, the Company repaid in full all outstanding amounts under the Promissory Note, aggregating $24.7 million. The Company did not incur any early termination penalties in connection with this repayment.

(10) REVENUE RECOGNITION

The Company accounts for revenue in accordance with ASC 606, *Revenue from Contracts with Customers* ("ASC 606" or the "New Revenue Standard"), which it adopted on January 1, 2018 using the modified retrospective method.

The Company derives revenues from two primary sources: products and services. Product revenue includes the Company's hardware and software that function together to deliver the products' essential functionality. Software and hardware are also sold on a standalone basis. Services include customer support (software updates, upgrades and technical support), consulting, design services, installation services and training. Generally, contracts with customers contain multiple performance obligations, consisting of products and services. For these contracts, the Company accounts for individual performance obligations separately if they are considered distinct.

When an arrangement contains more than one performance obligation, the Company will generally allocate the transaction price to each performance obligation on a relative standalone selling price basis. The best evidence of a standalone selling price is the observable price of a good or service when the entity sells that good or service separately in similar circumstances and to similar customers. If the good or service is not sold separately, an entity must estimate the standalone selling price by using an approach that maximizes the use of observable inputs. Acceptable estimation methods include but are not limited to: (1) adjusted market assessment; (2) expected cost plus a margin; and (3) a residual approach (when the standalone selling price is not directly observable and is either highly variable or uncertain).

The Company's software licenses typically provide a perpetual right to use the Company's software. The Company also sells term-based software licenses that expire and Software-as-a-Service ("SaaS")-based software which are referred to as subscription arrangements. The Company does not customize its software nor are installation services required, as the customer has a right to utilize internal resources or a third-party service company. The software and hardware are delivered before related services are provided and are functional without professional services or customer support. The Company has concluded that its software licenses are functional intellectual property that are distinct, as the user can benefit from the software on its own. The product revenue is typically recognized upon transfer of control or when the software is made available for download, as this is the point that the user of the software can direct the use of, and obtain substantially all of the remaining benefits from, the functional intellectual property. The Company does not recognize software revenue related to the renewal of subscription software licenses earlier than the beginning of the subscription period. Hardware product is generally sold with software to provide the customer solution.

Services revenue includes revenue from customer support and other professional services. The Company offers warranties on its products. Certain of the Company's warranties are considered to be assurance-type in nature and do not cover anything beyond ensuring that the product is functioning as intended. Based on the guidance in ASC 606, assurance-type warranties do not represent separate performance obligations. The Company also sells separately-priced maintenance service contracts, which qualify as service-type warranties and represent separate performance obligations. The Company does not allow and has no history of accepting product returns.

Customer support includes software updates on a when-and-if-available basis, telephone support, integrated web-based support and bug fixes or patches. The Company sells its customer support contracts at a percentage of list or net product price related to the support. Customer support revenue is recognized ratably over the term of the customer support agreement, which is typically one year.

The Company's professional services include consulting, technical support, resident engineer services, design services and installation services. Because control transfers over time, revenue is recognized based on progress toward completion of the performance obligation. The method to measure progress toward completion requires judgment and is based on the nature of the products or services to be provided. The Company generally uses the input method to measure progress for its contracts because it believes such method best depicts the transfer of assets to the customer, which occurs as the Company incurs costs for the contracts. Under the cost-to-cost measure of progress, the progress toward completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. When the measure of progress is based upon expended labor, progress toward completion is measured as the ratio of labor time expended to date versus the total estimated labor time required to complete the performance obligation. Revenue is recorded proportionally as costs are incurred or labor is expended. Costs to fulfill these obligations include internal labor as well as subcontractor costs.

Customer training includes courses offered by the Company. The related revenue is typically recognized as the training services are performed.

The Company's typical performance obligations include the following:

Performance Obligation	When Performance Obligation is Typically Satisfied	When Payment is Typically Due
Software and Product Revenue		
Software licenses (perpetual or term)	Upon transfer of control; typically, when made available for download (point in time)	Generally, within 30 days of invoicing except for term licenses, which may be paid for over time
Software licenses (subscription)	Upon activation of hosted site (over time)	Generally, within 30 days of invoicing
Appliances	When control of the appliance passes to the customer; typically, upon delivery (point in time)	Generally, within 30 days of invoicing
Software upgrades	Upon transfer of control; typically, when made available for download (point in time)	Generally, within 30 days of invoicing
Customer Support Revenue		
Customer support	Ratably over the course of the support contract (over time)	Generally, within 30 days of invoicing
Professional Services		
Other professional services (excluding training services)	As work is performed (over time)	Generally, within 30 days of invoicing (upon completion of services)
Training	When the class is taught (point in time)	Generally, within 30 days of services being performed

Significant Judgments

The Company's contracts with customers often include promises to transfer multiple products and services to the customer. Determining whether products and services are considered distinct performance obligations that should be accounted for separately versus together may require significant judgment.

Judgment is required to determine the standalone selling price ("SSP") for each distinct performance obligation. The Company typically has more than one SSP for individual products and services due to the stratification of those products and services by customers and circumstances. In these instances, the Company may use information such as the size of the customer and geographic region in determining the SSP.

Deferred Revenue

Deferred revenue is a contract liability representing amounts collected from or invoiced to customers in excess of revenue recognized. This results primarily from the billing of annual customer support agreements where the revenue is recognized over the term of the agreement. The value of deferred revenue will increase or decrease based on the timing of recognition of revenue.

Disaggregation of Revenue

The Company disaggregates its revenue from contracts with customers based on the nature of the products and services and the geographic regions in which each customer is domiciled. The Company's revenue for the three and nine months ended September 30, 2019 and 2018 was disaggregated as follows:

Three months ended September 30, 2019	Product revenue	Service revenue (maintenance)	Service revenue (professional services)	Total revenue
United States	$ 44,701	$ 32,709	$ 10,113	$ 87,523
Europe, Middle East and Africa	7,346	10,899	2,635	20,880
Japan	2,318	2,932	1,652	6,902
Other Asia Pacific	3,199	4,191	1,567	8,957
Other	3,588	8,170	1,633	13,391
	$ 61,152	$ 58,901	$ 17,600	$ 137,653

Three months ended September 30, 2018	Product revenue	Service revenue (maintenance)	Service revenue (professional services)	Total revenue
United States	$ 49,699	$ 34,065	$ 9,040	$ 92,804
Europe, Middle East and Africa	10,380	11,504	2,169	24,053
Japan	3,588	2,882	503	6,973
Other Asia Pacific	6,959	3,551	906	11,416
Other	6,657	8,154	2,411	17,222
	$ 77,283	$ 60,156	$ 15,029	$ 152,468

Nine months ended September 30, 2019	Product revenue	Service revenue (maintenance)	Service revenue (professional services)	Total revenue
United States	$ 114,525	$ 99,281	$ 26,919	$ 240,725
Europe, Middle East and Africa	32,215	31,016	8,699	71,930
Japan	9,637	8,805	4,223	22,665
Other Asia Pacific	13,580	11,467	3,524	28,571
Other	10,734	22,462	4,915	38,111
	$ 180,691	$ 173,031	$ 48,280	$ 402,002

Nine months ended September 30, 2018	Product revenue	Service revenue (maintenance)	Service revenue (professional services)	Total revenue
United States	$ 109,977	$ 98,354	$ 25,535	$ 233,866
Europe, Middle East and Africa	29,807	35,550	8,157	73,514
Japan	16,128	8,431	2,296	26,855
Other Asia Pacific	21,970	8,905	3,185	34,060
Other	14,055	23,049	5,610	42,714
	$ 191,937	$ 174,289	$ 44,783	$ 411,009

The Company's product revenue from indirect sales through its channel partner program and from its direct sales program for the three and nine months ended September 30, 2019 and 2018 was as follows (in thousands):

	Three months ended		Nine months ended	
	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
Indirect sales through channel partner program	$ 21,537	$ 26,309	$ 69,380	$ 42,151
Direct sales	39,615	50,974	111,311	149,786
	$ 61,152	$ 77,283	$ 180,691	$ 191,937

The Company's product revenue from sales to enterprise customers and from sales to service provider customers for the three and nine months ended September 30, 2019 and 2018 was as follows (in thousands):

	Three months ended		Nine months ended	
	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
Sales to enterprise customers	$ 17,458	$ 23,581	$ 47,295	$ 37,534
Sales to service provider customers	43,694	53,702	133,396	154,403
	$ 61,152	$ 77,283	$ 180,691	$ 191,937

Revenue Contract Balances

The timing of revenue recognition, billings and cash collections results in billed accounts receivable; unbilled receivables, which are contract assets; and customer advances and deposits, which are contract liabilities, in the Company's condensed consolidated balance sheets. Amounts are billed as work progresses in accordance with agreed-upon contractual terms, either at periodic intervals or upon achievement of contractual milestones. Completion of services and billing may occur subsequent to revenue recognition, resulting in contract assets. The Company may receive advances or deposits from its customers before revenue is recognized, resulting in contract liabilities that are classified as deferred revenue. These assets and liabilities are reported in the Company's condensed consolidated balance sheets on a contract-by-contract basis as of the end of each reporting period. Changes in the contract asset and liability balances during the nine months ended September 30, 2019 were not materially impacted by any factors other than billing and revenue recognition. Nearly all of the Company's deferred revenue balance is related to services revenue, primarily customer support contracts. Unbilled receivables stem primarily from engagements where services have been performed; however, billing cannot occur until services are completed.

In some arrangements, the Company allows customers to pay for term-based software licenses and products over the term of the software license. The Company also sells SaaS-based software under subscription arrangements, with payment terms over the term of the SaaS agreement. Amounts recognized as revenue in excess of amounts billed are recorded as unbilled receivables. Unbilled receivables that are anticipated to be invoiced in the next twelve months are included in Accounts receivable on the Company's condensed consolidated balance sheets. The changes in the Company's accounts receivable, unbilled receivables and deferred revenue balances for the nine months ended September 30, 2019 were as follows (in thousands):

	Accounts receivable	Unbilled accounts receivable	Deferred revenue (current)	Deferred revenue (long-term)
Balance at January 1, 2019	$ 174,310	$ 13,543	$ 105,087	$ 17,572
Increase (decrease), net	(32,533)	7,644	(21,664)	1,115
Balance at September 30, 2019	$ 141,777	$ 21,187	$ 83,423	$ 18,687

The Company recognized approximately $80 million of revenue in the nine months ended September 30, 2019 that was recorded as deferred revenue at December 31, 2018. The Company recognized approximately $79 million of revenue in the nine months ended September 30, 2018 that was recorded as deferred revenue at December 31, 2017. Of the Company's deferred revenue reported as long-term in its condensed consolidated balance sheet at September 30, 2019, the Company expects that approximately $5 million will be recognized as revenue in 2020, approximately $8 million will be recognized as revenue in 2021 and approximately $6 million will be recognized as revenue in 2022 and beyond.

All freight-related customer invoicing is recorded as revenue, while the shipping and handling costs that occur after control of the promised goods or services transfer to the customer are reported as fulfillment costs, a component of Cost of revenue - product in the Company's condensed consolidated statements of operations.

Deferred Commissions Cost

Sales commissions earned by the Company's employees are considered incremental and recoverable costs of obtaining a contract with a customer. Expense related to commission payments has been deferred on our condensed consolidated balance sheet and is being amortized over the expected life of the customer contract, which averages five years. At both September 30, 2019 and December 31, 2018, the Company had $2.7 million of deferred sales commissions capitalized.

(11) COMMON STOCK REPURCHASES

In the second quarter of 2019, the Board approved a stock repurchase program (the "Repurchase Program") pursuant to which the Company may repurchase up to $75 million of the Company's common stock prior to April 18, 2021. Repurchases under the Repurchase Program may be made in the open market, in privately negotiated transactions or otherwise, with the amount and timing of repurchases depending on market conditions and corporate discretion. The Repurchase Program does not obligate the Company to acquire any particular amount of common stock and may be extended, modified, suspended or discontinued at any time at the Board's discretion. The stock repurchases are being funded using the Company's working capital. During the nine months ended September 30, 2019, the Company spent $4.5 million, including transaction fees, to repurchase and retire 1.0 million shares of its common stock under the Repurchase Program. No shares were repurchased during the three months ended September 30, 2019. At September 30, 2019, the Company had $70.5 million remaining under the Repurchase Program for future repurchases.

(12) STOCK-BASED COMPENSATION PLANS

2019 Stock Incentive Plan

At the Company's annual meeting of stockholders held on June 5, 2019, the Company's stockholders approved the Ribbon Communications Inc. 2019 Incentive Award Plan (the "2019 Plan"). The 2019 Plan had previously been approved by the Board subject to stockholder approval. Under the 2019 Plan, the Company may grant awards up to 7.0 million shares of common stock (subject to adjustment in the event of stock splits and other similar events), plus 5.1 million shares of common stock that remained available for issuance under the Company's Amended and Restated Stock Incentive Plan (the "2007 Plan") on June 5, 2019, plus any shares covered by awards under the 2007 Plan (or the Company's other prior equity compensation plans) that again become available for grant pursuant to the provisions of the 2007 Plan. The 2019 Plan provides for the grant of options to purchase the Company's common stock ("stock options"), stock appreciation rights ("SARs"), restricted stock awards ("RSAs"), performance-based stock awards ("PSAs"), restricted stock units ("RSUs"), performance-based stock units ("PSUs") and other stock- or cash-based awards. Awards can be granted under the 2019 Plan to the Company's employees, officers and non-employee directors, as well as consultants and advisors of the Company and its subsidiaries.

2007 Plan

The Company's 2007 Plan provides for the award of stock options, SARs, RSAs, RSU, PSAs, PSUs and other stock-based awards to employees, officers, directors (including those directors who are not employees or officers of the Company), consultants and advisors of the Company and its subsidiaries. On and following June 5, 2019, with the exception of shares underlying awards outstanding as of that date, no additional shares may be granted under the 2007 Plan.

2002 Stock Option Plan

In connection with the Edgewater Acquisition, the Company assumed Edgewater's Amended and Restated 2002 Stock Option Plan (the "Edgewater Plan") to the extent of the shares underlying the options outstanding under the Edgewater Plan as of the Edgewater Acquisition Date (the "Edgewater Options"). The Edgewater Options were converted to Ribbon stock options (the "Ribbon Replacement Options") using a conversion factor of 0.17, which was calculated based on the acquisition consideration of $1.20 per share of Edgewater common stock divided by the weighted average of the closing price of Ribbon common stock for ten consecutive days, ending with the trading day that preceded the Edgewater Acquisition Date. This conversion factor was also used to convert the exercise prices of Edgewater Options to Ribbon Replacement Option exercise prices. The Ribbon Replacement Options are vesting under the same schedules as the respective Edgewater Options.

The fair values of the Edgewater Options assumed were estimated using a Black-Scholes option pricing model. The Company recorded $0.7 million as additional purchase consideration for the fair value of the assumed Edgewater Options. The fair value of the Ribbon Replacement Options attributable to future service totaled $1.0 million, which is being recognized over a weighted average period of approximatelytwo years.

Executive Equity Arrangements

Stock-for-Cash Bonus Election

In connection with the Company's annual incentive program, certain executives of the Company were given the choice to receive a portion, ranging from10% to 50% (the "Elected Percentage"), of their fiscal year 2018 bonuses (the "2018 Bonus"), if any were earned, in the form of shares of the Company's common stock (the "2018 Bonus Shares" and such program, the "Stock Bonus Election Program"). Each executive could also elect not to participate in this program and earn his or her 2018 Bonus, if any, in the form of cash. Any executive (other than the Company's Chief Executive Officer and other members of its senior leadership team) who elected to receive a portion of his or her 2018 Bonus in stock would also receive an additional "uplift" of 20% of the value of the 2018 Bonus Shares in additional shares of the Company’s common stock (the “Uplift Shares”). Under the Stock Bonus Election Program, the amount of the 2018 Bonus, if any, for each executive was determined by the Compensation Committee of the Board (the "Compensation Committee").

The number of shares earned by each of the 23 participants in the Stock Bonus Election Program was calculated by multiplying such participant's 2018 Bonus by the applicable Elected Percentage (plus the amount attributable to Uplift Shares, if applicable) and dividing the resulting amount by $4.97, the closing price of the Company's common stock on March 8, 2019, the date of the company-wide cash bonus payments. The Company granted 198,949 shares in the aggregate in connection with the 2018 Bonus Shares on March 15, 2019, and such shares were fully vested on the date of grant. However, notwithstanding that each such share of common stock was fully vested, each participant in the Stock Bonus Election Program was contractually restricted from trading the 2018 Bonus Shares for five months after the date of grant. Both the grant and vesting of the 2018 Bonus Shares are included in the RSU table below.

Performance-Based Stock Grants

In addition to granting RSAs and RSUs to its executives and certain of its employees, the Company also grants PSUs to certain of its executives.

2019 PSU Grants. In March and April 2019, the Company granted certain of its executives an aggregate of 872,073 PSUs, of which 523,244 PSUs had both performance and service conditions (the "Performance PSUs") and 348,829 PSUs had both market and service conditions (the "Market PSUs").

Each executive's Performance PSU grant is comprised of three consecutive fiscal year performance periods from 2019 through 2021 (each, a "Fiscal Year Performance Period"), with one-third of the Performance PSUs attributable to each Fiscal Year Performance Period. The number of shares that will vest for each Fiscal Year Performance Period will be based on the achievement of certain metrics related to the Company's financial performance for the applicable year on a standalone basis (each, a "Fiscal Year Performance Condition"). In the third quarter of 2019, the Company adjusted the 2019 Performance PSU goals to reflect the changes to the Company's calculation of certain metrics. There was no incremental expense in connection with this modification. The Company's achievement of the 2019 Fiscal Year Performance Conditions (and the number of shares of Company common stock to vest as a result thereof) will be measured on a linear sliding scale in relation to specific threshold, target and stretch performance conditions. The Company is recording stock-based compensation expense for the Performance PSUs based on its assessment of the probability that each performance condition will be achieved and the level, if any, of such achievement. As of September 30, 2019, the Company determined that the grant date criteria for the 2020 and 2021 Fiscal Year Performance Periods had not been met, as the 2020 and 2021 Fiscal Year Performance Conditions had not been established by the Company. Accordingly, the stock-based compensation expense recorded in the nine months ended September 30, 2019 in connection with the Performance PSUs is related only to those PSUs with 2019 Fiscal Year Performance Conditions. The Compensation Committee will determine the number of shares earned, if any, after the Company's financial results for each Fiscal Year Performance Period are finalized. Upon the determination by the Compensation Committee of the number of shares that will be received upon vesting of the Performance PSUs, such number of shares will become fixed and the unamortized expense will be recorded through the remainder of the service period that ends March 15, 2022, at which time the total Performance PSUs earned, if any, will vest, pending each executive's continued employment with the Company through that date. The number of shares of common stock to be achieved upon vesting of the Performance PSUs will in no event exceed 200% of the Performance PSUs. Shares subject to the Performance PSUs that fail to be earned will be forfeited.

The Market PSUs have one three-year performance period which will end on December 31, 2021 (the "Market Performance Period"). The number of shares subject to the Market PSUs that will vest, if any, on March 15, 2022, will be dependent upon the Company's total shareholder return ("TSR") compared with the TSR of the companies included in the Nasdaq Telecommunications Index for the same Market Performance Period, measured by the Compensation Committee after the Market Performance Period ends. The shares determined to be earned will vest on March 15, 2022, pending each executive's continued employment with the Company through that date. The number of shares of common stock to be achieved upon vesting of the Market PSUs will in no event exceed 200% of the Market PSUs. Shares subject to the Market PSUs that fail to be earned will be forfeited.

2018 PSU Grant. In May 2018, the Company granted its President and Chief Executive Officer Franklin (Fritz) Hobbs ("Mr. Hobbs"), 195,000 PSUs with both performance and service conditions (the "2018 PSUs"). Of the 195,000 2018 PSUs, one-half of such PSUs were eligible to vest based on the achievement of two separate metrics related to the Company's 2018 financial performance (the "2018 Performance Conditions"). The Company's achievement of the 2018 Performance Conditions (and the number of shares of Company common stock to be received upon vesting as a result thereof) were measured on a linear sliding scale in relation to specific threshold, target and stretch performance conditions. The number of shares of common stock to be received upon vesting of the 2018 PSUs would in no event exceed 150% of the 2018 PSUs. In February 2019, the Compensation Committee determined that the performance metrics for one-half of the 2018 PSUs had been achieved at the 106.49% achievement level and one-half of the 2018 PSUs had been achieved at the150% level. However, in April 2019, the Compensation Committee subsequently determined that the performance metrics for the entire 2018 PSUs had been achieved at the 150% level, for a total of 292,500 shares eligible to be issued, pending Mr. Hobbs' continued employment with the Company through December 31, 2020, the vesting date of the 2018 PSUs.

2017 PSU Grants. On March 31, 2017, the Company granted an aggregate of 165,000 PSUs with both market and service conditions tofive of its executives (the "2017 PSUs"). The terms of each PSU grant were such that up to one-third of the shares subject to the respective PSU grant would vest, if at all, on each of the respective first, second and third anniversaries of the date of grant, depending on the Company's TSR compared with the TSR of the companies included in the Nasdaq Telecommunications Index for the same fiscal year, measured by the Compensation Committee after each of the fiscal years as defined by each grant (each, a "Performance Period"). The shares determined to be earned would vest on the anniversary of the grant date following each Performance Period. Shares subject to the PSUs that failed to be earned would be forfeited. In March 2018, the Compensation Committee determined that the performance metrics for the 2017 PSUs for the 2017 Performance Period had been achieved at the 130% level and accordingly, 33,584 shares in the aggregate were released to thethree executives holding such outstanding grants, comprised of 25,834 shares, representing the 100% achievement target, granted on March 31, 2017 and7,750 shares, representing the 30% achievement over target, granted on March 31, 2018. In February 2019, the Compensation Committee determined that the performance metrics for the 2017 PSUs for the 2018 Performance Period had been achieved at the 61.4% level and accordingly, 9,466 were released to the three executives holding such outstanding grants on March 31, 2019. The shares that failed to be earned for the 2018 Performance Period, aggregating 5,950 shares, were forfeited. Accordingly, at September 30, 2019, there were no remaining unvested 2017 PSUs outstanding. The release and forfeiture of the shares related to the 2018 Performance Period are included in the PSU table below.

Accounting for PSUs with Market Conditions. PSUs that include a market condition require the use of a Monte Carlo simulation approach to model future stock price movements based upon the risk-free rate of return, the date of return, the volatility of each entity and the pair-wise covariance between each entity. These results are then used to calculate the grant date fair values of the respective PSUs. The Company is required to record expense for the PSUs with market conditions through their respective final vesting dates, regardless of the number of shares that are ultimately earned. During the three months ended June 30, 2019, the Company completed the analysis required to determine the grant date fair value of the Market PSUs, determining that such value was $7.24 per share, and the Company recorded nominal incremental stock-based compensation expense to account for the adjustment to the grant date fair value of the Market PSUs from the prior quarter. The adjusted grant date fair value of the Market PSUs is reflected in the PSU activity reported in the PSU table below.

Stock Options

The activity related to the Company's outstanding stock options for thenine months ended September 30, 2019was as follows:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value (in thousands)
Outstanding at January 1, 2019	582,061	$ 9.01		
Granted	—	$ —		
Exercised	(126,015)	$ 1.85		
Forfeited	(38,666)	$ 2.55		
Expired	(109,757)	$ 12.15		
Outstanding at September 30, 2019	307,623	$ 11.63	5.12	$ 416
Vested or expected to vest at September 30, 2019	302,858	$ 11.78	5.07	$ 399
Exercisable at September 30, 2019	260,793	$ 13.35	4.67	$ 240

Additional information regarding the Company's stock options for the three andnine months ended September 30, 2019was as follows (in thousands):

	Three months ended September 30, 2019	Nine months ended September 30, 2019
Total intrinsic value of stock options exercised	$ 59	$ 456
Cash received from the exercise of stock options	$ 43	$ 233

Restricted Stock Awards and Units

The activity related to the Company's RSAs for thenine months ended September 30, 2019was as follows:

	Shares	Weighted Average Grant Date Fair Value
Unvested balance at January 1, 2019	1,508,011	$ 6.90
Granted	—	$ —
Vested	(866,650)	$ 6.92
Forfeited	(45,244)	$ 7.04
Unvested balance at September 30, 2019	596,117	$ 6.85

The activity related to the Company's RSUs for thenine months ended September 30, 2019was as follows:

	Shares	Weighted Average Grant Date Fair Value
Unvested balance at January 1, 2019	636,300	$ 6.52
Granted	2,805,132	$ 4.99
Vested	(430,316)	$ 6.07
Forfeited	(116,794)	$ 5.37
Unvested balance at September 30, 2019	2,894,322	$ 5.16

The total grant date fair value of shares of restricted stock granted under RSAs and RSUs that vested during thenine months ended September 30, 2019was $8.6 million.

Performance-Based Stock Units

The activity related to the Company's PSUs for thenine months ended September 30, 2019was as follows:

	Shares	Weighted Average Grant Date Fair Value
Unvested balance at January 1, 2019	210,416	$ 5.77
Granted	872,073	$ 6.03
Vested	(9,466)	$ 8.55
Forfeited	(5,950)	$ 8.55
Unvested balance at September 30, 2019	1,067,073	$ 5.94

The total grant date fair value of shares of restricted stock granted under PSUs that vested during thenine months ended September 30, 2019was $0.1 million.

Employee Stock Purchase Plan

The Company's Amended and Restated 2000 Employee Stock Purchase Plan ("ESPP") is designed to provide eligible employees of the Company and its participating subsidiaries an opportunity to purchase common stock of the Company through accumulated payroll deductions. The ESPP provides for six-month offering periods with the purchase price of the stock equal to 85% of the lesser of the closing market price on the first or last day of the offering period. The maximum number of shares of common stock an employee may purchase during each offering period is 500, subject to certain adjustments pursuant to the ESPP.

In May 2017, the Compensation Committee determined to suspend all offering periods under the ESPP, effective September 1, 2017, until such time after the Merger Date as the Compensation Committee determined was best in its sole discretion. The Board voted to re-implement the ESPP effective December 1, 2018 for employees in certain geographic regions, with the first purchase date of the re-implemented ESPP completed on May 31, 2019. The ESPP will expire on May 20, 2020.

Stock-Based Compensation

The condensed consolidated statements of operations include stock-based compensation for thethree and nine months ended September 30, 2019 and 2018as follows (in thousands):

	Three months ended		Nine months ended	
	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
Product cost of revenue	$ 26	$ 21	$ 62	$ 91
Service cost of revenue	124	65	367	264
Research and development	521	313	1,359	1,364
Sales and marketing	721	585	2,265	1,944
General and administrative	1,093	1,532	4,101	3,758
	$ 2,485	$ 2,516	$ 8,154	$ 7,421

There was no income tax benefit for employee stock-based compensation expense for the nine months ended September 30, 2019 or 2018 due to the valuation allowance recorded.

At September 30, 2019, there was $9.1 million, net of expected forfeitures, of unrecognized stock-based compensation expense related to unvested stock options, awards and units and the ESPP. This expense is expected to be recognized over a weighted average period of approximately two years.

(13) MAJOR CUSTOMERS

The following customers contributed 10% or more of the Company's revenue in the three and nine months ended September 30, 2019 and 2018:

	Three months ended		Nine months ended	
	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
AT&T Inc.	16%	12%	12%	10%
Verizon Communications Inc.	15%	13%	17%	15%

At September 30, 2019, three customers accounted for 10% or more of the Company's accounts receivable balance, representing approximately 42% in the aggregate of the Company's total accounts receivable. At December 31, 2018, two customers accounted for 10% or more of the Company's accounts receivable balance, representing approximately 32% in the aggregate of total accounts receivable. The Company performs ongoing credit evaluations of its customers and generally does not require collateral on accounts receivable. The Company maintains an allowance for doubtful accounts and such losses have been within management's expectations.

(14) RELATED PARTY TRANSACTIONS

As a portion of the consideration for the Merger, on October 27, 2017, the Company issued a Promissory Note for $22.5 million to certain of GENBAND's equity holders who, following the Merger, owned greater than five percent of the Company's outstanding shares. As described in Note 9, the Promissory Note did not amortize and the principal thereon was payable in full on the third anniversary of its execution. Interest on the Promissory Note was payable quarterly in arrears and accrued at a rate of 7.5% per year for the first six months after issuance, and thereafter at a rate of 10% per year. The failure to make any payment under the Promissory Note when due and, with respect to payment of any interest, the continuation of such failure for a period of thirty days thereafter, constituted an event of default under the Promissory Note. If an event of default occurred under the Promissory Note, the payees could declare the entire balance of the Promissory Note due and payable (including principal and accrued and unpaid interest) within five business days of the payees' notification to the Company of such acceleration. At December 31, 2018, the Promissory Note balance was $24.1 million, which was comprised of $22.5 million of principal, plus $1.6 million of interest converted to principal.

On April 29, 2019, the Company repaid in full all outstanding amounts under the Promissory Note, aggregating$24.7 million. The Company did not incur any early termination penalties in connection with this repayment.

(15) INCOME TAXES

The Company's income tax provisions for thenine months ended September 30, 2019 and 2018reflect the Company's estimates of the effective rates expected to be applicable for the respective full years, adjusted for any discrete events, which are recorded in the period that they occur. These estimates are reevaluated each quarter based on the Company's estimated tax expense for the full year. The estimated effective rates for the nine months ended September 30, 2019 and 2018 do not include any expense or benefit for the Company's domestic or Ireland operations, since the Company concluded that a valuation allowance was required for both jurisdictions.

(16) LEASES

The Company has operating and finance leases for corporate offices, research and development facilities, and certain equipment. Operating leases are reported separately in the Company's condensed consolidated balance sheet at September 30, 2019. Assets acquired under finance leases are included in Property and equipment, net, in the condensed consolidated balance sheets at September 30, 2019 and December 31, 2018.

The Company determines if an arrangement is a lease at inception. A contract is determined to contain a lease component if the arrangement provides the Company with a right to control the use of an identified asset. Lease agreements may include lease and non-lease components. In such instances for all classes of underlying assets, the Company does not separate lease and non-lease components but rather, accounts for the entire arrangement under leasing guidance. Leases with an initial term of 12 months or less are not recorded on the balance sheet and lease expense for these leases is recognized on a straight-line basis over the lease term.

Right-of-use assets and lease liabilities are initially measured based on the present value of the future minimum fixed lease payments (i.e., fixed payments in the lease contract) over the lease term at the commencement date. As many of the Company's leases do not have a readily determinable implicit rate, the Company typically uses its incremental borrowing rate based on the information available at the commencement date in determining the present value of future minimum fixed lease payments. The Company calculates its incremental borrowing rate to reflect the interest rate that it would have to pay to borrow on a collateralized basis an amount equal to the lease payments in a similar economic environment over a similar term and considers its historical borrowing activities and market data from entities with comparable credit ratings in this determination. The measurement of the right-of-use asset also includes any lease payments made prior to the commencement date (excluding any lease incentives) and initial direct costs incurred. The Company assessed its right-of-use assets for impairment as of September 30, 2019 and determined no impairment has occurred.

Lease terms may include options to extend or terminate the lease and the Company incorporates such options in the lease term when it has the unilateral right to make such an election and it is reasonably certain that the Company will exercise that option. In making this determination, the Company considers its prior renewal and termination history and planned usage of the assets under lease, incorporating expected market conditions.

For operating leases, lease expense for minimum fixed lease payments is recognized on a straight-line basis over the lease term. The expense for finance leases includes both interest and amortization expense components, with the interest component calculated based on the effective interest method and the amortization component calculated based on straight-line amortization of the right-of-use asset over the lease term. Lease contracts may contain variable lease costs, such as common area maintenance, utilities and tax reimbursements that vary over the term of the contract. Variable lease costs are not included in minimum fixed lease payments and as a result, are excluded from the measurement of the right-of-use assets and lease liabilities. The Company expenses all variable lease costs as incurred.

In connection with the 2019 Restructuring Initiative, certain lease assets related to facilities will be partially or fully vacated as the Company consolidates its facilities. The Company has no plans to enter into sublease agreements for certain facilities. The Company ceased use of these facilities in the third quarter of 2019. Accordingly, the Company accelerated the amortization of the associated lease assets through the planned cease-use date of each facility, resulting in additional amortization expense of $0.6 million and $3.5 million in the three and nine months ended September 30, 2019, respectively. The Company also recorded a liability of $0.9 million and $1.0 million in the three and nine months ended September 30, 2019, respectively, for all future anticipated variable lease costs related to these facilities. This incremental accelerated amortization and estimated future variable lease costs are included in Restructuring and related expense in the Company's condensed consolidated statements of operations, as applicable, for the three and nine months ended September 30, 2019. The Company may incur additional future expense if it is unable to sublease other locations included in the Facilities Initiative.

The Company leases its corporate offices and other facilities under operating leases, which expire at various times through 2029. The Company's corporate headquarters is located in a leased facility in Westford, Massachusetts, consisting of 97,500 square feet under a lease that expires in August 2028. The Company's finance leases primarily consist of equipment.

The Company's right-of-use lease assets and lease liabilities at September 30, 2019 and December 31, 2018 were as follows (in thousands):

	Classification	September 30, 2019	December 31, 2018
Assets			
Operating lease assets	Operating lease right-of-use assets	$ 37,132	$ —
Finance lease assets*	Property and equipment, net	1,362	2,104
Total leased assets		$ 38,494	$ 2,104
Liabilities			
Current			
Operating	Operating lease liabilities	$ 7,568	$ —
Finance	Accrued expenses and other	1,026	1,039
Noncurrent			
Operating	Operating lease liabilities, net of current	37,600	—
Finance	Other long-term liabilities	1,096	1,324
Total lease liabilities		$ 47,290	$ 2,363

* Finance lease assets were recorded net of accumulated depreciation of $1.6 million and $0.9 million at September 30, 2019 and December 31, 2018, respectively, and were reported as capital lease assets prior to the Company's adoption of ASC 842.

The components of lease expense for the three and nine months ended September 30, 2019 were as follows (in thousands):

	Three months ended September 30, 2019	Nine months ended September 30, 2019
Operating lease cost*	$ 2,988	$ 11,063
Finance lease cost		
Amortization of leased assets	244	732
Interest on lease liabilities	90	210
Short-term lease cost	4,777	14,183
Variable lease costs (costs excluded from minimum fixed lease payments)**	1,727	2,932
Net lease cost	$ 9,826	$ 29,120

* Operating lease cost for the three and nine months ended September 30, 2019 includes $0.6 million and $3.5 million, respectively, of accelerated amortization for certain assets partially or fully vacated in 2019 with no intent or ability to sublease.

** Variable lease costs for the three and nine months ended September 30, 2019 include a $0.9 million accrual for all future estimated variable expenses related to certain assets partially or fully vacated in 2019 with no intent or ability to sublease.

The Company elected to use the alternative transition method, which allows entities to initially apply ASC 842 at the adoption date with no subsequent adjustments to prior period lease costs for comparability. As a result, operating leases in periods prior to the Company's adoption of ASC 842 were not recorded on the condensed consolidated balance sheet. Prior to the adoption of ASC 842, rent expense (including any escalation clauses, free rent and other lease concessions) on operating leases was recognized on a straight-line basis over the minimum lease term, and this remains consistent with the Company's application of ASC 842. Rent expense for operating leases was $2.8 million and $8.8 million for the three and nine months ended September 30, 2018, respectively. Interest expense for finance leases was approximately $13,000 and $49,000 for the three and nine months ended September 30, 2018, respectively. Amortization expense for finance leases was $0.1 million and $0.3 million for the three and nine months ended September 30, 2018, respectively.

Other information related to the Company's leases as of and for the nine months ended September 30, 2019 was as follows (in thousands, except lease terms and percentages):

Cash paid for amounts included in the measurement of lease liabilities		
Operating cash flows from operating leases	$	7,850
Operating cash flows from finance leases	$	210
Financing cash flows from finance leases	$	698
Weighted average remaining lease term (years)		
Operating leases		6.87
Finance leases		2.11
Weighted average discount rate		
Operating leases		6.54%
Finance leases		10.84%

Future minimum fixed lease payments under noncancelable leases at September 30, 2019 were as follows (in thousands):

	Operating leases	Finance leases
Remainder of 2019	$ 2,621	$ 341
2020	9,866	1,178
2021	9,039	708
2022	7,314	144
2023	6,968	—
2024 and beyond	20,419	—
Total lease payments	56,227	2,371
Less: interest	(11,059)	(249)
Present value of lease liabilities	$ 45,168	$ 2,122

Future minimum fixed lease payments under noncancelable leases at December 31, 2018 and as reported in the Company's Annual Report on Form 10-K/A for the year ended December 31, 2018 were as follows (in thousands):

	Operating leases*	Finance leases
2019	$ 10,705	$ 1,386
2020	8,384	1,010
2021	7,455	288
2022	5,691	—
2023	5,430	—
2024 and beyond	19,818	—
Total lease payments	$ 57,483	2,684
Less: interest		(321)
Present value of lease liabilities**		$ 2,363

* The amounts in this column include restructuring payments aggregating approximately $1 million, of which approximately 50% was due in less thanone year and the remainder was due in one to three years. These amounts exclude current estimated sublease income aggregating approximately $125,000 over the remaining lease terms for restructured facilities.

** Prior to the Company's adoption of ASC 842 on January 1, 2019, operating leases were not recorded on the condensed consolidated balance sheet and no interest component was calculated.

(17) COMMITMENTS AND CONTINGENCIES

Litigation Settlement

As previously disclosed, the Company was involved insix lawsuits (together, the "Lawsuits") with Metaswitch Networks Ltd., Metaswitch Networks Corp. and Metaswitch Inc. (together, "Metaswitch"). In five of the Lawsuits, the Company was the plaintiff and, in three of those five lawsuits, the Company was also a counterclaim defendant. In the sixth case, the Company was the defendant.

On April 22, 2019, the Company and Metaswitch agreed to a binding mediator's proposal that resolved the six Lawsuits between the Company and Metaswitch (the "Lawsuits"). The Company and Metaswitch signed a Settlement and Cross-License Agreement on May 29, 2019 (the "Royalty Agreement"). Pursuant to the terms of the Royalty Agreement, Metaswitch has agreed to pay the Company an aggregate amount of $63.0 million, which includes cash payments of $37.5 million during the second quarter of 2019 and $25.5 million payable in three installments annually, beginning June 26, 2020, with such installment payments accruing interest at a rate of 4% per year. As part of the Royalty Agreement, the Company and Metaswitch (i) have released the other from all claims and liabilities; (ii) have licensed each party's existing patent portfolio to the other party; and (iii) have requested the applicable courts to dismiss the Lawsuits.

The Company received $37.5 million of aggregate payments from Metaswitch in the second quarter of 2019 and recorded notes receivable for future payments of $25.5 million, comprised of $8.5 million in Other current assets and $17.0 million in Other assets in the condensed consolidated balance sheet at September 30, 2019. This activity is included in cash flows from operating activities in the condensed consolidated statement of cash flows for the nine months ended September 30, 2019. The gain from the settlement of $63.0 million is included in Other income (expense), net, in the Company's condensed consolidated statement of operations for the nine months ended September 30, 2019.

Contingencies

On November 8, 2018, Ron Miller, a purported stockholder of the Company, filed a Class Action Complaint (the "Miller Complaint") in the United States District Court for the District of Massachusetts (the "Massachusetts District Court") against the Company and three of its former officers (collectively, the "Defendants"), claiming to represent a class of purchasers of Sonus common stock during the period from January 8, 2015 through March 24, 2015 and alleging violations of the federal securities laws. Similar to a previous complaint entitled Sousa et al. vs. Sonus Networks, Inc. et al., which was dismissed with prejudice by an order dated June 6, 2017, the Miller Complaint claims that the Defendants made misleading forward-looking statements concerning Sonus' expected fiscal first quarter of 2015 financial performance, which statements were also the subject of an August 7, 2018 Securities and Exchange Commission Cease and Desist Order, whose findings the Company neither admitted nor denied. The Miller plaintiffs are seeking monetary damages.

After the Miller Complaint was filed, several parties filed and briefed motions seeking to be selected by the Massachusetts District Court to serve as a Lead Plaintiff in the action. On June 21, 2019, the Massachusetts District Court appointed a group as Lead Plaintiffs and the Lead Plaintiffs filed an amended complaint on July 19, 2019. On August 30, 2019, the Defendants filed a motion to dismiss the Miller Complaint and, on October 4, 2019, the Lead Plaintiffs filed an opposition to the motion to dismiss. The Defendants are expected to reply to such opposition on or before November 1, 2019.

In addition, the Company is often a party to disputes and legal proceedings that it considers routine and incidental to its business. Management does not expect the results of any of these actions to have a material effect on the Company's business or condensed consolidated financial statements.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion of the financial condition and results of operations of Ribbon Communications Inc. should be read in conjunction with the condensed consolidated financial statements and the related notes thereto included elsewhere in this Quarterly Report on Form 10-Q and the audited financial statements and notes thereto and Management's Discussion and Analysis of Financial Condition and Results of Operations included in our Annual Report on Form 10-K/A, for the year ended December 31, 2018, which was filed with the U.S. Securities and Exchange Commission on March 5, 2019.

Overview

We are a leading provider of next generation ("NextGen") software solutions to telecommunications, wireless and cable service providers and enterprises across industry verticals. With over 1,000 customers around the globe, including some of the largest telecommunications service providers and enterprises in the world, we enable service providers and enterprises to modernize their communications networks through software and provide secure real-time communications ("RTC") solutions to their customers and employees. By securing and enabling reliable and scalable Internet Protocol ("IP") networks, we help service providers and enterprises adopt the next generation of software-based virtualized and cloud communications technologies for service providers to drive new, incremental revenue while protecting their existing revenue streams. Our software solutions provide a secure way for our customers to connect and leverage multivendor, multiprotocol communications systems and applications across their networks and the cloud, in a rapidly changing ecosystem of IP-enabled devices, such as smartphones and tablets. In addition, our software solutions secure cloud-based delivery of unified communications ("UC") solutions - both for service providers transforming to a cloud-based network and for enterprises using cloud-based UC. We sell our software solutions through both direct sales and indirect channels, leveraging the assistance of resellers, and we provide ongoing support to our customers through a global services team with experience in design, deployment and maintenance of some of the world's largest IP networks.

Business Acquisitions

Anova Data, Inc.

On February 28, 2019 (the "Anova Acquisition Date"), we acquired the business and technology assets of Anova Data, Inc. ("Anova"), a private company headquartered in Westford, Massachusetts (the "Anova Acquisition"). Anova is a provider of advanced analytics solutions and its NextGen products provide a cloud-native, streaming analytics platform for network and subscriber optimization and monetization. The Company believes that the Anova Acquisition will reinforce and extend Ribbon's strategy to expand into network optimization, security and data monetization via big data analytics and machine learning.

As consideration for the Anova Acquisition, we issued 2.9 million shares of our common stock with a fair value of $15.2 million to Anova's sellers and equity holders on the Anova Acquisition Date and held back an additional 0.3 million shares of our common stock with a fair value of $1.7 million, some or all of which could be issued subject to post-closing adjustments (the "Anova Deferred Consideration"). The Anova Deferred Consideration is included as a component of Accrued expenses and other current liabilities in our condensed consolidated balance sheet at September 30, 2019.

The Anova Acquisition has been accounted for as a business combination and the financial results of Anova have been included in our consolidated financial statements for the period subsequent to the Anova Acquisition Date.

Edgewater Networks, Inc.

On August 3, 2018 (the "Edgewater Acquisition Date"), we completed our acquisition of Edgewater Networks, Inc. ("Edgewater"), a private company headquartered in San Jose, California (the "Edgewater Acquisition"). Edgewater is a market leader in Network Edge Orchestration for the small and medium enterprise and UC market. We believe that the Edgewater Acquisition advances our strategy by offering our global customer base a complete core-to-edge product portfolio, end-to-end service assurance and analytics solutions, and a fully integrated SD-WAN service.

As consideration for the Edgewater Acquisition, we paid, in the aggregate, approximately $46 million of cash, net of cash acquired, and issued 4.2 million shares of Ribbon common stock to Edgewater's selling shareholders and holders of vested in-the-money options and warrants to acquire common stock of Edgewater (the "Edgewater Selling Stakeholders") on the Edgewater Acquisition Date. The cash payment was funded through our then-existing credit facility. We had previously agreed to pay the Edgewater Selling Stakeholders an additional $30 million of cash, $15 million of which was to be paid six months from the Edgewater Acquisition Date and the other $15 million of which was to be paid as early as nine months from the Edgewater Acquisition Date and no later than 18 months from the Edgewater Acquisition Date (the exact timing of which would depend on the amount of revenue generated from the sales of Edgewater products in 2018) (the "Edgewater Deferred Consideration").

On February 15, 2019, we and the Edgewater Selling Stakeholders agreed to reduce the amount of Edgewater Deferred Consideration from $30 million to $21.9 million and agreed that all such deferred consideration would be payable on March 8, 2019. We paid the Edgewater Selling Stakeholders $21.9 million on March 8, 2019 and recorded the reduction to the Edgewater Deferred Consideration of $8.1 million in Other income, net, in our condensed consolidated statement of operations for the nine months ended September 30, 2019.

The Edgewater Acquisition has been accounted for as a business combination and the financial results of Edgewater have been included in our consolidated financial statements for the period subsequent to the Edgewater Acquisition Date.

Litigation Settlement

On April 22, 2019, we and Metaswitch agreed to a binding mediator's proposal that resolves the six previously disclosed lawsuits between the Company and Metaswitch (the "Lawsuits"). We and Metaswitch signed a Settlement and Cross-License Agreement on May 29, 2019 (the "Royalty Agreement"). Pursuant to the terms of the Royalty Agreement, Metaswitch agreed to pay us an aggregate amount of $63.0 million, which included cash payments of $37.5 million during the second quarter of 2019 and $25.5 million payable in three installments annually, beginning June 26, 2020, with such installment payments accruing interest at a rate of 4% per year. As part of the Royalty Agreement, we and Metaswitch (i) have released the other from all claims and liabilities; (ii) have licensed each party's existing patent portfolio to the other party; and (iii) have requested the applicable courts to dismiss the Lawsuits. We received $37.5 million of aggregate payments from Metaswitch in the second quarter of 2019 and recorded notes receivable for future payments of $25.5 million, comprised of $8.5 million in Other current assets and $17.0 million in Other assets in our condensed consolidated balance sheet at September 30, 2019. We recorded the $63.0 million gain in Other income, net, in our condensed consolidated statement of operations for the nine months ended September 30, 2019.

Financial Overview

Financial Results

We reported income from operations of approximately $3 million and a loss from operations of approximately $8 million for the three months ended September 30, 2019 and 2018, respectively. We reported losses from operations of approximately $41 million and $67 million for the nine months ended September 30, 2019 and 2018, respectively.

Our revenue was approximately $138 million and $152 million in the three months ended September 30, 2019 and 2018, respectively. Our revenue was approximately $402 million and $411 million in the nine months ended September 30, 2019 and 2018, respectively.

Our gross profit was approximately $79 million and $82 million in the three months ended September 30, 2019 and 2018, respectively. Our gross profit as a percentage of revenue ("total gross margin") was approximately 57% and 54% in the three months ended September 30, 2019 and 2018, respectively. Our gross profit was approximately $216 million and $213 million in the nine months ended September 30, 2019 and 2018, respectively. Our gross margin was approximately 54% and 52% in the nine months ended September 30, 2019 and 2018, respectively.

Our operating expenses were approximately $76 million and $90 million in the three months ended September 30, 2019 and 2018, respectively. Operating expenses for the three months ended September 30, 2019 included approximately $2 million of acquisition- and integration-related expense and approximately $2 million of restructuring and related expense. Operating expenses for the three months ended September 30, 2018 included approximately $6 million of acquisition- and integration-related expense and $2 million of restructuring and related expense.

Our operating expenses were approximately $257 million and $279 million in the nine months ended September 30, 2019 and 2018, respectively. Operating expenses for the nine months ended September 30, 2019 included approximately $7 million of acquisition- and integration-related expense and approximately $16 million of restructuring and related expense. Operating expenses for the nine months ended September 30, 2018 included approximately $14 million of acquisition- and integration-related expense and approximately $15 million of restructuring and related expense.

We recorded stock-based compensation expense of approximately $2 million and $3 million in the three months ended September 30, 2019 and 2018, respectively. We recorded stock-based compensation expense of approximately $8 million and $7 million in the nine months ended September 30, 2019 and 2018, respectively. These amounts are included as components of both Cost of revenue and Operating expenses in our condensed consolidated statements of operations.

See "Results of Operations" in this Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") for a discussion of the changes in our revenue and expenses for the three and nine months ended September 30, 2019 compared with the three and nine months ended September 30, 2018.

Restructuring and Cost Reduction Initiatives

In June 2019, we implemented a restructuring plan to further streamline our global footprint, improve our operations and enhance our customer delivery (the "2019 Restructuring Initiative"). The 2019 Restructuring Initiative includes facility consolidations, refinement of our research and development activities, and a reduction in workforce. In connection with this initiative, we expect to reduce our focus on hardware and appliance-based development over time and to increase our development focus on software virtualization, functional simplicity and important customer requirements. The facility consolidations under the 2019 Restructuring Initiative (the "Facilities Initiative") include a consolidation of our North Texas sites into a single campus, housing engineering, customer training and support, and administrative functions, as well as a reduction or elimination of certain excess and duplicative facilities worldwide. In addition, we intend to substantially consolidate our global software laboratories and server farms into two lower cost North American sites. We estimate that the 2019 Restructuring Initiative will reduce our cost footprint by approximately $25 million on an annualized basis once complete and that we will realize approximately $10 million of savings in 2019. However, we intend to reinvest our savings toward our software development efforts. We expect that the actions under the Facilities Initiative will be completed at the end of 2020. In connection with the 2019 Restructuring Initiative, we recorded restructuring expense and accrued approximately $8 million in the nine months ended September 30, 2019, comprised of approximately $2 million in the three months ended September 30, 2019 and approximately $6 million in the three months ended June 30, 2019. The amount recorded in the three months ended September 30, 2019 was comprised of approximately $1 million for severance and related costs for approximately 20 employees and approximately $1 million for variable and other facilities-related costs. The amount recorded in the three months ended June 30, 2019 was primarily for severance and related costs for approximately 110 employees. We expect that nearly all of this amount will be paid by the end of 2019. We estimate that we will record nominal additional restructuring expense related to severance and related costs under the 2019 Restructuring Initiative in the remainder of 2019. We may incur additional future expense if we are unable to sublease other locations included in the Facilities Initiative.

Accelerated rent amortization is recognized from the date that we commence the plan to fully or partially vacate a facility, for which there is no intent or ability to enter into a sublease, through the final vacate date. We recorded approximately $1 million and $4 million of accelerated rent amortization in the three and nine months ended September 30, 2019, respectively, as components of Restructuring and related expense. We continue to evaluate our properties included in the Facilities Initiative for accelerated amortization and/or right-of-use asset impairment.

In connection with the Merger, we implemented a restructuring plan in the fourth quarter of 2017 to eliminate certain redundant positions and facilities within the combined companies (the "Merger Restructuring Initiative"). In connection with this initiative, we recorded restructuring and related expense of approximately $5 million in the nine months ended September 30, 2019, comprised of nominal expense in the three months ended June 30, 2019 and approximately $5 million in the three months ended March 31, 2019, primarily for severance and related costs for approximately 40 employees. We recorded approximately $14 million of restructuring and related expense in the nine months ended September 30, 2018 in connection with this initiative, comprised of approximately $2 million, $5 million and $7 million in the three months ended September 30, 2018, June 30, 2018 and March 31, 2018, respectively. The amounts recorded in both the three and nine months ended September 30, 2018 were primarily for severance and related costs. We anticipate recording nominal future expense in connection with this initiative as we continue to combine the two businesses and benefit from operational synergies.

In connection with the adoption of ASC 842, which was effective for us on January 1, 2019, we wrote off the remaining restructuring accrual related to facilities under ASC 842. We expect that the amount accrued at September 30, 2019 for severance will be paid by the end of the first half of 2020.

Critical Accounting Policies and Estimates

Management's discussion and analysis of financial condition and results of operations is based upon our condensed consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP"). The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. We base our estimates and judgments on historical experience, knowledge of current conditions and beliefs of what could occur in the future given available information. We consider the following accounting policies to be both those most important to the portrayal of our financial condition and those that require the most subjective judgment: revenue recognition, valuation of inventory, loss contingencies and reserves, stock-based compensation, business combinations, goodwill and intangible assets, accounting for leases and accounting for income taxes. If actual results differ significantly from management's estimates and projections, there could be a material effect on our condensed consolidated financial statements. With the exception of our lease accounting policy below, there were no significant changes to our critical accounting policies from December 31, 2018 through September 30, 2019.

Leases. Effective January 1, 2019, we adopted Accounting Standards Update ("ASU") 2016-02, *Leases (Topic 842) Section A - Leases: Amendments to the FASB Accounting Standards Codification* ("ASU 2016-02"), the Financial Accounting Standards Board's ("FASB") new standard on accounting for leases. ASU 2016-02 introduces a lessee model that brings most leases onto the balance sheet and eliminates the current GAAP requirement for an entity to use bright-line tests in determining lease classification. We must determine if an arrangement is a lease at inception. A contract is determined to contain a lease component if the arrangement provides us with a right to control the use of an identified asset. Lease agreements may include lease and non-lease components. In such instances for all classes of underlying assets, we do not separate lease and non-lease components but instead account for the entire arrangement under leasing guidance. Leases with an initial term of 12 months or less are not recorded on the balance sheet and lease expense for these leases is recognized on a straight-line basis over the lease term.

Right-of-use assets and lease liabilities are initially measured based on the present value of the future minimum fixed lease payments (i.e., fixed payments in the lease contract) over the lease term at the commencement date. As many of our leases do not have a readily determinable implicit rate, we typically use our incremental borrowing rate based on the information available at the commencement date in determining the present value of future minimum fixed lease payments. We calculate our incremental borrowing rate to reflect the interest rate that we would have to pay to borrow on a collateralized basis an amount equal to the lease payments in a similar economic environment over a similar term and consider our historical borrowing activities and market data from entities with comparable credit ratings in this determination. The measurement of the right-of-use asset also includes any lease payments made prior to the commencement date (excluding any lease incentives) and initial direct costs incurred. We assessed our right-of-use assets for impairment as of September 30, 2019 and determined no impairment has occurred.

Lease terms may include options to extend or terminate the lease and we incorporate such options in the lease term when we have the unilateral right to make such an election and it is reasonably certain that we will exercise that option. In making this determination, we consider our prior renewal and termination history and planned usage of the assets under lease, incorporating expected market conditions.

For restructuring events that involve lease assets and liabilities, we apply lease reassessment and modification guidance and evaluate the right-of-use assets for potential impairment. If we plan to exit all or distinct portions of a facility and do not have the ability or intent to sublease, we will accelerate the amortization of each of these lease components through the vacate date. The accelerated amortization is recorded as a component of Restructuring and related expense in our condensed consolidated statements of operations. Related variable lease expenses will continue to be expensed as incurred through the vacate date, at which time we will reassess the liability balance to ensure it appropriately reflects the remaining liability associated with the premises and record a liability for the estimated future variable lease costs.

For a further discussion of our other critical accounting policies and estimates, please refer to our Annual Report on Form 10-K/A for the year ended December 31, 2018.

Results of Operations

Three and nine months ended September 30, 2019 and 2018

Revenue. Revenue for the three and nine months ended September 30, 2019 and 2018 was as follows (in millions, except percentages):

	Three months ended		Increase (decrease) from prior year	
	September 30, 2019	September 30, 2018	$	%
Product	$ 61.2	$ 77.3	$ (16.1)	(20.9)%
Service	76.5	75.2	1.3	1.8 %
Total revenue	$ 137.7	$ 152.5	$ (14.8)	(9.7)%

	Nine months ended		Increase (decrease) from prior year	
	September 30, 2019	September 30, 2018	$	%
Product	$ 180.7	$ 191.9	$ (11.2)	(5.9)%
Service	221.3	219.1	2.2	1.0 %
Total revenue	$ 402.0	$ 411.0	$ (9.0)	(2.2)%

Our product revenue is generated from sales of software with attached appliances, software licenses and software subscription fees. Certain of our products may be included in more than one of our solutions (i.e., session solutions, network transformation solutions, and applications and security solutions), depending upon the configuration of the individual customer solutions sold. Our software with attached appliances and software license revenues are primarily comprised of our media gateway, call controller, signaling, virtual mobile core and management (i.e., analytics, assurance, billing, etc.) products. Our software subscription fees revenue is primarily comprised of sales of our UC-related (i.e., application server, media server, etc.), Kandy Cloud and Ribbon Protect products. Each of our solutions portfolios addresses both the service provider and enterprise markets and are sold through both our direct sales program and from indirect sales through our channel partner program.

The decrease in product revenue in the three months ended September 30, 2019 compared with the three months ended September 30, 2018 was primarily due to lower sales of software with attached appliances. The decrease in product revenue in the nine months ended September 30, 2019 compared with the nine months ended September 30, 2018 was primarily the result of approximately $23 million of lower revenue from software with attached appliances, partially offset by approximately $12 million of higher sales of our software licenses and subscriptions.

Revenue from indirect sales through our channel partner program was approximately 35% and 34% of our product revenue in the three months ended September 30, 2019 and 2018, respectively. Approximately 38% and 22% of our product revenue was from indirect sales through our channel partner program in the nine months ended September 30, 2019 and 2018, respectively. The increase in revenue from indirect sales through our channel partner program as a percentage of product revenue in both the three and nine months ended September 30, 2019 compared to the same prior year periods was primarily attributable to the acquisition of Edgewater, which has historically recognized a higher percentage of revenue from indirect sales.

Our product revenue from sales to enterprise customers was approximately29% and 31% of our product revenue in the three months ended September 30, 2019 and 2018, respectively. Our product revenue from sales to enterprise customers was approximately 26% and 20% of our product revenue in the nine months ended September 30, 2019 and 2018, respectively. These sales were made both through our direct sales team and indirect sales channel partners. The increase in revenue from sales to enterprise customers as a percentage of product revenue in the nine months ended September 30, 2019 compared to the nine months ended September 30, 2018 was primarily due to the acquisition of Edgewater, which has historically recognized a higher percentage of revenue from sales to enterprise customers.

The timing of the completion of customer projects and revenue recognition criteria satisfaction may cause our product revenue to fluctuate from one period to the next.

Service revenue is primarily comprised of appliance and software maintenance and support ("maintenance revenue") and network design, installation and other professional services ("professional services revenue").

Service revenue for the three and nine months ended September 30, 2019 and 2018 was comprised of the following (in millions, except percentages):

	Three months ended		Increase (decrease) from prior year	
	September 30, 2019	September 30, 2018	$	%
Maintenance	$ 58.9	$ 60.2	$ (1.3)	(2.1)%
Professional services	17.6	15.0	2.6	17.1 %
	$ 76.5	$ 75.2	$ 1.3	1.8 %

	Nine months ended		Increase (decrease) from prior year	
	September 30, 2019	September 30, 2018	$	%
Maintenance	$ 173.0	$ 174.3	$ (1.3)	(0.7)%
Professional services	48.3	44.8	3.5	7.8 %
	$ 221.3	$ 219.1	$ 2.2	1.0 %

Our service revenue was relatively flat in both the three and nine months ended September 30, 2019 compared to the same prior year periods, primarily due to industry consolidation and the resulting pricing pressure, offset by the sale of new software products under maintenance support.

The following customers contributed 10% or more of our revenue in the three and nine months endedSeptember 30, 2019 and 2018:

	Three months ended		Nine months ended	
Customer	September 30, 2019	September 30, 2018	September 30, 2019	September 30, 2018
AT&T Inc.	16%	12%	12%	10%
Verizon Communications Inc.	15%	13%	17%	15%

Revenue earned from customers domiciled outside the United States was approximately36% and 39% of revenue in the three months ended September 30, 2019 and 2018, respectively, and approximately 40% and 43% of revenue in the nine months ended September 30, 2019 and 2018, respectively. Due to the timing of project completions, we expect that the domestic and international components as a percentage of revenue may fluctuate from quarter to quarter and year to year.

Our deferred product revenue was approximately $5 million and $14 million at September 30, 2019 and December 31, 2018, respectively. Our deferred service revenue was approximately $97 million and $108 million at September 30, 2019 and December 31, 2018, respectively. Our deferred revenue balance may fluctuate because of the timing of revenue recognition, customer payments, maintenance contract renewals, contractual billing rights and maintenance revenue deferrals included in multiple element arrangements.

We expect that our total revenue in 2019 will decrease slightly compared with our 2018 total revenue.

Cost of Revenue/Gross Margin. Our cost of revenue consists primarily of amounts paid to third-party manufacturers for purchased materials and services, royalties and manufacturing and services personnel and related costs. Our cost of revenue and gross margins for the three and nine months ended September 30, 2019 and 2018 were as follows (in millions, except percentages):

	Three months ended		Decrease from prior year	
	September 30, 2019	September 30, 2018	$	%
Cost of revenue				
Product	$ 31.5	$ 38.9	$ (7.4)	(19.1)%
Service	27.3	31.3	(4.0)	(12.9)%
Total cost of revenue	$ 58.8	$ 70.2	$ (11.4)	(16.3)%
Gross margin				
Product	48.5%	49.7%		
Service	64.3%	58.3%		
Total gross margin	57.3%	53.9%		

	Nine months ended		Decrease from prior year	
	September 30, 2019	September 30, 2018	$	%
Cost of revenue				
Product	$ 101.1	$ 102.2	$ (1.1)	(1.1)%
Service	84.8	96.2	(11.4)	(11.9)%
Total cost of revenue	$ 185.9	$ 198.4	$ (12.5)	(6.3)%
Gross margin				
Product	44.1%	46.8%		
Service	61.7%	56.1%		
Total gross margin	53.8%	51.7%		

The decrease in product gross margin in the three months ended September 30, 2019 compared with the three months ended September 30, 2018 was primarily attributable to the impact of our lower product revenue on our fixed costs, which decreased our product gross margin by approximately three percentage points. This decrease was partially offset by our lower direct material costs resulting from the higher software content of our current sales as a percentage of total product revenue, coupled with the impact of our restructuring and cost reduction initiatives, which increased our product gross margin in the aggregate by approximately two percentage points. Our purchases of materials and components were approximately $15 million and $21 million in the three months ended September 30, 2019 and 2018, respectively.

The decrease in product gross margin in the nine months ended September 30, 2019 compared with the nine months ended September 30, 2018 was primarily attributable to product and customer mix, which decreased our product gross margin by approximately three percentage points. Our purchases of materials and components were approximately $52 million in both the nine months ended September 30, 2019 and 2018.

We expect that our future purchases of materials and components will decrease as a result of the increase in software content of our products, both in absolute terms and as a percentage of revenue.

The increase in service gross margin in both the three and nine months ended September 30, 2019 compared to the same prior year periods was primarily due to lower direct costs resulting largely from our restructuring and cost reduction initiatives.

We believe that our total gross margin will increase in 2019 compared with 2018, primarily due to the expected higher software content as a percentage of our total revenue, coupled with the impact of our restructuring and integration cost reduction initiatives.

Research and Development Expenses. Research and development expenses consist primarily of salaries and related personnel expenses and prototype costs for the design, development, testing and enhancement of our products. Research and development expenses for the three and nine months ended September 30, 2019 and 2018 were as follows (in millions, except percentages):

	September 30, 2019	September 30, 2018	Decrease from prior year $	Decrease from prior year %
Three months ended	$ 34.2	$ 34.4	$ (0.2)	(0.5)%
Nine months ended	$ 105.5	$ 109.1	$ (3.6)	(3.3)%

The slight decrease in research and development expenses in the three months ended September 30, 2019 compared with the three months ended September 30, 2018 was primarily attributable to approximately $1 million of lower employee-related expenses, partially offset by net increases in other research and development expenses aggregating slightly less than $1 million.

The decrease in research and development expenses in the nine months ended September 30, 2019 compared with the nine months ended September 30, 2018 was primarily attributable to approximately $4 million of lower employee-related expenses.

Some aspects of our research and development efforts require significant short-term expenditures, the timing of which may cause significant variability in our expenses. We believe that rapid technological innovation is critical to our long-term success, and we are tailoring our investments to meet the requirements of our customers and market. We believe that our research and development expenses in 2019 will benefit from our ongoing restructuring and cost savings initiatives, partially offset by our increased investment in our software solutions and the impact of Edgewater's research and development expenses for the full year 2019.

Sales and Marketing Expenses. Sales and marketing expenses primarily consist of salaries and related personnel costs, commissions, travel and entertainment expenses, promotions, customer trial and evaluations inventory and other marketing and sales support expenses. Sales and marketing expenses for the three and nine months ended September 30, 2019 and 2018 were as follows (in millions, except percentages):

	September 30, 2019	September 30, 2018	Decrease from prior year $	Decrease from prior year %
Three months ended	$ 28.2	$ 31.5	$ (3.3)	(10.4)%
Nine months ended	$ 87.2	$ 94.2	$ (7.0)	(7.4)%

The decrease in sales and marketing expenses in the three months ended September 30, 2019 compared with the three months ended September 30, 2018 was primarily attributable to approximately $3 million of lower employee-related expenses, reflecting the impact on headcount from our cost reduction initiatives.

The decrease in sales and marketing expenses in the nine months ended September 30, 2019 compared with the nine months ended September 30, 2018 was primarily attributable to approximately $6 million of lower employee-related expenses, reflecting the impact on headcount from our cost reduction initiatives.

We believe that our sales and marketing expenses will decrease in 2019 compared with 2018, as we expect the inclusion of Edgewater's sales and marketing expenses for the full year 2019 will be offset by cost savings from our ongoing restructuring and cost savings initiatives.

General and Administrative Expenses. General and administrative expenses consist primarily of salaries and related personnel costs for executive and administrative personnel, and audit, legal and other professional fees. General and administrative expenses for the three and nine months ended September 30, 2019 and 2018 were as follows (in millions, except percentages):

	September 30, 2019	September 30, 2018	Decrease from prior year $	%
Three months ended	$ 9.7	$ 15.9	$ (6.2)	(39.3)%
Nine months ended	$ 40.8	$ 46.6	$ (5.8)	(12.3)%

The decrease in general and administrative expenses in the three months ended September 30, 2019 compared with the three months ended September 30, 2018 was primarily attributable to approximately $5 million of lower litigation and related net expenses and approximately $2 million of lower employee-related expenses.

The decrease in general and administrative expenses in the nine months ended September 30, 2019 compared with the nine months ended September 30, 2018 was primarily attributable to approximately $4 million of lower employee-related expenses and approximately $3 million of lower professional fees (i.e., legal, audit and outside services). These amounts were partially offset by approximately $3 million of higher net expense from litigation.

We believe that our general and administrative expenses will decrease in 2019 compared with 2018, primarily due to savings from our restructuring and cost savings initiatives combined with lower litigation costs.

Acquisition- and Integration-Related Expenses. Acquisition- and integration-related expenses include those expenses related to acquisitions that we would otherwise not have incurred. Acquisition-related expenses include professional and services fees, such as legal, audit, consulting, paying agent and other fees, and expenses related to cash payments to certain former executives of acquired businesses in connection with their employment agreements. Integration-related expenses represent incremental costs related to combining the Company's systems and processes with those of acquired businesses, such as third-party consulting and other third-party services.

We recorded acquisition- and integration-related expenses of approximately $2 million and $7 million in the three and nine months ended September 30, 2019, respectively. The amount recorded in the three months ended September 30, 2019 was comprised of approximately $1 million of integration-related expense and slightly less than $1 million of acquisition-related expense for professional and services fees. The amount recorded in the nine months ended September 30, 2019 was comprised of approximately $4 million of integration-related expense and approximately $3 million of acquisition-related expense for professional and services fees. The acquisition-related expense in both the three and nine month periods ended September 30, 2019 was primarily related to our acquisition of Anova.

We recorded acquisition- and integration-related expense of approximately $6 million and $14 million in the three and nine months ended September 30, 2018, respectively, related to the Merger and the Edgewater Acquisition, as well as nominal amounts related to acquisitive activities. The amount recorded in the three months ended September 30, 2018 was comprised of approximately $3 million of acquisition-related expenses primarily related to the Merger and the Edgewater Acquisition and approximately $3 million of integration-related expense related to the Merger. The amount recorded in the nine months ended September 30, 2018 was comprised of approximately $7 million of acquisition-related expense primarily related to the Merger and the Edgewater Acquisition and approximately $7 million of integration-related expense related to the Merger.

We estimate that we will incur approximately $2 million of additional acquisition- and integration-related expense in the remainder of 2019.

Restructuring and Related Expense. We have been committed to streamlining operations and reducing operating costs by closing and consolidating certain facilities and reducing our worldwide workforce. Please see the additional discussion of our restructuring initiatives in the "Restructuring and Cost Reduction Initiatives" section of the Overview of this Management's Discussion and Analysis of Financial Condition and Results of Operations.

We recorded restructuring and related expense of approximately $2 million and $16 million in the three and nine months ended September 30, 2019, respectively. We recorded restructuring and related expense of approximately $2 million and $15 million in the three and nine months ended September 30, 2018, respectively.

Although we have eliminated positions as part of our restructuring initiatives, we continue to hire in certain areas that we believe are important to our future growth. Restructuring and related expense is reported separately in the condensed consolidated statements of operations.

Interest Expense, Net. Interest income and interest expense for the three and nine months ended September 30, 2019 and 2018 were as follows (in millions, except percentages):

	Three months ended		Increase (decrease) from prior year	
	September 30, 2019	September 30, 2018	$	%
Interest income	$ 0.3	$ 0.1	$ 0.2	200.0 %
Interest expense	(1.0)	(1.5)	(0.5)	(33.3)%
	$ (0.7)	$ (1.4)	$ (0.7)	(50.0)%

	Nine months ended		Increase from prior year	
	September 30, 2019	September 30, 2018	$	%
Interest income	$ 0.3	$ 0.2	$ 0.1	50.0%
Interest expense	(3.7)	(3.0)	0.7	23.3%
	$ (3.4)	$ (2.8)	$ 0.6	21.4%

Interest income in the three and nine months ended September 30, 2019 primarily represents interest earned on the outstanding note receivable from Metaswitch in accordance with terms of the recently settled litigation. Interest expense in the three months ended September 30, 2019 primarily related to revolver and term borrowings under the New Credit Facility. Interest expense in the nine months ended September 30, 2019 primarily related to borrowings under our Credit Facility and the promissory note issued to certain of GENBAND's equity holders in connection with the Merger.

Interest income in the three and nine months ended September 30, 2018 represents interest earned on our cash equivalents and marketable securities. Interest expense in the three and nine months ended September 30, 2018 was primarily comprised of interest on the outstanding revolving credit facility balance and our long-term debt payable to a related party, amortization of debt issuance costs in connection with our credit facility and interest on capital lease obligations.

Other Income (Expense), Net. We recorded a gain of $63 million from the settlement of litigation with Metaswitch in the three months ended June 30, 2019 and a gain of approximately $8 million from the reduction of deferred purchase consideration in connection with the Edgewater Acquisition in the three months ended March 31, 2019. These gains were the primary components of our other income (expense), net, for the nine months ended September 30, 2019. Our other expense, net, for both the three and nine months ended September 30, 2018 was primarily comprised of expense related to foreign currency translation.

Income Taxes. We recorded provisions for income taxes of approximately $6 million and $3 million in the nine months ended September 30, 2019 and 2018, respectively. These amounts reflect our estimates of the effective rates expected to be applicable for the respective full fiscal years, adjusted for any discrete events, which are recorded in the period that they occur. These estimates are reevaluated each quarter based on our estimated tax rate for the full fiscal year. The estimated effective rates for the nine months ended September 30, 2019 and 2018 do not include any expense or benefit for our domestic or Ireland operations, since we concluded that a valuation allowance was required for both jurisdictions.

Off-Balance Sheet Arrangements

We have no off-balance sheet arrangements that have or are reasonably likely to have a current or future material effect on our financial position, changes in financial position, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

Contractual Obligations

There have been no material changes, outside of the ordinary course of business, to our contractual obligations as previously disclosed in our Annual Report on Form 10-K/A for the year ended December 31, 2018.

Liquidity and Capital Resources

Our condensed consolidated statements of cash flows are summarized as follows (in millions):

	Nine months ended		
	September 30, 2019	September 30, 2018	Change
Net income (loss)	$ 20.3	$ (75.0)	$ 95.3
Adjustments to reconcile net income (loss) to cash flows provided by (used in) operating activities	51.3	56.4	(5.1)
Changes in operating assets and liabilities	(49.0)	(5.0)	(44.0)
Net cash provided by (used in) operating activities	$ 22.6	$ (23.6)	$ 46.2
Net cash used in investing activities	$ (1.3)	$ (33.4)	$ 32.1
Net cash (used in) provided by financing activities	$ (24.7)	$ 36.2	$ (60.9)

Our cash was approximately $40 million at September 30, 2019. Our cash, cash equivalents and marketable securities totaled approximately $51 million at December 31, 2018. We had cash held by our non-U.S. subsidiaries aggregating approximately $9 million and $11 million at September 30, 2019 and December 31, 2018, respectively. If we elected to repatriate all of the funds held by our non-U.S. subsidiaries as of September 30, 2019, we do not believe that the amounts of potential withholding taxes that would arise from the repatriation would have a material effect on our liquidity.

On December 21, 2017, we entered into a Senior Secured Credit Agreement (the “Credit Facility”) with Silicon Valley Bank ("SVB"), which refinanced the prior credit agreement with SVB that the Company had assumed in connection with the Merger. On June 24, 2018, we amended the Credit Facility to, among other things, permit the Edgewater Acquisition and related transactions. At December 31, 2018, we had an outstanding debt balance of $55 million at an average interest rate of 5.96% and approximately $3 million of outstanding letters of credit at an average interest rate of 1.75% under the Credit Facility. We were in compliance with all covenants of the Credit Facility at December 31, 2018.

On April 29, 2019, we entered into a syndicated, amended and restated Credit Facility (the "New Credit Facility") with SVB, as lead agent. The New Credit Facility provides for a $50 million term loan facility that was advanced in full on April 29, 2019, and a $100 million revolving line of credit. The New Credit Facility also includes procedures for additional financial institutions to become syndicate lenders, or for any existing lender to increase its commitment under either the term loan facility or the revolving loan facility, subject to an aggregate increase of $75 million for all incremental commitments under the New Credit Facility. The New Credit Facility is scheduled to mature in 2024. At September 30, 2019, we had an outstanding term loan debt balance of approximately $49 million, an outstanding revolving line of credit balance of approximately $34 million, with a combined weighted average interest rate of 3.76%, and approximately $3 million of outstanding letters of credit at an average interest rate of 1.50%.

The indebtedness and other obligations under the New Credit Facility are unconditionally guaranteed on a senior secured basis by us and each of our other material U.S. domestic subsidiaries (collectively, the "Guarantors"). The New Credit Facility is secured by first-priority liens on substantially all of our assets.

The New Credit Facility requires periodic interest payments on outstanding borrowings under the facility until maturity. We may prepay all revolving loans under the New Credit Facility at any time without premium or penalty (other than customary LIBOR breakage costs), subject to certain notice requirements.

Revolving loans under the New Credit Facility bear interest at our option at either the Eurodollar (LIBOR) rate plus a margin ranging from 1.50% to 3.00% per year or the base rate (the highest of the Federal Funds rate plus 0.50%, or the prime rate announced from time to time in The Wall Street Journal) plus a margin ranging from 0.50% to 2.00% per year (such margins being referred to as the “Applicable Margin”). The Applicable Margin varies depending on our consolidated leverage ratio (as defined in the New Credit Facility). The base rate and the LIBOR rate are each subject to a zero percent floor.

The New Credit Facility requires compliance with certain financial covenants, including a minimum consolidated quick ratio, minimum consolidated fixed cover charge coverage ratio and maximum consolidated leverage ratio, all of which are defined in the New Credit Facility and tested on a quarterly basis. We were in compliance with all covenants of the New Credit Facility at September 30, 2019.

In addition, the New Credit Facility contains various covenants that, among other restrictions, limit our and our subsidiaries' ability to enter into certain types of transactions, including, but not limited to: incurring or assuming indebtedness; granting or assuming liens; making acquisitions or engaging in mergers; making dividend and certain other restricted payments; making investments; selling or otherwise transferring assets; engaging in transactions with affiliates; entering into sale and leaseback transactions; entering into burdensome agreements; changing the nature of our business; modifying our organizational documents; and amending or making prepayments on certain junior debt.

The New Credit Facility contains events of default that are customary for a secured credit facility. If an event of default relating to bankruptcy or other insolvency events with respect to a borrower occurs, all obligations under the New Credit Facility will immediately become due and payable. If any other event of default exists under the New Credit Facility, the lenders may accelerate the maturity of the obligations outstanding under the New Credit Facility and exercise other rights and remedies, including charging a default rate of interest equal to 2.00% per year above the rate that would otherwise be applicable. In addition, if any event of default exists under the New Credit Facility, the lenders may commence foreclosure or other actions against the collateral.

If any default exists under the New Credit Facility, or if the Borrower is unable to make any of the representations and warranties as stated in the New Credit Facility at the applicable time, the Borrower will be unable to borrow funds or have letters of credit issued under the New Credit Facility, which, depending on the circumstances prevailing at that time, could have a material adverse effect on the Borrower's liquidity and working capital.

In connection with the Merger, on October 27, 2017, we issued a promissory note for approximately $23 million to certain of GENBAND's equity holders (the "Promissory Note"). The Promissory Note did not amortize and the principal thereon was payable in full on the third anniversary of its execution. Interest on the promissory note was payable quarterly in arrears and accrued at a rate of 7.5% per year for the first six months after issuance, and thereafter at a rate of 10% per year. Interest that was not paid on the interest payment date increased the principal amount of the Promissory Note. The failure to make any payment under the Promissory Note when due and, with respect to payment of any interest, the continuation of such failure for a period of thirty days thereafter, constituted an event of default under the Promissory Note. If an event of default occurred under the Promissory Note, the payees could declare the entire balance of the Promissory Note due and payable (including principal and accrued and unpaid interest) within five business days of the payees' notification to the Company of such acceleration. Interest that was not paid on the interest payment date increased the principal amount of the Promissory Note. At December 31, 2018, the Promissory Note balance was $24.1 million, comprised of $22.5 million of principal plus $1.6 million of interest converted to principal. On April 29, 2019, concurrently with the closing of the New Credit Facility as discussed above, we repaid in full all outstanding amounts under the Promissory Note, totaling $24.7 million and comprised of $22.5 million of principal plus $2.2 million of interest converted to principal. We did not incur any early termination penalties in connection with this repayment.

In the second quarter of 2019, our Board of Directors (the "Board") approved a stock repurchase program pursuant to which we may repurchase up to $75 million of the Company's common stock prior to April 18, 2021. Repurchases under the program may be made in the open market, in privately negotiated transactions or otherwise, with the amount and timing of repurchases depending on the market conditions and corporate discretion. This program does not obligate us to acquire any particular amount of common stock and the program may be extended, modified, suspended or discontinued at any time at the Board's discretion. During the nine months ended September 30, 2019, we repurchased and retired 1.0 million shares of our common stock for a total purchase price of $4.5 million, including transaction fees. No shares were repurchased under this program during the three months ended September 30, 2019.

Our operating activities provided approximately $23 million of cash and used approximately $24 million of cash in the nine months ended September 30, 2019 and 2018, respectively.

Cash provided by operating activities in the nine months ended September 30, 2019 was primarily the result of our net income, lower accounts receivable and inventory, and our non-cash operating expenses. These amounts were partially offset by higher other operating assets and lower accounts payable, accrued expenses and other long-term liabilities, and deferred revenue balances, coupled with the reduction in the Edgewater Deferred Consideration. The increase in other operating assets was primarily due to the note receivable arising from the litigation settlement with Metaswitch. The decrease in accrued expenses and other long-term liabilities was primarily related to employee compensation and related costs and lower deferred purchase consideration. During the second quarter of 2019, we received approximately $37 million of cash from Metaswitch, which represents the first payment in accordance with the litigation settlement agreement. Our lower accounts receivable primarily reflected typical mid-year seasonality. Our net income, adjusted for non-cash operating activities, provided approximately $72 million of cash in the nine months ended September 30, 2019.

Cash used in operating activities in the nine months ended September 30, 2018 was primarily the result of our net loss, lower accrued expenses and other long-term liabilities, accounts payable and deferred revenue. These amounts were partially offset by lower accounts receivable, other operating assets and inventory, coupled with our non-cash operating expenses. The decrease in accrued expenses and other long-term liabilities was primarily related to employee compensation and related costs and our previously recorded restructuring initiatives, coupled with lower accruals for taxes and professional fees. Our lower accounts receivable primarily reflected typical mid-year seasonality. Our net loss, adjusted for non-cash operating activities, used approximately $19 million of cash in the nine months ended September 30, 2018.

Our investing activities used approximately $1 million of cash in the nine months ended September 30, 2019, comprised of approximately $8 million of investments in property and equipment, partially offset by the maturity of approximately $7 million of marketable securities.

Our investing activities used approximately $33 million of cash in the nine months ended September 30, 2018, comprised of approximately $46 million of cash, net of cash acquired, paid as purchase consideration to acquire Edgewater and approximately $6 million of investments in property and equipment. These amounts were partially offset by the sale and maturity of marketable securities aggregating approximately $19 million.

Our financing activities used approximately $25 million of cash in the nine months ended September 30, 2019. We repaid outstanding borrowings of approximately $131 million under the New Credit Facility, comprised of $130 million for borrowings under the revolving line of credit and approximately $1 million for borrowings under the term loan. We also repaid approximately $25 million on the note to certain of the former GENBAND equity holders and the deferred purchase consideration of approximately $22 million to the selling Edgewater shareholders. We spent slightly under $5 million to repurchase and retire shares of our common stock on the open market and used approximately $1 million to pay withholding obligations related to the net share settlement of restricted stock awards upon vesting. Our borrowings under the New Credit Facility totaled $159 million, comprised of $109 million of borrowings under the revolving line of credit and $50 million of term loan debt under the New Credit Facility. Cash proceeds from the sale of our common stock under our ESPP and from option exercises totaled slightly less than $1 million.

Our financing activities provided approximately $36 million of cash in the nine months ended September 30, 2018. We borrowed approximately $143 million and repaid approximately $105 million under the Credit Facility in the nine months ended September 30, 2018. We used approximately $1 million in the aggregate for debt issuance costs and payments on our finance lease obligations and slightly less than $1 million to pay withholding obligations related to the net share settlement of restricted stock awards upon vesting.

Based on our current expectations, we believe our current cash and available borrowings under the New Credit Facility will be sufficient to meet our anticipated cash needs for working capital and capital expenditures for at least twelve months. However, the rate at which we consume cash is dependent on the cash needs of our future operations. We anticipate devoting substantial capital resources to continue our research and development efforts, to maintain our sales, support and marketing, to complete merger-related integration activities and for other general corporate activities. However, it is difficult to predict future liquidity requirements with certainty, and our cash and available borrowings under the New Credit Facility may not be sufficient to meet our future needs, which would require us to refinance our debt and/or obtain additional financing. We may not be able to refinance our debt or obtain additional financing on favorable terms or at all.

Recent Accounting Pronouncements

Effective January 1, 2019, we adopted the Financial Accounting Standard Board's ("FASB") new standard on accounting for leases, Accounting Standards Codification ("ASC") 842, *Leases* ("ASC 842"). ASC 842 replaced existing lease accounting rules with a comprehensive lease measurement and recognition standard and expanded disclosure requirements. ASC 842 requires lessees to recognize most leases on their balance sheets and eliminates the current GAAP requirement for an entity to use bright-line tests in determining lease classification.

We elected to use the alternative transition method, which allows entities to initially apply ASC 842 at the adoption date with no subsequent adjustments to prior period lease costs for comparability. We elected the package of practical expedients permitted under the transition guidance, which provided that a company need not reassess whether expired or existing contracts contained a lease, the lease classification of expired or existing leases, and the amount of initial direct costs for existing leases.

In connection with the adoption of ASC 842, we recorded additional lease assets of approximately $44 million and additional lease liabilities of approximately $48 million as of January 1, 2019. The difference between the additional lease assets and lease liabilities, net of the deferred tax impact, was due to the absorption of related balances into the right-of-use assets, such as deferred rent. The adoption of this standard had no impact on our condensed consolidated statements of operations or of cash flows.

In June 2016, the FASB issued ASU 2016-13,*Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"), which adds an impairment model that is based on expected losses rather than incurred losses. Under ASU 2016-13, an entity recognizes as an allowance its estimate of expected credit losses, which the FASB believes will result in more timely recognition of such losses. In April and May 2019, the FASB issued ASU 2019-04, *Codification Improvements to Topic 326, Financial Instruments - Credit Losses, Topic 815, Derivatives and Hedging, and Topic 825, Financial Instruments* ("ASU 2019-04") and ASU 2019-05 *Financial Instruments - Credit Losses (Topic 326): Targeted Transition Relief*("ASU 2019-05"), respectively. ASU 2019-04 provides transition relief for entities adopting ASU 2016-13 and ASU 2019-05 clarifies certain aspects of the accounting for credit losses, hedging activities and financial instruments in connection with the adoption of ASU 2016-13. ASU 2019-04 and ASU 2019-05 are effective with the adoption of ASU 2016-13, which is effective for us beginning January 1, 2020 for both interim and annual reporting periods, with early adoption permitted. We continue to assess the potential impact of the adoption of ASU 2016-13 and related amendments and currently do not believe it will have a material impact on our consolidated financial statements.

The FASB has issued the following accounting pronouncements, all of which became effective for the Company on January 1, 2019 and none of which had a material impact on the Company's consolidated financial statements:

In July 2018, the FASB issued ASU 2018-09,*Codification Improvements* (“ASU 2018-09”), which contains amendments to clarify, correct errors in or make minor improvements to the FASB Codification. ASU 2018-09 makes improvements to multiple topics, including but not limited to comprehensive income, debt, income taxes related to both stock-based compensation and business combinations, fair value measurement and defined contribution benefit plans.

In June 2018, the FASB issued ASU 2018-07,*Compensation - Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting* ("ASU 2018-07"), which expands the scope of Accounting Standards Codification ("ASC") 718, *Compensation - Stock Compensation* ("ASC 718"), to include all share-based payment arrangements related to the acquisition of goods and services from both nonemployees and employees. As a result, most of the guidance in ASC 718 associated with employee share-based payments, including most of its requirements related to classification and measurement, applies to nonemployee share-based payment arrangements.

In February 2018, the FASB issued ASU 2018-02,*Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income* ("ASU 2018-02"), which amends ASC 220, *Income Statement - Reporting Comprehensive Income*, to allow a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the Tax Act and requires entities to provide certain disclosures regarding stranded tax effects. We did not elect to reclassify the income tax effects of the Tax Act from accumulated other comprehensive income to accumulated deficit.

In October 2016, the FASB issued ASU 2016-16,*Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory*("ASU 2016-16"), which removes the prohibition in ASC 740, *Income Taxes*, against the immediate recognition of the current and deferred income tax effects of intra-entity transfers of assets other than inventory.

In addition, the FASB has issued the following accounting pronouncements, none of which we believe will have a material impact on our consolidated financial statements:

In August 2018, the FASB issued ASU 2018-15,*Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40): Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract* (“ASU 2018-15”), which provides guidance on implementation costs incurred in a cloud computing arrangement (“CCA”) that is a service contract. ASU 2018-15 amends ASC 350, *Intangibles - Goodwill and Other*(“ASC 350”) to include in its scope implementation costs of a CCA that is a service contract and clarifies that a customer should apply the guidance in ASC 350-40 to determine which implementation costs should be capitalized in such a CCA. ASU 2018-15 is effective for us beginning January 1, 2020.

In August 2018, the FASB issued ASU 2018-14,*Compensation - Retirement Benefits - Defined Benefit Plans - General (Subtopic 715-20): Disclosure Framework - Changes to the Disclosure Requirements for Defined Benefit Plans* (“ASU 2018-14”), which amends ASC 715,*Compensation - Retirement Benefits*, to add, remove and clarify disclosure requirements related to defined benefit pension and other postretirement plans. ASU 2018-14 is effective for us beginning January 1, 2020.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement* ("ASU 2018-13"), which changes the fair value measurement requirements of ASC 820, *Fair Value Measurement.* ASU 2018-13 is effective for us beginning January 1, 2020 for both interim and annual reporting.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to a variety of market risks, including changes in interest rates affecting the return on our investments and foreign currency fluctuations. We do not believe that a hypothetical 10% adverse movement in interest rates and foreign currency exchange rates would have a materially different impact from what was disclosed in our Annual Report on Form 10-K/A, for the year ended December 31, 2018.

Item 4. Controls and Procedures

Disclosure Controls and Procedures

Evaluation of Disclosure Controls and Procedures. Our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of the end of the period covered by this Quarterly Report on Form 10-Q. Based on this evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective as of September 30, 2019.

Changes in Internal Control over Financial Reporting. There have been no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the fiscal quarter ended September 30, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II OTHER INFORMATION

Item 1. Legal Proceedings

On November 8, 2018, Ron Miller, a purported stockholder of ours, filed a Class Action Complaint (the "Miller Complaint") in the United States District Court for the District of Massachusetts (the "Massachusetts District Court") against us and three of our former officers, Raymond P. Dolan, Mark T. Greenquist and Michael Swade (collectively, the "Defendants"), claiming to represent a class of purchasers of Sonus common stock during the period from January 8, 2015 through March 24, 2015 and alleging violations of the federal securities laws. Similar to a previous complaint entitled Sousa et al. vs. Sonus Networks, Inc. et al., which was dismissed with prejudice by an order dated June 6, 2017, the Miller Complaint claims that the Defendants made misleading forward-looking statements concerning Sonus' expected fiscal first quarter of 2015 financial performance, which statements were also the subject of an August 7, 2018 Securities and Exchange Commission Cease and Desist Order, whose findings we neither admitted nor denied. The Miller plaintiffs are seeking monetary damages.

After the Miller Complaint was filed, several parties filed and briefed motions seeking to be selected by the Massachusetts District Court to serve as a Lead Plaintiff in the action. On June 21, 2019, the Massachusetts District Court appointed a group as Lead Plaintiffs and the Lead Plaintiffs filed an amended complaint on July 19, 2019. On August 30, 2019, the Defendants filed a motion to dismiss the Miller Complaint and, on October 4, 2019, the Lead Plaintiffs filed an opposition to the motion to dismiss. The Defendants are expected to reply to such opposition on or before November 1, 2019.

In addition, we are often a party to disputes and legal proceedings that we consider routine and incidental to our business. Management does not expect the results of any of these actions to have a material effect on our business or consolidated financial statements.

Item 1A. Risk Factors

Our business faces significant risks and uncertainties, which may have a material adverse effect on our business prospects, financial condition and results of operations, and you should carefully consider them. There have been no material changes in the nine months ended September 30, 2019 to the risk factors described in Part I, Item 1A. of our Annual Report on Form 10-K/A for the year ended December 31, 2018, with the exception of the risk factor below.

Increases in tariffs, trade restrictions or taxes on our products could have an adverse impact on our operations.

We manufacture certain of our appliance products and purchase a portion of our raw materials and components from suppliers in Mexico, China and other foreign countries. The commerce we conduct in the international marketplace makes us subject to tariffs, trade restrictions and other taxes when the raw materials or components we purchase, and the products we ship, cross international borders. Import tariffs and/or other mandates imposed by the current presidential administration could potentially lead to retaliatory actions by affected countries, resulting in “trade wars,” and could significantly increase the prices on raw materials, the manufacturing of our equipment, and/or increased costs for goods imported into the United States, all of which are critical to our business. Any such tariffs could reduce customer demand for our products if our customers have to pay increased prices for our products as a result of such tariffs. In addition, tariff increases may have a similar impact on other suppliers and certain other customers, which could increase the negative impact on our operating results or future cash flows.

Although we have not experienced a significant resulting increase in our manufacturing costs, if we were to do so, this eventually could make our products less competitive than those of our competitors whose imports are not subject to these tariffs. In addition, the U.S. administration has threatened to impose tariffs on all products imported from both Mexico and China. If this were to occur, we may not be able to mitigate the impacts of these tariffs and our business, results of operations and financial position could be materially adversely affected. Products we sell into certain foreign markets could also become subject to similar retaliatory tariffs, making the products we sell uncompetitive to similar products not subject to such import tariffs. Further changes in U.S. trade policies, tariffs, taxes, export restrictions or other trade barriers, or restrictions on raw materials or components, may limit our ability to manufacture products, increase our manufacturing costs, decrease our profit margins, reduce the competitiveness of our products, or inhibit our ability to sell products or purchase raw materials or components, which could have a material adverse effect on our business, results of operations and financial condition.

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

(c) Issuer Purchases of Equity Securities

The following table provides information with respect to the shares of common stock repurchased by us for the periods indicated:

Period	Total Number of Shares Purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (2)	Approximate Dollar Value of Shares that May Yet be Purchased Under the Plans or Programs (3)
July 1, 2019 to July 31, 2019	—	$ —	—	$ 70,463,973
August 1, 2019 to August 31, 2019	379	$ 5.26	—	$ 70,463,973
September 1, 2019 to September 30, 2019	122	$ 5.63	—	$ 70,463,973
Total	501	$ 5.35	—	$ 70,463,973

(1) Upon vesting of restricted stock awards, certain of our employees surrender to us a portion of the newly vested shares of common stock to satisfy the tax withholding obligations that arise in connection with such vesting. During the third quarter of 2019, 501 shares of restricted stock were returned to us by employees to satisfy tax withholding obligations arising in connection with vesting of restricted stock, which shares are included in this column.

(2) On May 2, 2019, we announced a stock repurchase program, under which our Board of Directors has authorized the repurchase of up to $75 million of our common stock from time to time on the open market or in privately negotiated transactions prior to April 18, 2021 (the "Repurchase Program"). We did not repurchase any shares of our common stock under the program during the third quarter of 2019. At September 30, 2019, we had $70.5 million remaining under the Repurchase Program for future repurchases. The timing and amount of any shares repurchased will be determined by our management based on its evaluation of market conditions and other factors. We may elect to implement a 10b5-1 repurchase program, which would permit shares to be repurchased when we might otherwise be precluded from doing so under insider trading laws. The Repurchase Program may be suspended or discontinued at any time. The Repurchase Program is being funded using our working capital.

(3) Represents amounts available for repurchases under the Repurchase Program.

Item 5. Other Information

None.

Item 6. Exhibits

Exhibit No.	Description
3.1	Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K12B, filed October 30, 2017 with the SEC).
3.2	Certificate of Amendment of the Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, filed November 28, 2017 with the SEC).
3.3	Amended and Restated By-Laws of the Registrant (incorporated by reference to Exhibit 3.3 to the Registrant's Annual Report on Form 10-K, filed March 8, 2018 with the SEC).
10.1 *	Form of Non-Statutory Stock Option Award Agreement under the 2019 Incentive Award Plan.
10.2 *	Form of Restricted Stock Award Agreement under the 2019 Incentive Award Plan.
10.3 *	Form of Restricted Stock Unit Award Agreement (Time-Based Vesting) under the 2019 Incentive Award Plan.
10.4 *	Form of Restricted Stock Unit Award Agreement (Performance-Based Vesting) under the 2019 Incentive Award Plan.
31.1 *	Certificate of Ribbon Communications Inc. Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2 *	Certificate of Ribbon Communications Inc. Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1 #	Certificate of Ribbon Communications Inc. Chief Executive Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2 #	Certificate of Ribbon Communications Inc. Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema
101.CAL	XBRL Taxonomy Extension Calculation Linkbase
101.DEF	XBRL Taxonomy Extension Definition Linkbase
101.LAB	XBRL Taxonomy Extension Label Linkbase
101.PRE	XBRL Taxonomy Extension Presentation Linkbase

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* Filed herewith.

\# Furnished herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: October 31, 2019	RIBBON COMMUNICATIONS INC.
	By: /s/ Daryl E. Raiford
	Daryl E. Raiford Executive Vice President and Chief Financial Officer (Principal Financial Officer)

Ribbon Communications Inc.
2019 Incentive Award Plan

Non-Statutory Stock Option Award Agreement

This NON-STATUTORY STOCK OPTION AWARD AGREEMENT (the "Agreement") is made effective as of (the "Grant Date"), between Ribbon Communications Inc., a Delaware corporation (the "Company"), and (the "Participant" or "you").

RECITALS

WHEREAS, the Company has adopted the Ribbon Communications Inc. 2019 Incentive Award Plan (the "Plan"), which Plan is incorporated herein by reference and made a part of this Agreement (capitalized terms not otherwise defined herein shall have the same meanings as set forth in the Plan); and

WHEREAS, the Board has determined that it is in the best interests of the Company and its stockholders to grant to the Participant the option described herein pursuant to the Plan and the terms set forth below;

NOW THEREFORE, in consideration of the mutual covenants hereinafter set forth, the parties agree as follows:

1. *Grant of Option.* The Company hereby grants to the Participant the right and option (the "Option") to purchase, in whole or in part, an aggregate of shares of Common Stock (the "Shares"). The Option is intended to be a Non-Statutory Stock Option.

2. *Option Price.* The price per Share subject to the Option shall be per Share (the "Option Price").

3. *Option Term.* The term of the Option shall be ten (10) years, commencing on the Grant Date. Unless earlier terminated as set forth herein or in the Plan, this Option shall automatically terminate at 5:00 p.m., Eastern Time, on the tenth anniversary of the Grant Date (the "Final Exercise Date").

4. *Vesting Schedule.* Subject to the Participant's continued service to the Company through the applicable vesting date, the Option shall vest and become exercisable as follows:

The date on which the Option becomes fully vested is referred to as the "Final Vesting Date".

5. *Acceleration of Vesting.* Notwithstanding Section 4 hereof and except as set forth in an employment agreement between the Company and the Participant, effective immediately prior to the consummation of an Acquisition (as defined in the Plan), the unvested portion of the Option that would vest within twelve (12) months following the date of such Acquisition shall immediately vest and become exercisable. Thereafter, the remaining unvested portion of the Option shall continue to vest in the monthly amount set forth in Section 4 above and the Final Vesting Date shall be accelerated by twelve (12) months.

6. *Exercise of Option.*

(a) *Notice of Exercise.* The Participant or the Participant's representative may exercise the vested portion of the Option or any part thereof prior to the Final Vesting Date by giving written notice to the Company in the form prescribed by the Company from time to time (the "Notice of Exercise"). The Notice of Exercise shall be signed by the person exercising such Option. In the event that such Option is being exercised by the Participant's representative, the Notice of Exercise shall be accompanied by proof (satisfactory to the Company) of such representative's right to exercise such Option.

(b) *Method of Exercise.* The Participant or the Participant's representative shall deliver to the Company, at the time the Notice of Exercise is given, payment for the full amount of the aggregate Option Price for the exercised Option in the manner provided in Section 5(f) of the Plan. The Participant or the Participant's representative may purchase less than the number of Shares covered hereby; provided that no partial exercise of this Option may be for any fractional share.

(c) *Issuance of Shares.* Provided that the Company receives a properly completed and executed Notice of Exercise and payment for the full amount of the aggregate Option Price, the Company shall promptly cause to be issued the Shares underlying the exercised Option, registered in the name of the person exercising the applicable Option.

(d) *Continuous Relationship with the Company Required.* Except as otherwise provided in this Section 6, this Option may not be exercised unless the Participant, at the time he or she exercises this Option, is and has been at all times since the Grant Date, an employee, officer or director of, or consultant or advisor to, the Company or any of its affiliates.

(e) *Termination of Relationship with the Company.* Upon a termination of the Participant's services for any reason, other than pursuant to Sections 6(f) and (g) below, any unvested portion of the Option shall immediately terminate and be forfeited without consideration and, subject to Section 5(d) of the Plan, the vested portion of the Option shall remain exercisable until the earlier of (i) ninety (90) days following such termination of service and (ii) the Final Exercise Date. Notwithstanding the foregoing, if the Participant, prior to the Final Exercise Date, breaches the terms of any agreement (including, without limitation, any confidentiality, non-competition or non-solicitation provision) between the Participant and the Company, the right to exercise this Option shall terminate upon such breach.

(f) *Exercise Period Upon Death or Disability.* Upon a termination of the Participant's service because the Participant dies or becomes disabled (within the meaning of Section 22(e)(3) of the Code), any unvested portion of the Option shall immediately terminate and be forfeited without consideration and, subject to Section 5(d) of the Plan, the vested portion of the Option shall remain exercisable until the earlier of: (i) 180 days following such termination of service and (ii) the Final Exercise Date.

(g) *Termination for Cause.* Upon the effective date of a termination of the Participant's service by the Company for Cause (as defined below), as hereby determined by the Company (and notwithstanding anything to the contrary in Section 5(d) of the Plan), the right to exercise this Option, including the vested portion of the Option, shall terminate immediately and be forfeited without consideration. If the Participant is party to an employment, consulting or severance agreement with the Company at the time of his or her termination of employment with the Company or any affiliate that contains a different definition of "cause" (or any derivation thereof), the definition in such agreement will control for purposes of this Agreement. Otherwise, "*Cause*" as used in this Agreement means the occurrence of any of the following: (1) gross negligence or willful misconduct by you in the performance of your duties that is likely to have a material adverse effect on the Company or its reputation; (2) your indictment for, formal admission to (including a plea of guilty or *non contendere* to), or conviction of (A) a felony, (B) a crime of moral turpitude, dishonesty, breach of trust or unethical business conduct, or (C) any crime involving the Company; (3) your commission of an act of fraud or dishonesty in the performance of your duties; (4) repeated failure by you to perform your duties, which are reasonably and in good faith requested in writing by the CEO or the Board of Directors of the Company; or (5) material breach of any written agreement between you and the Company, that you fail to remedy within ten (10) days following written notice from the Company.

7. *Withholding.* The Participant may be required to pay the Company or any of its affiliates and the Company shall have the right, and is hereby authorized, to withhold any applicable withholding taxes in respect of the Option, its exercise or transfer, and to take such other action as may be necessary in the opinion of the Board to satisfy all obligations for the payment of such withholding taxes.

8 . *Transferability of Option.* Unless otherwise provided by the Board, the Option may not be sold, assigned, alienated, attached, transferred, pledged or otherwise encumbered by the Participant, either voluntarily or by operation of law, except by will or the laws of descent and distribution, and any such purported assignment, alienation, pledge, attachment, sale, transfer or encumbrance shall be void and unenforceable against the Company or any of its affiliates; provided that, the designation of a beneficiary shall not constitute an assignment, alienation, pledge, attachment, sale, transfer or encumbrance. No such permitted transfer of the Option to heirs or legatees of the Participant shall be effective to bind the Company unless the Board shall have been furnished with written notice thereof and a copy of such evidence as the Board may deem necessary to establish the validity of the transfer and the acceptance by the transferee or transferees of the terms and conditions hereof. During the lifetime of the Participant, the Option shall be exercisable only by the Participant.

9 . *Provisions of the Plan.* By entering into this Agreement, the Participant agrees and acknowledges that the Participant has received and read a copy of the Plan; that the Option is subject to the provisions of the Plan; and that the terms and provisions of the Plan as it may be amended from time to time are hereby incorporated herein by reference. In the event of a conflict between any term or provision contained herein and a term or provision of the Plan, the applicable terms and provisions of the Plan will govern and prevail.

10. *Notices.* Any notification required by the terms of this Agreement shall be given in writing and shall be deemed effective upon personal delivery or within three (3) days of deposit with the United States Postal Service, by registered or certified mail, with postage and fees prepaid. A notice shall be addressed to the Company, Attention: General Counsel, at its principal executive office and to the Participant at the address that he or she most recently provided to the Company.

11. *Adjustments of Shares.* In the event of a Reorganization Event (as defined in the Plan) or other transaction described in Section 10 of the Plan, the Shares and the other terms of this Agreement shall be adjusted in the manner provided for in Section 10 of the Plan.

1 2 . *No Right to Continued Employment or Service.* The granting of the Option evidenced hereby and this Agreement shall impose no

obligation on the Company or any of its affiliates to continue the employment or service of the Participant and shall not lessen or affect any right that the Company or any of its affiliates may have to terminate the service of such Participant.

13. *Securities Laws; Legends on Certificates.* The issuance and delivery of the Shares shall comply with (or be exempt from) all applicable requirements of law, including without limitation the Securities Act of 1933, as amended, the rules and regulations promulgated thereunder, state securities laws and regulations, and the regulations of any stock exchange or other securities market on which the Company's securities may then be traded. The Company shall not be obligated to file any registration statement under any applicable securities laws to permit the purchase or issuance of any Shares under the Plan or Awards and accordingly, any certificates for Shares or documents granting Awards may have an appropriate legend or statement of applicable restrictions endorsed thereon. If the Company deems it necessary to ensure that the issuance of Shares under the Plan is not required to be registered under any applicable securities laws, each Participant to whom such Shares would be issued shall deliver to the Company an agreement or certificate containing such representations, warranties and covenants as the Company may reasonable request which satisfies such requirements.

14. *Erroneously Awarded Compensation*. This Award (including any proceeds, gains or other economic benefit actually or constructively received by Participant upon receipt or exercise of the Award or upon the receipt or resale of shares of Common Stock underlying the Award) shall be subject to the provisions of any claw-back policy implemented by the Company, including, without limitation, any claw-back policy adopted to comply with the requirements of applicable law, including without limitation the Dodd-Frank Wall Street Reform and Consumer Protection Act and any rules or regulations promulgated thereunder.

15. *Entire Agreement.* This Agreement and the Plan constitute the entire contract between the parties hereto with regard to the subject matter hereof. They supersede any other agreements, representations or understandings (whether oral or written and whether express or implied) which relate to the subject matter hereof. Notwithstanding the foregoing, to the extent that the Participant has entered into an employment agreement with the Company and the terms noted in such employment agreement are inconsistent with or conflicts with this Agreement, then the terms of the employment agreement will supersede the inconsistent or conflicting terms set forth herein as determined by the Board in accordance with Section 3(a) of the Plan. In all other respects, this Agreement shall remain in full force and effect.

16. *Waiver.* No waiver of any breach or condition of this Agreement shall be deemed to be a waiver of any other or subsequent breach or condition whether of like or different nature.

17. *Successors and Assigns.* The provisions of this Agreement shall inure to the benefit of, and be binding upon, the Company and its successors and assigns and upon the Participant, the Participant's assigns and the legal representatives, heirs and legatees of the Participant's estate, whether or not any such person shall have become a party to this Agreement and have agreed in writing to be joined herein and be bound by the terms hereof.

18. *Choice of Law.* This Agreement shall be governed by the law of the State of Delaware (regardless of the laws that might otherwise govern under applicable Delaware principles of conflicts of law) as to all matters, including but not limited to matters of validity, construction, effect, performance and remedies.

19. *No Guarantees Regarding Tax Treatment.* The Participant (or his or her beneficiaries) shall be responsible for all taxes with respect to the Option. The Board and the Company make no guarantees regarding the tax treatment of the Option.

20. *Amendment.* The Board may amend or alter this Agreement and the Option granted hereunder at any time, subject to the terms of the Plan.

21. *Severability.* The provisions of this Agreement are severable and if any one or more of the provisions are determined to be illegal or otherwise unenforceable, in whole or in part, the remaining provisions shall nevertheless be binding and enforceable.

22. *Section 409A.*

(a) This Agreement is intended to be exempt from Section 409A of the Code (together with the Department of Treasury regulations and other interpretive guidance issued thereunder (including, without limitation, any such regulations or other guidance issued after the Grant Date, "Section 409A") and shall be interpreted consistent therewith.

(b) Notwithstanding any other provision of the Plan or this Agreement, if at any time the Board determines that the Option (or any portion thereof) may be subject to Section 409A, the Board shall have the right in its sole discretion (without any obligation to do so or to indemnify the Participant or any other person for failure to do so) to adopt such amendments to this Agreement, or adopt other policies and procedures (including amendments, policies and procedures with retroactive effect), or take any other actions, as the Board determines are necessary or appropriate for the Option to be exempt from the application of Section 409A or to comply with the requirements of Section 409A. No provision of this Agreement shall be interpreted or construed to transfer any liability for failure to comply with the requirements of Section 409A from the Participant or any other individual to the Company or any of its affiliates, employees or agents.

23. *Signature in Counterparts.* This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This Agreement will not be binding on either party unless and until signed by both parties.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement.

RIBBON COMMUNICATIONS INC.

By: ____

Name:

Title:

Agreed and acknowledged as
of the date first above written:

____

PARTICIPANT
EMPLOYEE IDENTIFIER
OPTION NUMBER

Ribbon Communications Inc.

2019 Incentive Award Plan

Restricted Stock Award Agreement

This RESTRICTED STOCK AWARD AGREEMENT (the "Agreement") is made effective as of (the "Grant Date"), between Ribbon Communications Inc., a Delaware corporation (the "Company"), and (the "Participant").

RECITALS

WHEREAS, the Company has adopted the Ribbon Communications Inc. 2019 Incentive Award Plan (the "Plan"), which Plan is incorporated herein by reference and made a part of this Agreement (capitalized terms not otherwise defined herein shall have the meanings as set forth in the Plan); and

WHEREAS, the Board has determined that it is in the best interests of the Company and its stockholders to grant to the Participant the restricted stock described herein pursuant to the Plan and the terms set forth below;

NOW THEREFORE, in consideration of the mutual covenants hereinafter set forth, the parties agree as follows:

1 . *Award of Restricted Stock*. Subject to the terms and conditions of the Plan and this Agreement and in consideration of employment services rendered and to be rendered by the Participant to the Company, the Company hereby grants to the Participant shares of Common Stock (the "Shares"). The Company shall issue the Shares to the Participant either by electronic record or by stock certificate issued in the name of the Participant. The Participant agrees that unvested Shares shall be subject to forfeiture as set forth in Section 2(c) of this Agreement and the restrictions on transfer set forth in Section 4 of this Agreement. The Shares shall be deposited in escrow in accordance with Section 5 of this Agreement.

2. *Vesting.*

(a) *Vesting Schedule.* Subject to the Participant's continued service through the vesting date, the Shares shall vest as follows:

Any fractional number of Shares resulting from the application of the foregoing percentages shall be rounded down to the nearest whole number of Shares. The Company may in its discretion accelerate the vesting schedule at any time.

(b) *Acceleration of Vesting.* Notwithstanding Section 2(a) hereof and except as set forth in an employment agreement between the Company and the Participant, effective immediately prior to the consummation of an Acquisition (as defined in the Plan), the unvested Shares that would vest within twelve (12) months following the date of such Acquisition shall immediately vest. Thereafter, the remaining unvested Shares shall continue to vest pursuant to the vesting schedule set forth above; provided that such vesting schedule shall be shortened by one year.

(c) *Termination of Service.* If the Participant's service with the Company is terminated for any reason, other than as described in Section 2(b) above, the Shares, to the extent not then-vested, shall be forfeited by the Participant without any consideration.

3 . *Rights as a Stockholder*. The Participant shall have none of the rights of a stockholder of the Company until the Shares vest; provided, however, that the Participant shall have (a) the right to receive dividends on the Shares (the "Dividends"), subject to the remainder of this Section 3 and Section 7(c)(1) of the Plan and (b) voting rights with respect to such Shares. The Dividends, if any, shall be held by the Company and shall be subject to forfeiture until such time that the Shares on which the Dividends were distributed vest in accordance with Section 2 above.

4 . *Restrictions on Transfer*. Unless otherwise provided by the Board, the Participant shall not, during the term of this

Agreement, sell, assign, transfer, pledge, hypothecate or otherwise dispose of, by operation of law or otherwise (collectively "Transfer"), any of the Shares, or any interest therein, unless and until such Shares are no longer subject to risk of forfeiture. Notwithstanding the foregoing, the Participant may transfer:

(a) any or all of the Participant's Shares (i) to his or her parents, spouse, children, stepchildren, grandchildren, or siblings, or spouse of any such person (collectively, "Immediate Family"); (ii) to a trust established for the benefit of his or her Immediate Family or himself/herself; or (iii) to a limited liability company or limited partnership, the members or partners of which are members of his or her Immediate Family or himself/herself; or

(b) any or all of the Participant's Shares under such Participant's will; *provided* that all such Shares transferred under (a) or (b) shall remain subject to this Agreement (including without limitation the restrictions on transfer set forth in this Section 4 and the forfeiture provision in Section 2(c)) and such permitted transferee shall, as a condition to such transfer, deliver to the Company: (y) a written instrument confirming that such transferee shall be bound by all of the terms and conditions of this Agreement and (z) a copy of any such evidence as the Company may deem necessary to establish the validity of the transfer and acceptance by the transferee or transferees of the terms and conditions hereof. The Company shall not be required: (A) to transfer on its books any of the Shares which shall have been sold or transferred in violation of any of the provisions set forth in this Agreement, or (B) to treat as owner of such Shares or to pay Dividends to any transferee to whom any such Shares shall have been so sold or transferred.

5. *Escrow*. The Shares shall be deposited by the Participant in escrow either by electronic record or by stock certificate upon (or as promptly as practicable following) the execution of this Agreement and shall be held in escrow by the Company or its designee, as escrow agent (the "Escrow Agent"). Upon vesting of the Shares, the Escrow Agent shall release or electronically transfer to the Participant, upon request, those Shares which have vested (other than any withheld by the Company pursuant to Section 9). In the event the Shares are forfeited pursuant to Section 2(c) or withheld by the Company pursuant to Section 9, the Company shall give written notice to the Participant and to the Escrow Agent specifying the number of forfeited Shares or Shares to be withheld. The Participant and the Company authorize the Escrow Agent to take all necessary or appropriate actions consistent with the terms of this Agreement, including the delivery to the Company of those Shares and stock powers for the Shares being forfeited or withheld by the Company. The escrow shall terminate upon the earliest of (a) the vesting and lapse of forfeiture of all Shares awarded under this Agreement, (b) the election by the Company to waive forfeiture on all of the unvested Shares, or (c) the election by the Company to terminate this escrow. If at the time of such termination the Escrow Agent should have in its possession any Shares owed to the Participant, the Escrow Agent shall promptly deliver such Shares to the Participant and shall be discharged of all further obligations hereunder. The Escrow Agent shall be obligated only for the performance of such duties as are specifically set forth herein and may rely and shall be protected in relying or refraining from acting on any instrument reasonably believed by the Escrow Agent to be genuine and to have been signed or presented by the proper party or parties. The Escrow Agent or the Company shall not be liable for any act or omission in good faith and in the exercise of reasonable judgment. It is understood and agreed that should any dispute arise with respect to the delivery and/or ownership or right of possession of the Shares held by the Escrow Agent hereunder, the Escrow Agent is authorized to retain such Shares in its possession without liability to anyone all until such dispute shall have been settled either by mutual written agreement of the parties concerned or by a final order, decree or judgment of a court of competent jurisdiction after the time for appeal has expired. All reasonable costs, fees and disbursements incurred by the Escrow Agent in connection with the performance of its duties hereunder shall be borne by the Company.

A certificate or certificates representing the Shares shall be issued by the Company and shall be registered in the name of the Participant on the stock transfer books of the Company promptly following the effective date of this Agreement, but shall remain in the physical custody of the Company or its designee at all times prior to the vesting of such Shares pursuant to Section 2 hereof. As a condition to the receipt of this Agreement, the Participant shall deliver to the Company a Stock Power in the form attached hereto as Exhibit A, duly endorsed in blank, relating to the Shares. Each certificate representing the Shares shall bear the following legend:

"The ownership and transferability of this certificate and these shares are subject to the terms and conditions (including forfeiture) of the Ribbon Communications Inc. 2019 Incentive Award Plan and a Restricted Stock Award Agreement entered into between the registered owner and Ribbon Communications Inc. Copies of such Plan and the Agreement are on file in the executive offices of Ribbon Communications Inc."

If the Shares are issued to the Participant electronically rather than by a stock certificate, the electronic record reflecting the issuance of the Shares to the Participant shall bear such a legend or other notation.

As soon as administratively practicable, but not later than sixty (60) days, following the vesting of the Shares (as described in Section 2 hereof), and upon the satisfaction of all other applicable conditions, including, but not limited to, the payment by the Participant of all applicable withholding taxes, the Company shall deliver or cause to be delivered to the Participant, or in the case of the Participant's death, the Participant's beneficiary, a certificate or certificates for the applicable Shares, which shall not bear the legend described above, but may bear such other legends as the Company deems advisable pursuant to Section 6 below. If the Shares are issued to the Participant electronically rather than by a stock certificate, the legend described above shall be removed, but may bear such other legends as the Company deems advisable pursuant to Section 6 below.

6. *Adjustments of Shares*. In the event of a Reorganization Event (as defined in the Plan) or other transaction described in Section 10 of the Plan, the Shares and the other terms of this Agreement shall be adjusted in the manner provided for in Section 10 of the Plan.

7. *Compliance with Laws*. The obligations of the Company and the Participant under this Agreement are subject to all applicable laws, rules, and regulations, including all applicable federal and state securities laws and the obtaining of all such approvals by government agencies as may be deemed necessary or appropriate by the Board or the relevant committee of the Board.

8. *Tax Matters*.

(a) *Section 83(b) Election*. The Participant may elect under Section 83(b) of the Internal Revenue Code of 1986, as amended, to be taxed at the time the Shares are acquired on the Grant Date ("Section 83(b) Election"). A Section 83(b) Election must be filed with the Internal Revenue Service within thirty (30) days of the Grant Date and the Participant shall provide a copy of such form with the Company promptly following his or her filing. If the Participant elects, in accordance with Section 83(b), to recognize ordinary income in the year of acquisition of the Shares, the Company will require at the time of such election an additional payment by the Participant in an amount equal to any federal, state, local or other taxes of any kind required by law to be withheld with respect to the issuance of the Shares to the Participant. Moreover, the Participant acknowledges and he or she is solely responsible to file a timely election under Section 83(b) and the Company shall bear no responsibility for any consequence of the Participant making a Section 83(b) Election or failing to make a Section 83(b) Election.

(b) *Withholding Taxes*. The Participant may be required to pay the Company or any affiliate, and the Company shall have the right and is hereby authorized to withhold, any applicable withholding taxes in respect of the Shares, their vesting or transfer and to take such other action as may be necessary in the opinion of the Board to satisfy all obligations for the payment of such withholding taxes.

(c) *Tax Advice*. The Participant acknowledges that he or she is responsible for reviewing with his or her own tax advisors the federal, state, local and other tax consequences of this investment and the transactions contemplated by this Agreement. The Participant acknowledges that he or she is not relying on any statements or representations of the Company or any of its agents. The Participant understands that the Participant (and not the Company) shall be responsible for the Participant's own tax liability that may arise as a result of this investment or the transactions contemplated by this Agreement.

9. *No Right to Continued Employment or Service*. The granting of the Shares evidenced hereby and this Agreement shall impose no obligation on the Company or any of its affiliates to continue the employment or service of the Participant and shall not lessen or affect any right that the Company or any of its affiliates may have to terminate the service of such Participant. The Participant shall remain a Participant at will.

10. *Securities Laws; Legends on Certificates*. The issuance and delivery of the Shares shall comply with (or be exempt from) all applicable requirements of law, including without limitation the Securities Act of 1933, as amended, the rules and regulations promulgated thereunder, state securities laws and regulations, and the regulations of any stock exchange or other securities market on which the Company's securities may then be traded. The Company shall not be obligated to file any registration statement under any applicable securities laws to permit the purchase or issuance of any Shares under the Plan or Awards and accordingly, any certificates for Shares or documents granting Awards may have an appropriate legend or statement of applicable restrictions endorsed thereon. If the Company deems it necessary to ensure that the issuance of Shares under the Plan is not required to be registered under any applicable securities laws, each Participant to whom such Shares would be issued shall deliver to the Company an agreement or certificate containing such representations, warranties and covenants as the Company may reasonable request

which satisfies such requirements.

11. *Notices*. Any notification required by the terms of this Agreement shall be given in writing and shall be deemed effective upon personal delivery or within three (3) days of deposit with the United States Postal Service, by registered or certified mail, with postage and fees prepaid. A notice shall be addressed to the Company, Attention: General Counsel, at its principal executive office and to the Participant at the address that he or she most recently provided to the Company.

12. *Shares Subject to Plan.* By entering into this Agreement, the Participant agrees and acknowledges that the Participant has received and read a copy of the Plan; the Shares are subject to the Plan; and the terms and provisions of the Plan as it may be amended from time to time are hereby incorporated herein by reference. In the event of a conflict between any term or provision contained herein and a term or provision of the Plan, the applicable terms and provisions of the Plan will govern and prevail.

13. *Severability*. The provisions of this Agreement are severable and if any one or more provisions are deemed to be illegal or otherwise unenforceable, in whole or in part, the remaining provisions shall nevertheless be binding and enforceable.

14. *Erroneously Awarded Compensation*. This Award (including any proceeds, gains or other economic benefit actually or constructively received by Participant upon any receipt of the Award or upon the receipt or resale of shares of Common Stock underlying the Award) shall be subject to the provisions of any claw-back policy implemented by the Company, including, without limitation, any claw-back policy adopted to comply with the requirements of applicable law, including without limitation the Dodd-Frank Wall Street Reform and Consumer Protection Act and any rules or regulations promulgated thereunder.

15. *Choice of Law*. This Agreement will be governed by and interpreted and construed in accordance with the internal laws of the State of Delaware (without reference to principles of conflicts or choice of law) as to all matters, including, but not limited to, matters of validity, construction, effect, performance and metrics.

16. *Captions.* The captions of the sections of this Agreement are for reference only and will not affect the interpretation or construction of this Agreement.

17. *Successors.* This Agreement will bind and inure to the benefit of the parties and their respective successors, permitted assigns, heirs, devisees, and legal representatives.

18. *Entire Agreement.* Except as set forth herein, this Agreement and the Plan supersede all prior agreements, whether written or oral and whether express or implied, between the Participant and the Company relating to the subject matter of this Agreement. Notwithstanding the foregoing, to the extent that the Participant has entered into an employment agreement with the Company and the terms noted in such employment agreement are inconsistent with or conflicts with this Agreement, then the terms of the employment agreement will supersede the inconsistent or conflicting terms set forth herein as determined by the Board in accordance with Section 3(a) of the Plan. In all other respects, this Agreement shall remain in full force and effect.

19. *Amendments.* This Agreement may be amended or modified only by a written agreement signed by the Company and the Participant; provided, however, that the Board may amend or alter this Agreement and the Shares granted hereunder at any time, subject to the terms of the Plan.

20. *Signature in Counterparts*. This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This Agreement will not be binding on either party unless and until signed by both parties.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement.

RIBBON COMMUNICATIONS INC.

By: ______________________________
Name:
Title:

Agreed and acknowledged as
of the date first above written:

____

PARTICIPANT
EMPLOYEE IDENTIFIER
GRANT NUMBER

Exhibit A

Stock Power[1]

FOR VALUE RECEIVED, the undersigned hereby sells, assigns and transfers unto Ribbon Communications Inc. (the "Company"), ___________________________________ (__________) shares of common stock, par value $0.0001 per share, of the Company standing in his/her/their/its name on the books of the Company represented by Certificate No. ______________________ herewith and does hereby irrevocably constitute and appoint ______________________ his/her/their/its attorney-in-fact, with full power of substitution, to transfer such shares on the books of the Company.

Dated:

Signature: ____

Print Name and Mailing Address:

____

____

____

____

Instructions: *Please do* <u>*not*</u> *fill any blanks other than the signature line and printed name and mailing address. Please print your name exactly as you would like your name to appear on the issued stock certificate(s). The purpose of this assignment is to enable the forfeiture of shares without requiring additional signatures on your part.*

[1] This stock power is not effective if executed in the State of New York.

Ribbon Communications Inc.
2019 Incentive Award Plan

Restricted Stock Unit Award Agreement
(Time-Based Vesting)

THIS RESTRICTED STOCK UNIT AWARD AGREEMENT (the "Agreement") is made effective as of (the "Grant Date") between Ribbon Communications Inc., a Delaware corporation (the "Company"), and (the "Participant").

RECITALS

WHEREAS, the Company has adopted the Ribbon Communications 2019 Incentive Award Plan (the "Plan"), which Plan is incorporated herein by reference and made a part of this Agreement (capitalized terms not otherwise defined herein shall have the meanings as set forth in the Plan); and

WHEREAS, the Board has determined that it is in the best interests of the Company and its stockholders to grant to the Participant the restricted stock units described herein pursuant to the Plan and the terms set forth below;

NOW THEREFORE, in consideration of the mutual covenants hereinafter set forth, the parties agree as follows:

1 . *Award of Restricted Stock Units.* Subject to the terms and conditions of the Plan and this Agreement and in consideration of employment services rendered and to be rendered by the Participant to the Company and its subsidiaries, the Company hereby grants to the Participant restricted stock units (the "Restricted Stock Units"). Each Restricted Stock Unit entitles the Participant to one share of Company Common Stock upon vesting in accordance with the terms of this Agreement.

2. *Vesting of Restricted Stock Units*.

(a) Upon the vesting of the Award, as described in this Section, the Company shall deliver for each Restricted Stock Unit that becomes vested, one (1) share of Company Common Stock. The Company Common Stock shall be delivered as soon as practicable following each vesting date or event set forth below, but in any case within 30 days after such date or event.

(b) Subject to Section 2(c) and Section 3, of the Restricted Stock Units shall become vested and payable to the Participant on in each case, so long as the Participant remains employed with the Company and its subsidiaries through such applicable vesting date.

(c) Notwithstanding Section 2(b), and except as set forth in an employment agreement between the Company and the Participant, effective immediately prior to the consummation of an Acquisition, the unvested Restricted Stock Units that would vest within twelve (12) months following the date of such Acquisition shall immediately vest and become exercisable. Thereafter, the remaining unvested Restricted Stock Units shall continue to vest pursuant to the vesting schedule set forth above; provided that such vesting schedule shall be shortened by twelve (12) months.

3. *Termination of Employment.*

(a) Notwithstanding any other provision of the Plan to the contrary, upon the termination of the Participant's employment for any reason, the Award, to the extent not yet vested, shall immediately and automatically terminate and be forfeited for no consideration; provided, however, that the Board may, in its sole and absolute discretion agree to accelerate the vesting of the Award, upon termination of employment or otherwise, for any reason or no reason, but shall have no obligation to do so.

(b) For purposes of the Plan and the Award, a termination of employment shall be deemed to have occurred on the date upon which the Participant ceases to perform active employment duties for the Company or its subsidiaries following the provision of any notification of termination or resignation from employment, and without regard to any period of notice of termination of employment (whether expressed or implied) or any period of severance or salary continuation. The occurrence of a termination of employment shall be determined by the Board in accordance with Section 3 of the Plan. Notwithstanding any other provision of the Plan, the Award, this Agreement or any other agreement (written or oral) to the contrary, the Participant shall not be entitled (and by accepting an Award, thereby irrevocably waives any such entitlement) to any payment or other benefit to compensate the Participant for the loss of any rights under the Plan as a result of the termination or expiration of an Award in connection with any termination of employment. No amounts earned pursuant to the Plan or any Award shall be deemed to be eligible compensation in respect of any other plan of the Company or any of its subsidiaries.

4. *No Assignment.* Except as expressly permitted under the Plan, this Agreement may not be assigned by the Participant by operation of law or otherwise.

5. *No Rights to Continued Employment.* The granting of this Award evidenced hereby and this Agreement shall impose no obligation on the Company or any of its affiliates to continue the employment or service of the Participant and shall not lessen or affect any right that the Company or any of its affiliates may have to terminate the service of such Participant. The Participant shall remain an “at will” employee.

6. *Governing Law.* This Agreement will be governed by and interpreted and construed in accordance with the internal laws of the State of Delaware (without reference to principles of conflicts or choice of law) as to all matters, including, but not limited to, matters of validity, construction, effect, performance and metrics.

7. *Tax Obligations.* As a condition to the granting of the Award and the vesting thereof, the Participant acknowledges and agrees that he/she is responsible for the payment of income and employment taxes (and any other taxes required to be withheld) payable in connection with the vesting and/or settlement of an Award. Accordingly, the Participant agrees to remit to the Company or any applicable subsidiary an amount sufficient to pay such taxes. Such payment shall be made to the Company or the applicable subsidiary of the Company in a form that is reasonably acceptable to the Company, as the Company may determine in its sole discretion, consistent with Section 11(e) of the Plan. Notwithstanding the foregoing (but subject to Section 11(e) of the Plan), the Company may, in its discretion, retain and withhold from delivery at the time of vesting that number of shares of Company Common Stock having a fair market value equal to the taxes owed by the Participant, which retained shares shall fund the payment of such taxes by the Company on behalf of the Participant. The Participant acknowledges that he or she is responsible for reviewing with his or her own tax advisors the federal, state, local and other tax consequences of the transactions contemplated by this Agreement. The Participant acknowledges that he or she is not relying on any statements or representations of the Company or any of its agents.

8 . *Notices.* Any notification required by the terms of this Agreement shall be given in writing and shall be deemed effective upon personal delivery or within three (3) days of deposit with the United States Postal Service or the local equivalent of the United States Postal Service, by registered or certified mail, with postage and fees prepaid. A notice shall be addressed to the Company, Attention: General Counsel, at its principal executive office and to the Participant at the address he or she most recently provided to the Company.

9 . *Failure to Enforce Not a Waiver.* The failure of the Company to enforce at any time any provision of this Agreement shall in no way be construed to be a waiver of such provision or of any other provision hereof.

10. *Amendments.* This Agreement may be amended or modified only by a written agreement signed by the Company and the Participant; provided, however, that the Board may amend or alter this Agreement and the Award granted hereunder at any time, subject to the terms of the Plan.

11. *Authority.* The Board has complete authority and discretion to determine Awards, and to interpret and construe the terms of the Plan and this Agreement. The determination of the Board as to any matter relating to the interpretation or construction of the Plan or this Agreement shall be final, binding and conclusive on all parties. All references in this Agreement to the "Board" shall mean the Board or a Committee or officers referred to in Section 3(c) of the Plan to the extent that the Board's powers or authority under this Agreement have been delegated to such Committee or officers.

12. *Successors.* This Agreement will bind and inure to the benefit of the parties and their respective successors, permitted assigns, heirs, devisees, and legal representatives.

13. *Entire Agreement*. Except as set forth herein, this Agreement and the Plan supersede all prior agreements, whether written or oral and whether express or implied, between the Participant and the Company relating to the subject matter of this Agreement.

14. *Rights as a Stockholder.* The Participant shall have no rights as a stockholder of the Company with respect to any shares of Common Stock of the Company underlying or relating to any Award (including, without limitation, rights to vote or dividends) until the issuance of a stock certificate to the Participant in respect of such Award (or such shares of Common Stock are evidenced through book entry).

15. *Clawback*. The Award (including any proceeds, gains or other economic benefit actually or constructively received by the Participant upon any receipt of the Award or upon the receipt or resale of Common Shares underlying the Award) shall be subject to the provisions of any claw-back policy implemented by the Company, including, without limitation, any claw-back policy adopted to comply with the requirements of applicable law, including without limitation the Dodd-Frank Wall Street Reform and Consumer Protection Act and any rules or regulations promulgated thereunder.

16. *Severability*. The provisions of this Agreement are severable and if any one or more provisions are deemed to be illegal or otherwise unenforceable, in whole or in part, the remaining provisions shall nevertheless be binding and enforceable.

17. *Section 409A*.

(a) This Agreement is intended to comply with or be exempt from Section 409A of the Code (together with the Department of Treasury regulations and other interpretive guidance issued thereunder (including, without limitation, any such regulations or other guidance issued after the Grant Date, "Section 409A") and, to the extent applicable, this Agreement shall be interpreted in accordance with Section 409A.

(b) If and to the extent (i) any portion of any payment, compensation or other benefit provided to the Participant pursuant to this Agreement in connection with his or her employment termination constitutes "nonqualified deferred compensation" within the meaning of Section 409A and (ii) the Participant is a specified employee as defined in Section 409A(a)(2)(B)(i) of the Code, in each case as determined by the Company in accordance with its procedures, by which determinations the Participant (through accepting the Award) agrees that he or she is bound, such portion of the payment, compensation or other benefit shall not be paid before the day that is six months plus one day after the date of "separation from service" (as determined under Section 409A) (the "New Payment Date"), except as Section 409A may then permit. The aggregate of any payments that otherwise would have been paid to the Participant during the period between the date of separation from service and the New Payment Date shall be paid to the Participant in a lump sum on such New Payment Date, and any remaining payments will be paid on their original schedule.

(c) Notwithstanding any other provision of the Plan or this Agreement, if at any time the Board determines that the Restricted Stock Units (or any portion thereof) may be subject to Section 409A, the Board shall have the right in its sole discretion (without any obligation to do so or to indemnify the Participant or any other person for failure to do so) to adopt such amendments to this Agreement, or adopt other policies and procedures (including amendments, policies and procedures with retroactive effect), or take any other actions, as the Board determines are necessary or appropriate for Restricted Stock Units to be exempt from the application of Section 409A or to comply with the requirements of Section 409A. No provision of this Agreement shall be interpreted or construed to transfer any liability for failure to comply with the requirements of Section 409A from the Participant or any other individual to the Company or any of its affiliates, employees or agents.

18. *Captions*. The captions of the sections of this Agreement are for reference only and will not affect the interpretation or construction of this Agreement.

19. *Signature in Counterparts.* This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This Agreement will not be binding on either party unless and until signed by both parties.

[*Signature Page Follows*]

IN WITNESS WHEREOF, this Agreement is effective as of the date first above written.

RIBBON COMMUNICATIONS INC.

By: ________________________
Name:
Title:

Agreed and acknowledged as
of the date first above written:

____
[PARTICIPANT]

Ribbon Communications Inc.
2019 Incentive Award Plan

Restricted Stock Unit Award Agreement (Performance-Based Vesting)

THIS RESTRICTED STOCK UNIT AWARD AGREEMENT (the "Agreement"), is made effective as of ________, _____ (the "Grant Date"), between Ribbon Communications Inc., a Delaware corporation (the "Company"), and ________ (the "Participant").

RECITALS

WHEREAS, the Company has adopted the Ribbon Communications Inc. 2019 Incentive Award Plan Stock Incentive Plan (the "Plan"), which Plan is incorporated herein by reference and made a part of this Agreement (capitalized terms not otherwise defined herein shall have the meanings as set forth in the Plan); and

WHEREAS, the Board has determined that it is in the best interests of the Company and its stockholders to grant to the Participant the restricted stock units described herein pursuant to the Plan and the terms set forth below;

NOW THEREFORE, in consideration of the mutual covenants hereinafter set forth, the parties agree as follows:

1. *Award of Restricted Stock Units.* Subject to the terms and conditions of the Plan and this Agreement and in consideration of employment services rendered and to be rendered by the Participant to the Company, the Company hereby grants to the Participant ___________ restricted stock units (the "Restricted Stock Units" or "PSUs"). Each Restricted Stock Unit entitles the Participant to such number of shares of Common Stock, subject to continued employment, upon vesting as is determined pursuant to Section 2 hereof.

2. *Vesting of Restricted Stock Units.*

(a) Upon the vesting of the Award, as described in this Section and Schedule 1 attached hereto, the Company shall deliver for each Restricted Stock Unit that vests, the number of shares of Common Stock as is determined pursuant to Schedule 1. The Common Stock shall be delivered as soon as practicable following the Vesting Date (as defined in Schedule 1), but in any case within 30 days after such date.

(b) Subject to Section 2(c) and Section 3, the Restricted Stock Units shall vest in accordance with the terms set forth in Schedule 1 attached hereto.

(c) Notwithstanding Section 2(b), upon the Participant's termination of employment, the Award shall become subject to the acceleration of vesting to the extent provided in Schedule 1 attached hereto or under the terms of the Participant's employment or severance agreement with the Company, subject to any terms and conditions set forth in the Plan or imposed by the Board (including in Schedule 1 hereto).

3. *Termination of Employment.* Subject to Section 2(c) and notwithstanding any other provision of the Plan to the contrary, upon the termination of the Participant's employment with the Company and its subsidiaries, the Award, to the extent not yet vested, shall immediately and automatically terminate; provided, however, that the Board may, in its sole and absolute discretion agree to accelerate the vesting of the Award, upon termination of employment or otherwise, for any reason or no reason, but shall have no obligation to do so.

For purposes of the Plan and the Award, a termination of employment shall be deemed to have occurred on the date upon which the Participant ceases to perform active employment duties for the Company or its subsidiaries following the provision of any notification of termination or resignation from employment, and without regard to any period of notice of termination of employment (whether expressed or implied) or any period of severance or salary continuation. Notwithstanding any other provision of the Plan, the Award, this Agreement or any other agreement (written or oral) to the contrary, the Participant shall not be entitled (and by accepting an Award, thereby irrevocably waives any such entitlement) to any payment or other benefit to compensate the Participant for the loss of any rights under the Plan as a result of the termination or expiration of an Award in connection with any termination of employment. No amounts earned pursuant to the Plan or any Award shall be deemed to be eligible compensation in respect of any other plan of the Company or any of its subsidiaries.

4. *No Assignment.* Except as expressly permitted under the Plan, this Agreement may not be assigned by the Participant by operation of law or otherwise.

5. *No Rights to Continued Employment.* The granting of this Award evidenced hereby and this Agreement shall impose no obligation on the Company or any of its affiliates to continue the employment or service of the Participant and shall not lessen or affect any right that the Company or any of its affiliates may have to terminate the service of such Participant. The Participant shall remain an

"at will" employee.

6. *Governing Law.* This Agreement will be governed by and interpreted and construed in accordance with the internal laws of the State of Delaware (without reference to principles of conflicts or choice of law) as to all matters, including, but not limited to, matters of validity, construction, effect, performance and metrics.

7. *Tax Obligations.* As a condition to the granting of the Award and the vesting and settlement thereof, the Participant acknowledges and agrees that he/she is responsible for the payment of income and employment taxes (and any other taxes required to be withheld) payable in connection with the vesting and settlement of an Award. Accordingly, the Participant agrees to remit to the Company or any applicable subsidiary an amount sufficient to pay such taxes. Such payment shall be made to the Company or the applicable subsidiary of the Company in a form that is reasonably acceptable to the Company, as the Company may determine in its sole discretion. Notwithstanding the foregoing, the Company may retain and withhold from delivery at the time of vesting or settlement that number of shares of Common Stock having a fair market value equal to the taxes owed by the Participant, which retained shares shall fund the payment of such taxes by the Company on behalf of the Participant. The Participant acknowledges that he or she is responsible for reviewing with his or her own tax advisors the federal, state, local and other tax consequences of the transactions contemplated by this Agreement. The Participant acknowledges that he or she is not relying on any statements or representations of the Company or any of its agents.

8. *Notices.* Any notification required by the terms of this Agreement shall be given in writing and shall be deemed effective upon personal delivery or within three (3) days of deposit with the United States Postal Service or, if outside the United States, the local equivalent of the United States Postal Service, by registered or certified mail, with postage and fees prepaid. A notice shall be addressed to the Company, Attention: General Counsel, at its principal executive office and to the Participant at the address he or she most recently provided to the Company.

9. *Failure to Enforce Not a Waiver.* The failure of the Company to enforce at any time any provision of this Agreement shall in no way be construed to be a waiver of such provision or of any other provision hereof.

10. *Amendments.* This Agreement may be amended or modified only by a written agreement signed by the Company and the Participant; provided, however, that the Board may amend or alter this Agreement and the Award granted hereunder at any time, subject to the terms of the Plan.

11. *Authority.* The Board has complete authority and discretion to determine Awards, and to interpret and construe the terms of the Plan and this Agreement. The determination of the Board as to any matter relating to the interpretation or construction of the Plan or this Agreement shall be final, binding and conclusive on all parties.

12. *Successors.* This Agreement will bind and inure to the benefit of the parties and their respective successors, permitted assigns, heirs, devisees, and legal representatives.

13. *Entire Agreement*. Except as set forth herein, this Agreement and the Plan supersede all prior agreements, whether written or oral and whether express or implied, between the Participant and the Company relating to the subject matter of this Agreement. Notwithstanding the foregoing, to the extent that the Participant has entered into an employment agreement with the Company and the terms noted in such employment agreement are inconsistent with or conflicts with this Agreement, then the terms of the employment agreement will supersede the inconsistent or conflicting terms set forth herein as determined by the Board in accordance with Section 3(a) of the Plan. In all other respects, this Agreement shall remain in full force and effect.

14. *Rights as a Stockholder.* The Participant shall have no rights as a stockholder of the Company with respect to any shares of Common Stock underlying or relating to any Award until the issuance of a stock certificate to the Participant in respect of such Award.

15. *Erroneously Awarded Compensation* . The Award (including any proceeds, gains or other economic benefit actually or constructively received by Participant upon any receipt of the Award or upon the receipt or resale of shares of Common Stock underlying the Award) shall be subject to the provisions of any claw-back policy implemented by the Company, including, without limitation, any claw-back policy adopted to comply with the requirements of applicable law, including without limitation the Dodd-Frank Wall Street Reform and Consumer Protection Act and any rules or regulations promulgated thereunder.

16. *Severability*. The provisions of this Agreement are severable and if any one or more provisions are deemed to be illegal or otherwise unenforceable, in whole or in part, the remaining provisions shall nevertheless be binding and enforceable.

17. *Section 409A*.

(a) This Agreement is intended to comply with or be exempt from Section 409A of the Code (together with the Department of Treasury regulations and other interpretive guidance issued thereunder (including, without limitation, any such regulations or other guidance issued after the Grant Date, "Section 409A") and, to the extent applicable, this Agreement shall be interpreted in accordance with Section 409A.

(b) If and to the extent (i) any portion of any payment, compensation or other benefit provided to the Participant pursuant to this Agreement in connection with his or her employment termination constitutes "nonqualified deferred compensation" within the meaning of Section 409A and (ii) the Participant is a specified employee as defined in Section 409A(a)(2)(B)(i) of the Code, in each case as determined by the Company in accordance with its procedures, by which determinations the Participant (through accepting the Award) agrees that he or she is bound, such portion of the payment, compensation or other benefit shall not be paid before the day that is six months plus one day after the date of "separation from service" (as determined under Section 409A) (the "New Payment Date"), except as Section 409A may then permit. The aggregate of any payments that otherwise would have been paid to the Participant during the period between the date of separation from service and the New Payment Date shall be paid to the Participant in a lump sum on such New Payment Date, and any remaining payments will be paid on their original schedule.

(c) Notwithstanding any other provision of the Plan or this Agreement, if at any time the Board determines that the Restricted Stock Units (or any portion thereof) may be subject to Section 409A, the Board shall have the right in its sole discretion (without any obligation to do so or to indemnify the Participant or any other person for failure to do so) to adopt such amendments to this Agreement, or adopt other policies and procedures (including amendments, policies and procedures with retroactive effect), or take any other actions, as the Board determines are necessary or appropriate for Restricted Stock Units to be exempt from the application of Section 409A or to comply with the requirements of Section 409A. No provision of this Agreement shall be interpreted or construed to transfer any liability for failure to comply with the requirements of Section 409A from the Participant or any other individual to the Company or any of its affiliates, employees or agents.

18. *Captions*. The captions of the sections of this Agreement are for reference only and will not affect the interpretation or construction of this Agreement.

19. *Signature in Counterparts*. This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This Agreement will not be binding on either party unless and until signed by both parties.

[*Signature Page Follows*]

IN WITNESS WHEREOF, this Agreement is effective as of the date first above written.

RIBBON COMMUNICATIONS INC.

By: ____________________________________
Name: __________
Title: ____________

Agreed and acknowledged as of the date first above written:

[PARTICIPANT]

Schedule 1

EXHIBIT 31.1

CERTIFICATION

I, Franklin W. Hobbs, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: October 31, 2019

/s/ Franklin W. Hobbs

Franklin W. Hobbs
President and Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2

CERTIFICATION

I, Daryl E. Raiford, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: October 31, 2019

/s/ Daryl E. Raiford

Daryl E. Raiford
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

EXHIBIT 32.1

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of Ribbon Communications Inc. (the "Company") for the period ended September 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Franklin W. Hobbs, President and Chief Executive Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to his knowledge:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: October 31, 2019

/s/ Franklin W. Hobbs

Franklin W. Hobbs
President and Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 32.2

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of Ribbon Communications Inc. (the "Company") for the period ended September 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Daryl E. Raiford, Executive Vice President and Chief Financial Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to his knowledge:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: October 31, 2019

/s/ Daryl E. Raiford

Daryl E. Raiford
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)