
**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 June 30, 2020

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

(State or other jurisdiction of incorporation or organization)

82-1669692

(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	<input type="checkbox"/>	Accelerated filer	<input checked="" type="checkbox"/>	Non-accelerated filer	<input type="checkbox"/>
Smaller reporting company	<input type="checkbox"/>	Emerging growth company	<input type="checkbox"/>		

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 July 31, 2020, there were 145,148,368 shares of the registrant's common stock, \$0.0001 par value per share, outstanding.

RIBBON COMMUNICATIONS INC.
FORM 10-Q
QUARTERLY PERIOD ENDED JUNE 30, 2020
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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, expected impacts of the COVID-19 pandemic, 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, changes to our operating segments, if any, restructuring activities, and plans for future product offerings, 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, risks related to the COVID-19 pandemic on the global economy and financial markets as well as on the Company, our customers and suppliers, which may impact our sales, gross margin, customer demand and our ability to supply our products to our customers; risks that the businesses of ECI Telecom Group Ltd. ("ECI") will not be integrated successfully or that the combined companies will not realize estimated cost savings; failure to realize anticipated benefits of the merger with ECI; potential litigation relating to the merger with ECI and disruptions from the integration efforts that could harm our business; 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; the impact of restructuring and cost-containment activities; litigation; actions taken by significant stockholders; 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; 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.

Additional 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 for the year ended December 31, 2019 as updated by Part II, Item 1A, "Risk Factors" of this Quarterly Report on Form 10-Q for the quarter ended June 30, 2020. 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.

PART I FINANCIAL INFORMATION

Item 1. Financial Statements

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

	June 30, 2020	December 31, 2019
Assets		
Current assets:		
Cash and cash equivalents	\$ 80,992	\$ 44,643
Restricted cash	13,052	—
Accounts receivable, net	204,601	192,706
Inventory	58,047	14,800
Other current assets	52,121	27,146
Total current assets	408,813	279,295
Property and equipment, net	48,004	28,976
Intangible assets, net	449,263	213,366
Goodwill	416,892	224,896
Deferred income taxes	6,416	4,959
Operating lease right-of-use assets	63,938	36,654
Other assets	34,736	26,762
	<u>\$ 1,428,062</u>	<u>\$ 814,908</u>
Liabilities and Stockholders' Equity		
Current liabilities:		
Current portion of term debt	\$ 14,850	\$ 2,500
Revolving credit facility	—	8,000
Accounts payable	73,066	31,412
Accrued expenses and other	130,727	56,700
Operating lease liabilities	18,300	7,719
Deferred revenue	105,694	100,406
Total current liabilities	342,637	206,737
Long-term debt, net of current	377,302	45,995
Operating lease liabilities, net of current	53,122	37,202
Deferred revenue, net of current	23,844	20,482
Deferred income taxes	17,720	4,648
Other long-term liabilities	68,660	16,589
Total liabilities	883,285	331,653
Commitments and contingencies (Note 18)		
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; 144,856,764 shares issued and outstanding at June 30, 2020; 110,471,995 shares issued and outstanding at December 31, 2019	14	11
Additional paid-in capital	1,863,374	1,747,784
Accumulated deficit	(1,308,488)	(1,267,067)
Accumulated other comprehensive (loss) income	(10,123)	2,527
Total stockholders' equity	544,777	483,255
	<u>\$ 1,428,062</u>	<u>\$ 814,908</u>

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		Six months ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Revenue:				
Product	\$ 120,862	\$ 72,059	\$ 196,761	\$ 119,539
Service	89,631	73,362	171,714	144,810
Total revenue	210,493	145,421	368,475	264,349
Cost of revenue:				
Product	61,529	36,433	106,462	69,580
Service	36,647	28,315	68,126	57,507
Total cost of revenue	98,176	64,748	174,588	127,087
Gross profit	112,317	80,673	193,887	137,262
Operating expenses:				
Research and development	51,796	35,301	94,091	71,234
Sales and marketing	37,617	28,893	73,968	58,952
General and administrative	15,094	12,466	32,299	31,160
Acquisition- and integration-related	857	1,965	13,241	5,164
Restructuring and related	5,361	9,144	7,436	14,076
Total operating expenses	110,725	87,769	221,035	180,586
Income (loss) from operations	1,592	(7,096)	(27,148)	(43,324)
Interest expense, net	(5,400)	(1,262)	(8,795)	(2,626)
Other (expense) income, net	(2,407)	62,861	(3,251)	70,635
(Loss) income before income taxes	(6,215)	54,503	(39,194)	24,685
Income tax provision	(2,036)	(5,033)	(2,227)	(6,047)
Net (loss) income	\$ (8,251)	\$ 49,470	\$ (41,421)	\$ 18,638
(Loss) earnings per share:				
Basic	\$ (0.06)	\$ 0.45	\$ (0.31)	\$ 0.17
Diluted	\$ (0.06)	\$ 0.45	\$ (0.31)	\$ 0.17
Weighted average shares used to compute (loss) earnings per share:				
Basic	144,483	110,394	132,737	109,239
Diluted	144,483	110,698	132,737	109,672

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		Six months ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Net (loss) income	\$ (8,251)	\$ 49,470	\$ (41,421)	\$ 18,638
Other comprehensive (loss) income, net of tax:				
Unrealized loss on interest rate swap	(3,970)	—	(13,497)	—
Foreign currency translation adjustments	70	64	847	56
Unrealized gain on available-for sale marketable securities, net of reclassification adjustments for realized amounts	—	577	—	590
Employee retirement benefits	—	(32)	—	—
Other comprehensive (loss) income, net of tax	(3,900)	609	(12,650)	646
Comprehensive (loss) income	<u>\$ (12,151)</u>	<u>\$ 50,079</u>	<u>\$ (54,071)</u>	<u>\$ 19,284</u>

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 June 30, 2020

	Common stock			Accumulated deficit	Accumulated other comprehensive (loss) income	Total stockholders' equity
	Shares	Amount	Additional paid-in capital			
Balance at April 1, 2020	144,351,304	\$ 14	\$ 1,860,150	\$ (1,300,237)	\$ (6,223)	\$ 553,704
Exercise of stock options	10,188		18			18
Vesting of restricted stock awards and units	500,570					—
Shares of restricted stock returned to the Company under net share settlements to satisfy tax withholding obligations	(5,298)		(16)			(16)
Stock-based compensation expense			3,222			3,222
Other comprehensive loss					(3,900)	(3,900)
Net loss				(8,251)		(8,251)
Balance at June 30, 2020	<u>144,856,764</u>	<u>\$ 14</u>	<u>\$ 1,863,374</u>	<u>\$ (1,308,488)</u>	<u>\$ (10,123)</u>	<u>\$ 544,777</u>

Six months ended June 30, 2020

	Common stock			Accumulated deficit	Accumulated other comprehensive (loss) income	Total stockholders' equity
	Shares	Amount	Additional paid-in capital			
Balance at January 1, 2020	110,471,995	\$ 11	\$ 1,747,784	\$ (1,267,067)	\$ 2,527	\$ 483,255
Exercise of stock options	13,202		23			23
Vesting of restricted stock awards and units	1,517,552					—
Vesting of performance-based stock units	315,866					—
Shares of restricted stock returned to the Company under net share settlements to satisfy tax withholding obligations	(278,402)		(808)			(808)
Shares issued as consideration in connection with the acquisition of ECI Telecom Group Ltd.	32,500,000	3	108,547			108,550
Shares issued as consideration in connection with the acquisition of Anova Data, Inc.	316,551		1,630			1,630
Stock-based compensation expense			6,198			6,198
Other comprehensive loss					(12,650)	(12,650)
Net loss				(41,421)		(41,421)
Balance at June 30, 2020	<u>144,856,764</u>	<u>\$ 14</u>	<u>\$ 1,863,374</u>	<u>\$ (1,308,488)</u>	<u>\$ (10,123)</u>	<u>\$ 544,777</u>

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

Three months ended June 30, 2019

	Common stock		Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive (loss) income	Total stockholders' equity
	Shares	Amount				
Balance at April 1, 2019	110,487,634	\$ 11	\$ 1,743,136	\$ (1,167,824)	\$ 3,740	\$ 579,063
Issuance of common stock in connection with employee stock purchase plan	139,390		506			506
Exercise of stock options	18,652		39			39
Vesting of restricted stock awards and units	359,573					—
Shares of restricted stock returned to the Company under net share settlements to satisfy tax withholding obligations	(22,098)		(112)			(112)
Repurchase and retirement of common stock	(975,914)		(4,536)			(4,536)
Stock-based compensation expense			1,530			1,530
Other comprehensive income					609	609
Net income				49,470		49,470
Balance at June 30, 2019	<u>110,007,237</u>	<u>\$ 11</u>	<u>\$ 1,740,563</u>	<u>\$ (1,118,354)</u>	<u>\$ 4,349</u>	<u>\$ 626,569</u>

Six months ended June 30, 2019

	Common stock		Additional paid-in capital	Accumulated deficit	Accumulated other comprehensive (loss) income	Total stockholders' equity
	Shares	Amount				
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	107,006		190			190
Vesting of restricted stock awards and units	1,166,386					—
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	(203,526)		(1,080)			(1,080)
Shares issued as consideration in connection with the acquisition of Anova Data, Inc.	2,948,793		15,186			15,186
Reclassification of liability to equity for bonuses converted to stock			1,052			1,052
Repurchase and retirement of common stock	(975,914)		(4,536)			(4,536)
Stock-based compensation expense			5,669			5,669
Other comprehensive income					646	646
Net income				18,638		18,638
Balance at June 30, 2019	<u>110,007,237</u>	<u>\$ 11</u>	<u>\$ 1,740,563</u>	<u>\$ (1,118,354)</u>	<u>\$ 4,349</u>	<u>\$ 626,569</u>

See notes to the unaudited condensed consolidated financial statements.

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

	Six months ended	
	June 30, 2020	June 30, 2019
Cash flows from operating activities:		
Net (loss) income	\$ (41,421)	\$ 18,638
Adjustments to reconcile net (loss) income to cash flows provided by operating activities:		
Depreciation and amortization of property and equipment	8,260	5,891
Amortization of intangible assets	29,003	24,569
Amortization of debt issuance costs	2,554	175
Stock-based compensation	6,198	5,669
Deferred income taxes	97	4,358
Reduction in deferred purchase consideration	(69)	(8,124)
Foreign currency exchange losses	3,463	521
Changes in operating assets and liabilities:		
Accounts receivable	45,422	33,121
Inventory	773	6,159
Other operating assets	14,282	(21,026)
Accounts payable	(41,515)	(12,763)
Accrued expenses and other long-term liabilities	9,111	(17,129)
Deferred revenue	554	(10,940)
Net cash provided by operating activities	<u>36,712</u>	<u>29,119</u>
Cash flows from investing activities:		
Purchases of property and equipment	(14,891)	(6,153)
Business acquisitions, net of cash acquired	(346,852)	—
Maturities of marketable securities	—	7,295
Proceeds from the sale of fixed assets	43,500	—
Net cash (used in) provided by investing activities	<u>(318,243)</u>	<u>1,142</u>
Cash flows from financing activities:		
Borrowings under revolving line of credit	615	92,000
Principal payments on revolving line of credit	(8,615)	(112,000)
Proceeds from issuance of term debt	403,500	50,000
Principal payment of debt, related party	—	(24,716)
Principal payments of long-term debt	(52,400)	—
Payment of deferred purchase consideration	—	(21,876)
Principal payments of finance leases	(668)	(500)
Payment of debt issuance costs	(10,573)	(884)
Proceeds from the sale of common stock in connection with employee stock purchase plan	—	506
Proceeds from the exercise of stock options	23	190
Payment of tax withholding obligations related to net share settlements of restricted stock awards	(808)	(1,080)
Repurchase of common stock	—	(4,536)
Net cash provided by (used in) financing activities	<u>331,074</u>	<u>(22,896)</u>
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(142)	127
Net increase in cash, cash equivalents and restricted cash	49,401	7,492
Cash and cash equivalents, beginning of year	44,643	43,694
Cash, cash equivalents and restricted cash, end of period	<u>\$ 94,044</u>	<u>\$ 51,186</u>

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

	Six months ended	
	June 30, 2020	June 30, 2019
Supplemental disclosure of cash flow information:		
Interest paid	\$ 6,275	\$ 2,645
Income taxes paid	\$ 4,014	\$ 2,010
Income tax refunds received	\$ 196	\$ 224
Supplemental disclosure of non-cash investing activities:		
Capital expenditures incurred, but not yet paid	\$ 3,522	\$ 1,616
Acquisition purchase consideration - deferred payments	\$ —	\$ 1,700
Shares of common stock issued as purchase consideration	\$ 110,180	\$ 15,186
Supplemental disclosure of non-cash financing activities:		
Total fair value of restricted stock awards, restricted stock units and performance-based stock units	\$ 5,165	\$ 6,078

See notes to the unaudited condensed consolidated financial statements.

RIBBON COMMUNICATIONS INC.
Notes to Condensed Consolidated Financial Statements
(unaudited)

(1) BASIS OF PRESENTATION

Business

Ribbon is a leading provider of next generation software solutions to telecommunications, wireless and cable service providers and enterprises of all sizes across industry verticals. With the March 3, 2020 completion of the merger with ECI Telecom Group Ltd ("ECI"), Ribbon now also provides optical and packet networking products and software-defined solutions to service providers and critical infrastructure sectors like utilities, government and defense. With over 1,000 customers around the globe, including some of the largest telecommunications service providers, enterprises and utilities in the world, Ribbon enables its customers to evolve and modernize their communications networks and packet optical networking infrastructures through software and hardware. By securing and enabling reliable and scalable Internet Protocol ("IP") and packet optical networks and applications, Ribbon helps its customers adopt the next generation of software-, cloud- and edge-based 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 - and support the increasing demand on network infrastructure created by ongoing IP traffic growth and the projected demand related to increased traffic from 5G applications and devices. Ribbon sells its products and solutions through both direct sales and indirect channels, leveraging the reach and local presence 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 March 3, 2020 (the "ECI Merger Date"), the Company merged with ECI (the "ECI Merger"). The financial results of ECI are included in the Company's condensed consolidated financial statements for the periods subsequent to the ECI Merger Date.

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 periods subsequent to the Anova 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 for the year ended December 31, 2019 (the "Annual Report"), which was filed with the SEC on February 28, 2020.

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 six months ended June 30, 2020, with the exception of policies on transfers of financial assets, warranty costs, and research and development grants:

Transfers of Financial Assets. The Company's ECI subsidiary maintains customer receivables factoring agreements with a number of financial institutions. Under the terms of these agreements, the Company may transfer receivables to the financial institutions, on a non-recourse basis, provided that the financial institutions approve the receivables in advance. The Company maintains credit insurance policies from major insurance providers or obtains letters of credit from the customers for a majority of its factored trade receivables. The Company accounts for the factoring of its financial assets as a sale of the assets and

RIBBON COMMUNICATIONS INC.
Notes to Condensed Consolidated Financial Statements (Continued)
(unaudited)

records the factoring fees, when incurred, as a component of interest expense in the condensed consolidated statements of operations and the proceeds from the sales of receivables are included in cash from operating activities in the condensed consolidated statements of cash flows. During the three months ended June 30, 2020, the Company received \$30.7 million of cash from the sale of certain accounts receivable and recorded \$0.3 million of interest expense in connection with these transactions. During the six months ended June 30, 2020, the Company received \$45.8 million of cash from the sale of certain accounts receivable and recorded \$0.4 million of interest expense in connection with these transactions.

Warranty. The Company records warranty liabilities for estimated costs of fulfilling its obligations under standard limited hardware and software warranties at the time of sale. The liability for standard warranties is included in Accrued expenses and other and Other non-current liabilities in the condensed consolidated balance sheet at June 30, 2020. The specific warranty terms and conditions vary depending upon the country in which the Company does business, but generally includes material costs, technical support, labor and associated overhead over a period ranging from one to three years. The Company's liability for product warranties was \$15.1 million, of which \$6.4 million was current and included in Accrued expenses and other and \$8.7 million was long-term and included in Other long-term liabilities in the Company's condensed consolidated balance sheet at June 30, 2020. The Company did not have a warranty accrual at December 31, 2019.

Research and Development Grants. The Company records grants received from the Office of the Innovation Authority of the Israeli Ministry of Economics (the "IIA") as a reduction to research and development expense. Royalties payable to the IIA are recognized pursuant to sales of related products and are classified as Cost of revenue.

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, not affecting previously reported net loss, have been made to the previously issued financial statements to conform to the current period presentation.

Restricted Cash

The Company classifies as restricted cash all cash pledged as collateral to secure long-term obligations and all cash whose use is otherwise limited by contractual provisions. At June 30, 2020, the Company had \$13.1 million of restricted cash, comprised of \$8.4 million restricted in connection with a tax payment on certain fixed assets formerly held by ECI that were sold in connection with the ECI Merger, and \$4.7 million restricted short-term bank deposits pledged to secure certain performance and financial bonds as security for the Company's obligations under tenders, contracts and to one of its main subcontractors.

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Fair Value of Financial Instruments

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

Operating Segments

The Company currently operates in a single segment, as the chief operating decision maker makes decisions and assesses performance at the company level. The Company's chief operating decision maker is its President and Chief Executive Officer, who began his employment with the Company effective March 1, 2020. With the acquisition of ECI, the Company's chief operating decision maker is currently assessing the appropriate separate discrete financial information he will utilize for making decisions and assessing performance.

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.

Recent Accounting Pronouncements

The Financial Accounting Standards Board ("FASB") has issued the following accounting pronouncements, all of which became effective for the Company in 2020 and none of which had a material impact on the Company's condensed consolidated financial statements:

In March 2020, the FASB issued Accounting Standards Update ("ASU") 2020-04, *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting* ("ASU 2020-04"), which provides optional expedients and exceptions for applying generally accepted accounting principles to contract modifications and hedging relationships, subject to meeting certain criteria that reference LIBOR or another reference rate expected to be discontinued.

In March 2020, the FASB issued ASU 2020-03, *Codification Improvements to Financial Instruments* ("ASU 2020-03"), which makes narrow-scope amendments related to topics regarding fair value option disclosures, applicability of the portfolio exception in Accounting Standards Codification ("ASC") 820 to nonfinancial items, disclosures for depository and lending institutions, cross reference to guidance in ASC 470-50 on line of credit or revolving debt arrangements, cross reference to net asset value practical expedient in ASC 820-10, interaction between ASC 842 and ASC 326 and between ASC 326 and ASC 860-20.

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

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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.

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.

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*.

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.

The FASB has issued the following accounting pronouncement which becomes effective for the Company in 2021, which the Company does not believe will have a material impact on its condensed consolidated financial statements upon adoption:

In December 2019, the FASB issued ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes* ("ASU 2019-12"), which modifies ASC 740 to simplify the accounting for income taxes. ASU 2019-12 addresses the accounting for hybrid tax regimes, tax basis step-up in goodwill obtained in a transaction that is not a business combination, separate financial statements of legal entities not subject to tax, intraperiod tax allocation exception to incremental approach, ownership changes in investments - changes from a subsidiary to an equity method investment, ownership changes in investments - changes from an equity method investment to a subsidiary, interim period accounting for enacted changes in tax law and year-to-date loss limitation in interim period tax accounting.

(2) BUSINESS ACQUISITIONS

ECI

On the ECI Merger Date, Ribbon completed its previously announced merger transaction with ECI in accordance with the terms of the Agreement and Plan of Merger, dated as of November 14, 2019, by and among Ribbon, ECI, an indirect wholly-owned subsidiary of Ribbon ("Merger Sub"), Ribbon Communications Israel Ltd. and ECI Holding (Hungary) kft, pursuant to which Merger Sub merged with and into ECI, with ECI surviving such merger as a wholly-owned subsidiary of Ribbon. Prior to the ECI Merger Date, ECI was a privately-held global provider of end-to-end packet-optical transport and software-defined networking ("SDN") and network function virtualization ("NFV") solutions for service providers, enterprises and data center operators. Ribbon believes the ECI Merger positions the Company for growth and enhances its competitive strengths by expanding its product portfolio beyond solutions primarily supporting voice applications to include data applications and optical networking.

As consideration for the ECI Merger, Ribbon issued the ECI shareholders and certain others 32.5 million shares of Ribbon common stock with a fair value of \$108.6 million (the "Stock Consideration") and paid \$322.5 million of cash, comprised of \$183.3 million to repay ECI's outstanding debt, including both principal and interest, and \$139.2 million paid to ECI's selling shareholders (the "Cash Consideration"). In addition, ECI shareholders received \$33.4 million from the sale of certain of ECI's real estate assets. Cash Consideration was financed through cash on hand and committed debt financing

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consisting of a new \$400 million term loan facility (the "2020 Term Loan") and new \$100 million revolving credit facility (together with the 2020 Term Loan, the "2020 Credit Facility"), which was undrawn at the ECI Merger Date.

The ECI Merger has been accounted for as a business combination and the financial results of ECI have been included in the Company's condensed consolidated financial statements for the periods subsequent to the ECI Merger. The Company's financial results for the three months ended June 30, 2020 include \$63.6 million of revenue and \$17.1 million of net loss attributable to ECI. The Company's financial results for the six months ended June 30, 2020 include \$93.6 million of revenue and \$20.4 million of net loss attributable to ECI for the periods subsequent to the ECI Merger.

As of June 30, 2020, the valuation of acquired assets, identifiable intangible assets and certain assumed liabilities was preliminary. The Company is continuing the process of investigating the facts and circumstances existing as of the ECI Merger Date, including certain assets acquired and liabilities assumed, as well as estimated future cash flows, in order to finalize its valuation. During the three months ended June 30, 2020, the Company recorded changes to the initial preliminary purchase price allocation. The primary adjustments recorded in the second quarter of 2020 included reductions of \$10.4 million and \$7.0 million to current and noncurrent inventory, respectively, and increases to identifiable intangible assets aggregating \$11.0 million, comprised of \$3.0 million to in-process research and development, \$5.0 million to developed technology, \$2.0 million to customer relationships and \$1.0 million to trade names. These adjustments, as well as other immaterial adjustments to other balance sheet accounts, resulted in a net increase to goodwill of \$2.5 million. The preliminary allocation of purchase consideration to the fair value of assets acquired and liabilities assumed includes a noncurrent asset of \$5.7 million that represents an indemnification receivable from ECI's selling shareholders for certain liabilities for uncertain tax positions in accordance with the Agreement and Plan of Merger. The Company expects to finalize the valuation of the assets acquired and liabilities assumed by the first quarter of 2021.

A summary of the preliminary allocation of the purchase consideration for ECI is as follows (in thousands):

Fair value of consideration transferred:	
Cash consideration:	
Repayment of ECI outstanding debt obligations	\$ 183,266
Cash paid to selling shareholders	139,244
Payment to selling shareholders from sale of ECI real estate assets	33,400
Less cash and restricted cash acquired	(9,058)
Net cash consideration	346,852
Fair value of Ribbon stock issued	108,550
Fair value of total consideration	<u>\$ 455,402</u>
Fair value of assets acquired and liabilities assumed:	
Current assets, net of cash and restricted cash acquired	\$ 120,203
Property and equipment	54,913
Intangible assets:	
In-process research and development	34,000
Developed technology	111,900
Customer relationships	116,000
Trade names	3,000
Goodwill	191,996
Other noncurrent assets	50,716
Deferred revenue	(4,369)
Other current liabilities	(146,618)
Deferred revenue, net of current	(3,726)
Deferred tax liability	(13,308)
Other long-term liabilities	(59,305)
	<u>\$ 455,402</u>

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The Company is still evaluating the fair value of acquired assets and assumed liabilities, and such values are subject to change. 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 in-process research and development, developed technology, customer relationships and trade name intangible assets. The Company is still evaluating the forecast, and the value of these intangible assets could change materially as the Company finalizes the forecast and other inputs used to determine their fair values. 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 arising from the ECI Merger in relation to the expected cash flows from the individual intangible assets over their respective useful lives, which have a weighted average life of 12.38 years (see Note 5). Goodwill results from assets that are not separately identifiable as part of the transaction and is not deductible for tax purposes.

Pro Forma Results

The following unaudited pro forma information presents the condensed combined results of operations of Ribbon and ECI for the three and six months ended June 30, 2020 and 2019 as if the ECI Merger had been completed on January 1, 2019, with adjustments to give effect to pro forma events that are directly attributable to the ECI Merger. These pro forma adjustments include an increase in research and development expense related to the conformance of ECI's cost capitalization policy to Ribbon's, additional amortization expense for the acquired identifiable intangible assets, a decrease in historical ECI interest expense reflecting the extinguishment of certain of ECI's debt as a result of the ECI Merger, and an increase in interest expense reflecting the new debt entered into by the Company in connection with the ECI Merger. Pro forma adjustments also include the elimination of acquisition- and integration-related costs directly attributable to the acquisition from the three and six months ended June 30, 2020 and inclusion of such costs in the three and six months ended June 30, 2019, respectively.

The unaudited pro forma results do not reflect any operating efficiencies or potential cost savings that may result from the consolidation of the operations of Ribbon and ECI. Accordingly, these unaudited pro forma results are presented for illustrative purposes and are not intended to represent or be indicative of the actual results of operations of the combined company that would have been achieved had the ECI Merger occurred at January 1, 2019, nor are they intended to represent or be indicative of future results of operations (in thousands, except per share amounts):

	Three months ended		Six months ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Revenue	\$ 210,493	\$ 231,901	\$ 393,682	\$ 440,848
Net (loss) income	\$ (9,252)	\$ 37,471	\$ (48,381)	\$ (26,228)
(Loss) diluted earnings per share	\$ (0.06)	\$ 0.26	\$ (0.33)	\$ (0.18)

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"). As consideration for the Anova Acquisition, Ribbon issued 2.9 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 330,000 shares with a fair value of \$1.7 million (the "Anova Deferred Consideration"), of which 316,551 shares were issued after post-closing adjustments on March 4, 2020. The Anova Deferred Consideration was included as a component of Accrued expenses and other in the Company's condensed consolidated balance sheet at December 31, 2019.

The Anova Acquisition was 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 periods subsequent to the Anova Acquisition Date. The results for the three and six months ended June 30, 2019 were not significant to the Company's condensed consolidated financial statements and accordingly, the Company has not provided pro forma financial information. The

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Company finalized the valuation of the assets acquired and liabilities assumed in the fourth quarter of 2019. The purchase consideration aggregating \$16.9 million was allocated to \$11.2 million of identifiable intangible assets with a weighted average life of 6.25 years (see Note 5) and working capital items aggregating \$0.1 million of net assets acquired. The remaining unallocated amount of \$5.5 million was recorded as goodwill. The goodwill is deductible for tax purposes.

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. 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 acquisition-related costs in both the three and six months ended June 30, 2020 primarily related to the ECI Merger; the acquisition-related costs in the three and six months ended June 30, 2019 primarily related to the Anova Acquisition.

The Company's acquisition- and integration-related expenses for the three and six months ended June 30, 2020 and 2019 were as follows (in thousands):

	Three months ended		Six months ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Professional and services fees (acquisition-related)	\$ 640	\$ 321	\$ 13,014	\$ 1,826
Integration-related expenses	217	1,644	227	3,338
	\$ 857	\$ 1,965	\$ 13,241	\$ 5,164

(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		Six months ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Weighted average shares outstanding—basic	144,483	110,394	132,737	109,239
Potential dilutive common shares	—	304	—	433
Weighted average shares outstanding—diluted	144,483	110,698	132,737	109,672

Options to purchase the Company's common stock and unvested shares of restricted and performance-based stock and stock units aggregating 13.7 million shares have not been included in the computation of diluted loss per share for the three and six months ended June 30, 2020 because their effect would have been antidilutive. Options to purchase the Company's common stock aggregating 0.3 million shares and 0.4 million shares have not been included in the computation of diluted earnings per share for the three and six months ended June 30, 2019, respectively, because their effect would have been antidilutive.

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(4) INVENTORY

Inventory at June 30, 2020 and December 31, 2019 consisted of the following (in thousands):

	June 30, 2020	December 31, 2019
On-hand final assemblies and finished goods inventories	\$ 57,452	\$ 13,283
Deferred cost of goods sold	4,888	2,441
	62,340	15,724
Less noncurrent portion (included in other assets)	(4,293)	(924)
Current portion	\$ 58,047	\$ 14,800

(5) INTANGIBLE ASSETS AND GOODWILL

The Company's intangible assets at June 30, 2020 and December 31, 2019 consisted of the following (in thousands):

<u>June 30, 2020</u>	Weighted average amortization period (years)	Cost	Accumulated amortization	Net carrying value
In-process research and development	*	\$ 39,600	\$ —	\$ 39,600
Developed technology	7.95	300,780	120,664	180,116
Customer relationships	11.86	268,140	41,918	226,222
Trade names	3.88	5,000	1,675	3,325
Internal use software	3.00	730	730	—
	9.10	\$ 614,250	\$ 164,987	\$ 449,263

<u>December 31, 2019</u>	Weighted average amortization period (years)	Cost	Accumulated amortization	Net carrying value
In-process research and development	*	\$ 5,600	\$ —	\$ 5,600
Developed technology	6.79	188,880	100,760	88,120
Customer relationships	9.46	152,140	33,350	118,790
Trade names	5.20	2,000	1,144	856
Internal use software	3.00	730	730	—
	7.82	\$ 349,350	\$ 135,984	\$ 213,366

* 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 six months ended June 30, 2020 and 2019 was as follows (in thousands):

	Three months ended		Six months ended		Statement of operations classification
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019	
Developed technology	\$ 10,950	\$ 10,092	\$ 19,904	\$ 19,737	Cost of revenue - product
Customer relationships	3,412	2,407	8,568	4,537	Sales and marketing
Trade names	307	148	531	295	Sales and marketing
	\$ 14,669	\$ 12,647	\$ 29,003	\$ 24,569	

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Estimated future amortization expense for the Company's intangible assets at June 30, 2020 was as follows (in thousands):

Years ending December 31,

Remainder of 2020	\$	31,968
2021		66,689
2022		59,700
2023		52,306
2024		44,098
Thereafter		194,502
	\$	<u>449,263</u>

The changes in the carrying value of the Company's goodwill in the six months ended June 30, 2020 and 2019 were as follows (in thousands):

	2020	2019
Balance at January 1		
Goodwill	\$ 392,302	\$ 386,761
Accumulated impairment losses	(167,406)	(3,106)
	224,896	383,655
Acquisition of ECI	191,996	—
Acquisition of Anova	—	5,541
Balance at June 30	<u>\$ 416,892</u>	<u>\$ 389,196</u>
Balance at June 30		
Goodwill	\$ 584,298	\$ 392,302
Accumulated impairment losses	(167,406)	(3,106)
	<u>\$ 416,892</u>	<u>\$ 389,196</u>

(6) ACCRUED EXPENSES

Accrued expenses at June 30, 2020 and December 31, 2019 consisted of the following (in thousands):

	June 30, 2020	December 31, 2019
Employee compensation and related costs	\$ 46,910	\$ 27,166
Professional fees	15,765	13,331
Taxes payable	15,781	842
Other	52,271	15,361
	<u>\$ 130,727</u>	<u>\$ 56,700</u>

(7) RESTRUCTURING AND FACILITIES CONSOLIDATION INITIATIVES

The Company recorded restructuring and related expense aggregating \$5.4 million and \$9.1 million in the three months ended June 30, 2020 and 2019, respectively, and \$7.4 million and \$14.1 million in the six months ended June 30, 2020 and 2019, 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

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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 six months ended June 30, 2020 and 2019 were as follows (in thousands):

	Three months ended		Six months ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Severance and related costs	\$ 4,716	\$ 5,981	\$ 6,487	\$ 10,900
Variable and other facilities-related costs	645	\$ 305	879	318
Accelerated amortization of lease assets due to cease-use	—	\$ 2,858	70	2,858
	\$ 5,361	\$ 9,144	\$ 7,436	\$ 14,076

2020 Restructuring Initiative

In 2020, the Company implemented a restructuring plan to eliminate certain positions and redundant facilities primarily in connection with the ECI Merger to further streamline the Company's global footprint and improve its operations (the "2020 Restructuring Initiative"). The 2020 Restructuring Initiative includes facility consolidations and a reduction in workforce, including three former executives of ECI for whom severance aggregating \$1.1 million was recorded in the three months ended March 31, 2020. In connection with this initiative, the Company expects to eliminate duplicate functions arising from the ECI Merger and support its efforts to integrate the two companies.

The Company recorded restructuring and related expense of \$4.7 million and \$5.8 million in connection with the 2020 Restructuring Initiative in the three and six months ended June 30, 2020, respectively, for severance and related costs for approximately 75 employees, including three former executives of ECI (the "former executives"). The amount recorded in the three months ended March 31, 2020 represents severance and related costs for the former executives. The Company expects these amounts will be fully paid in 2021. The Company expects that it will record additional restructuring and related expense approximating \$5 million under the 2020 Restructuring Initiative in the aggregate for severance and planned facility consolidations. A summary of the 2020 Restructuring Initiative accrual activity for severance and related costs for the six months ended June 30, 2020 is as follows (in thousands):

	Balance at January 1, 2020	Initiatives charged to expense	Cash payments	Balance at June 30, 2020
Severance	\$ —	\$ 5,823	\$ (266)	\$ 5,557

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 "2019 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

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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 2019 Facilities Initiative will be completed by the end of 2020.

In connection with the 2019 Restructuring Initiative, the Company recorded restructuring and related expense of \$0.7 million and \$1.7 million in the three and six months ended June 30, 2020, respectively, and \$5.8 million in both the three and six months ended June 30, 2019. The amount recorded in the three months ended June 30, 2020 was primarily related to facility consolidations. The amount recorded in the six months ended June 30, 2020 was comprised of \$0.7 million for severance and related costs for five employees and \$1.0 million related to facility consolidations. The amount recorded in the three and six months ended June 30, 2019 was for severance and related costs for approximately 110 employees. The Company expects to record nominal additional restructuring and related expense, if any, 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 six months ended June 30, 2020 is as follows (in thousands):

	Balance at January 1, 2020	Initiatives charged to expense	Adjustments for changes in estimate	Reclassify accelerated amortization to operating lease liabilities	Cash payments	Balance at June 30, 2020
Severance	\$ 2,110	\$ 722	\$ —	\$ —	\$ (1,876)	\$ 956
Facilities	991	971	(22)	(70)	(674)	1,196
	<u>\$ 3,101</u>	<u>\$ 1,693</u>	<u>\$ (22)</u>	<u>\$ (70)</u>	<u>\$ (2,550)</u>	<u>\$ 2,152</u>

Accelerated Rent Amortization

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 accelerated rent amortization recorded in connection with the Facilities Initiative reduced the value of the Company's Operating lease right-of-use assets recorded in the Company's condensed consolidated balance sheets at June 30, 2020 and December 31, 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 17). The Company may incur additional future expense if it is unable to sublease other locations included in its restructuring initiatives.

GENBAND Merger Restructuring Initiative

In connection with the merger in 2017 between Sonus Networks, Inc. and GENBAND (the "GENBAND 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 "GENBAND Merger Restructuring Initiative"). The Company recorded a credit to restructuring and related expense of \$0.1 million in both the three and six months ended June 30, 2020, representing a change in estimate to the total severance and related costs required to complete the activities under this initiative. In connection with this initiative, the Company recorded restructuring expense of \$5.2 million in the six months ended June 30, 2019, comprised of \$0.3 million in the three months ended June 30, 2019 and \$4.9 million in the three months ended March 31, 2019, virtually all of which was for severance and related costs for approximately 40 employees. As of June 30, 2020, the GENBAND Merger Restructuring Initiative was complete.

A summary of the GENBAND Merger Restructuring Initiative accrual activity for the six months ended June 30, 2020 is as follows (in thousands):

	Balance at January 1, 2020	Adjustments for changes in estimate	Cash payments	Balance at June 30, 2020
Severance	\$ 409	\$ (58)	\$ (351)	\$ —

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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 \$0.8 million at June 30, 2020 and \$0.9 million at December 31, 2019.

(8) WARRANTY ACCRUALS

The changes in the Company's accrual balance in the six months ended June 30, 2020 were as follows (in thousands):

Balance at January 1, 2020	\$	—
Assumed liability in connection with ECI Merger		15,706
Current period provisions		1,829
Settlements		(2,444)
Balance at June 30, 2020	\$	<u>15,091</u>

Of the amount recorded at June 30, 2020, \$6.4 million was current and included as a component of Accrued expenses and other and \$8.7 million was long-term and included as a component of Other long-term liabilities in the Company's condensed consolidated balance sheet. The Company did not have a warranty accrual during the six months ended June 30, 2019.

(9) DEBT

2019 Credit Facility

On April 29, 2019, the Company entered into a syndicated, amended and restated Credit Facility (the "2019 Credit Facility"). The 2019 Credit Facility provided 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 2019 Credit Facility also included 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 2019 Credit Facility. The 2019 Credit Facility was scheduled to mature in April 2024. At December 31, 2019, the Company had an outstanding term loan debt balance of \$48.8 million and an outstanding revolving line of credit balance of \$8 million with a combined average interest rate of 3.30%, and \$5.4 million of outstanding letters of credit at an interest rate of 1.50%.

The indebtedness and other obligations under the 2019 Credit Facility were 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 2019 Credit Facility was secured by first-priority liens on substantially all of the assets of the Borrower and the Guarantors, including the Company.

The 2019 Credit Facility required periodic interest payments on any outstanding borrowings under the facility. The Borrower could prepay all revolving loans under the 2019 Credit Facility at any time without premium or penalty (other than customary LIBOR breakage costs), subject to certain notice requirements.

Revolving loans under the 2019 Credit Facility bore 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 varied depending on the Company's consolidated leverage ratio (as defined in the 2019 Credit Facility). The base rate and the LIBOR rate were each subject to a zero percent floor.

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The 2019 Credit Facility required 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 were defined in the 2019 Credit Facility and tested on a quarterly basis. The Company was in compliance with all covenants of the 2019 Credit Facility at December 31, 2019.

In addition, the 2019 Credit Facility contained various covenants that, among other restrictions, limited 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 2019 Credit Facility contained 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 occurred, all obligations under the 2019 Credit Facility would immediately become due and payable. If any other event of default existed under the 2019 Credit Facility, the lenders could accelerate the maturity of the obligations outstanding under the 2019 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 existed under the New Credit Facility, the lenders could commence foreclosure or other actions against the collateral.

If any default existed under the 2019 Credit Facility, or if the Borrower was unable to make any of the representations and warranties as stated in the 2019 Credit Facility at the applicable time, the Borrower would be unable to borrow funds or have letters of credit issued under the 2019 Credit Facility, which, depending on the circumstances prevailing at that time, could have had a material adverse effect on the Borrower's liquidity and working capital.

2020 Credit Facility

On March 3, 2020, the Company entered into a Senior Secured Credit Facilities Credit Agreement (the "2020 Credit Agreement"), by and among the Company, as a guarantor, Ribbon Communications Operating Company, Inc., as the borrower ("Borrower"), Citizens Bank, N.A., as administrative agent, a lender, issuing lender, swingline lender, joint lead arranger and bookrunner, Santander Bank, N.A., as a lender, joint lead arranger and bookrunner, and the other lenders party thereto (each, together with Citizens Bank, N.A. and Santander Bank, N.A., referred to individually as a "Lender", and collectively, the "Lenders"). The proceeds of the Credit Agreement were used, in part, to pay off in full all obligations of the Company under the 2019 Credit Facility.

The 2020 Credit Agreement provides for \$500 million of commitments from the lenders to the Borrower, comprised of a \$400 million term loan (the "2020 Term Loan Facility") and a \$100 million facility available for revolving loans (the "2020 Revolving Credit Facility" and together with the 2020 Term Loan Facility, the "2020 Credit Facility"). Under the 2020 Revolving Credit Facility, a \$30 million sublimit is available for letters of credit and a \$20 million sublimit is available for swingline loans. The 2020 Credit Facility is scheduled to mature in March 2025. Under the 2020 Credit Agreement, the Company is required to make quarterly principal payments aggregating \$10 million in the first year, \$20 million per year for the following three years, and \$30 million in the last year, with a \$300 million final payment due on the maturity date. The 2020 Credit Agreement includes procedures for additional financial institutions to become lenders thereunder, or for any existing lender to fund one or more new tranches of term loans, or increase its commitment under the 2020 Term Loan Facility or the 2020 Revolving Credit Facility, subject, in each case, to an aggregate dollar limit equal to 100% of the Company's Consolidated Adjusted EBITDA (as defined in the 2020 Credit Agreement) as of the most recently ended quarter for which financial statements have been delivered to the lenders, plus additional amounts, so long as the Borrower's Consolidated Net Leverage Ratio (as defined in the 2020 Credit Agreement) does not exceed 2.75:1.00.

The indebtedness and other obligations under the 2020 Credit Facility are unconditionally guaranteed on a senior secured basis by the Company, Edgewater Networks, Inc., a wholly-owned subsidiary of the Company, and Genband Inc., a wholly-owned subsidiary of the Company (together, the "Guarantors"). The 2020 Credit Facility is secured by first-priority liens on substantially all of the assets of the Borrower and the Guarantors, including substantially all of the assets of the Company.

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The 2020 Credit Agreement requires periodic interest payments until maturity. The Borrower may prepay all loans under the 2020 Credit Agreement at any time without premium or penalty (other than customary LIBOR breakage costs), subject to certain notice requirements.

Loans incurred under the 2020 Credit Facility bear interest at the Borrower's option at either the LIBOR rate plus a margin ranging from 1.50% to 3.50% per year, or the base rate (the highest of the Federal Funds Effective Rate (as defined in the Credit Agreement) plus 0.5%, or the prime rate announced from time to time in The Wall Street Journal) plus a margin ranging from 0.50% to 2.50% per year (the "Applicable Margin"). The Applicable Margin varies depending on the Company's Consolidated Net Leverage Ratio (as defined in the 2020 Credit Agreement). The base rate and the LIBOR rate are each subject to a zero percent floor.

The 2020 Credit Agreement requires compliance with certain financial covenants, including a minimum Consolidated Fixed Charge Coverage Ratio and a maximum Consolidated Net Leverage Ratio (each as defined in the 2020 Credit Agreement, and each tested on a quarterly basis). The Company was in compliance with all covenants of the 2020 Credit Agreement at June 30, 2020.

In addition, the 2020 Credit Agreement contains various covenants that, among other restrictions, limit the Company's and its subsidiaries' ability to incur or assume indebtedness; grant or assume liens; make acquisitions or engage in mergers; sell, transfer, assign or convey assets; repurchase equity and make dividend and certain other restricted payments; make investments; engage in transactions with affiliates; enter into sale and leaseback transactions; enter into burdensome agreements; change the nature of its business; modify their organizational documents; and amend or make prepayments on certain junior debt.

The 2020 Credit Agreement 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 the Company or any of its subsidiaries occurs, all obligations under the 2020 Credit Agreement will immediately become due and payable. If any other event of default exists under the 2020 Credit Agreement, the lenders may accelerate the maturity of the obligations outstanding under the Credit Agreement 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 2020 Credit Agreement, the lenders may commence foreclosure or other actions against the collateral.

At June 30, 2020, the Company had an outstanding 2020 Term Loan Facility balance of \$397.5 million at an average interest rate of 3.9%. The 2020 Revolving Credit Facility did not have an outstanding balance but had \$5.2 million of letters of credit outstanding with an interest rate of 3.0%.

Short-Term Loans

The Company had two outstanding uncommitted and unsecured short-term loans aggregating \$2.4 million which it uses for financing exports in China, one with China Zheshang Bank and one with Bank of Communications Hangzhou Branch. These short term loans were all entered into in March 2020 and expired in July 2020. At June 30, 2020, these short-term loans had a weighted average interest rate of 4.27%. Both of these loans were repaid in July 2020, and we re-entered into one of them, in the amount of \$0.7 million, on July 17, 2020.

Letters of Credit and Performance and Bid Bonds

The Company uses letters of credit, performance and bid bonds in the course of its business. As of June 30, 2020, the Company had \$33.2 million of letters of credit, bank guarantees, performance and bid bonds outstanding (collectively, "Guarantees"), comprised of the \$5.2 million of letters of credit under the 2020 Credit Agreement described above, and \$28.0 million of Guarantees under various uncommitted facilities. At June 30, 2020, the Company had cash collateral of \$4.4 million supporting the Guarantees under its uncommitted facilities, which is included in Restricted cash in the condensed consolidated balance sheet at June 30, 2020.

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(10) DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

The Company is exposed to financial market risk related to foreign currency fluctuations and changes in interest rates. These exposures are actively monitored by management. To manage the volatility related to the exposure to changes in interest rates, the Company has entered into a derivative financial instrument. Management's objective is to reduce, where it is deemed appropriate to do so, fluctuations in earnings and cash flows associated with changes in interest rates. Ribbon's policies and practices are to use derivative financial instruments only to the extent necessary to manage exposures. Ribbon does not hold or issue derivative financial instruments for trading or speculative purposes.

The Company records derivatives on the balance sheet at fair value. The accounting for changes in the fair value of derivatives depends on the intended use of the derivative, whether the Company has elected to designate a derivative in a hedging relationship and apply hedge accounting and whether the hedging relationship has satisfied the criteria necessary to apply hedge accounting. Derivatives designated and qualifying as a hedge of the exposure to changes in the fair value of an asset, liability, or firm commitment attributable to a specific risk, such as interest rate risk, are considered fair value hedges. Derivatives designated and qualifying as a hedge of the exposure to variability in expected future cash flows, or other types of forecasted transactions, are considered cash flow hedges. Derivatives may also be designated as hedges of the foreign currency exposure of a net investment in a foreign operation. Hedge accounting generally provides for the matching of the timing of gain or loss recognition on the hedging instrument with the recognition of the changes in the fair value of the hedged asset or liability that are attributable to the hedged risk in a fair value hedge, or the earnings effect of the hedged forecasted transactions in a cash flow hedge. The Company may enter into derivative contracts that are intended to economically hedge certain of its risk even though hedge accounting does not apply or the Company elects not to apply hedge accounting.

Cash Flow Hedge of Interest Rate Risk

The 2020 Credit Facility is comprised of the 2020 Term Loan Facility and the 2020 Revolving Credit Facility. The 2020 Term Loan Facility had an outstanding balance of \$397.5 million at June 30, 2020. The 2020 Revolving Credit Facility was undrawn at June 30, 2020. The 2020 Credit Facility has variable interest rates based on LIBOR (see Note 9). As a result of exposure to interest rate movements, during March 2020, the Company entered into an interest rate swap arrangement, which effectively converted its \$400 million term loan with its variable-rate interest based upon one-month LIBOR to an aggregate fixed rate of 0.904%, plus a leverage-based margin as defined in the 2020 Credit Facility. The notional amount of this swap at June 30, 2020 was \$400 million, and the Swap matures on March 3, 2025, the same date the 2020 Credit Facility matures.

The Company's objectives in using interest rate derivatives are to add stability to interest expense and to manage its exposure to interest rate movements. To accomplish this objective, the Company is using an interest rate swap as part of its interest rate risk management strategy. Interest rate swaps designated as cash flow hedges involve the receipt of variable amounts from a counterparty in exchange for the Company making fixed-rate payments over the life of the agreements without exchange of the underlying notional amount.

The effective portion of changes in the fair value of designated derivatives that qualify as cash flow hedges is recorded in accumulated other comprehensive (loss) income in the condensed consolidated balance sheet and is subsequently reclassified into earnings in the period that the hedged forecasted transactions affect earnings. During the three and six months ended June 30, 2020, such a derivative was used to hedge the variable cash flows associated with the 2020 Credit Facility and the Company has accounted for this derivative as an effective hedge. Any ineffective portion of the change in the fair value of the derivative would be recognized directly in earnings.

Amounts reported in accumulated other comprehensive (loss) income related to the Company's derivative will be reclassified to interest expense as interest is accrued on the Company's variable-rate debt. Based upon projected forward rates, the Company estimates as of June 30, 2020 that \$3.1 million may be reclassified as an increase to interest expense over the next twelve months.

The impact of the Company's derivative financial instrument on its condensed consolidated statement of comprehensive income (loss) for the three and six months ended June 30, 2020 was as follows (in thousands):

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	Three months ended June 30, 2020	Six months ended June 30, 2020
Loss recognized in other comprehensive loss on derivative (effective portion)	\$ (4,320)	\$ (13,657)
Amount reclassified from accumulated other comprehensive loss to interest expense (effective portion)	\$ 350	\$ 160

The fair values and locations in the condensed consolidated balance sheet at June 30, 2020 of the Company's derivative liability designated as a hedging instrument were as follows (in thousands):

	<u>Balance sheet location</u>	
Interest rate derivative - liability derivative	Accrued expenses and other	\$ 3,045
Interest rate derivative - liability derivative	Other long-term liabilities	\$ 10,452

The Company has classified the interest rate derivative aggregating \$13.5 million at June 30, 2020 as a Level 2 within the fair value hierarchy (see Note 1).

(11) REVENUE RECOGNITION

The Company accounts for revenue in accordance with ASC 606, *Revenue from Contracts with Customers* ("ASC 606"), 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.

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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 typically allow and has no history of accepting material 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.

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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 six months ended June 30, 2020 and 2019 was disaggregated as follows:

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Three months ended June 30, 2020	Product revenue	Service revenue (maintenance)	Service revenue (professional services)	Total revenue
United States	\$ 57,112	\$ 33,651	\$ 10,844	\$ 101,607
Europe, Middle East and Africa	35,801	19,512	4,772	60,085
Asia Pacific	21,854	7,023	3,956	32,833
Other	6,095	8,437	1,436	15,968
	<u>\$ 120,862</u>	<u>\$ 68,623</u>	<u>\$ 21,008</u>	<u>\$ 210,493</u>

Three months ended June 30, 2019	Product revenue	Service revenue (maintenance)	Service revenue (professional services)	Total revenue
United States	\$ 41,378	\$ 33,785	\$ 9,463	\$ 84,626
Europe, Middle East and Africa	18,411	9,394	3,215	31,020
Asia Pacific	9,064	6,573	2,097	17,734
Other	3,206	7,389	1,446	12,041
	<u>\$ 72,059</u>	<u>\$ 57,141</u>	<u>\$ 16,221</u>	<u>\$ 145,421</u>

Six months ended June 30, 2020	Product revenue	Service revenue (maintenance)	Service revenue (professional services)	Total revenue
United States	\$ 93,477	\$ 65,117	\$ 21,410	\$ 180,004
Europe, Middle East and Africa	56,166	34,322	8,787	99,275
Asia Pacific	36,797	14,534	8,834	60,165
Other	10,321	15,718	2,992	29,031
	<u>\$ 196,761</u>	<u>\$ 129,691</u>	<u>\$ 42,023</u>	<u>\$ 368,475</u>

Six months ended June 30, 2019	Product revenue	Service revenue (maintenance)	Service revenue (professional services)	Total revenue
United States	\$ 69,824	\$ 66,572	\$ 16,806	\$ 153,202
Europe, Middle East and Africa	24,869	20,117	6,064	51,050
Asia Pacific	17,700	13,149	4,528	35,377
Other	7,146	14,292	3,282	24,720
	<u>\$ 119,539</u>	<u>\$ 114,130</u>	<u>\$ 30,680</u>	<u>\$ 264,349</u>

The Company's product revenue from indirect sales through its channel partner program and from its direct sales program for the three and six months ended June 30, 2020 and 2019 was as follows (in thousands):

	Three months ended		Six months ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Indirect sales through channel partner program	\$ 32,649	\$ 28,669	\$ 61,253	\$ 47,843
Direct sales	88,213	43,390	135,508	71,696
	<u>\$ 120,862</u>	<u>\$ 72,059</u>	<u>\$ 196,761</u>	<u>\$ 119,539</u>

The Company's product revenue from sales to enterprise customers and from sales to service provider customers for the three and six months ended June 30, 2020 and 2019 was as follows (in thousands):

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	Three months ended		Six months ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Sales to enterprise customers	\$ 35,950	\$ 15,082	\$ 63,231	\$ 29,837
Sales to service provider customers	84,912	56,977	133,530	89,702
	<u>\$ 120,862</u>	<u>\$ 72,059</u>	<u>\$ 196,761</u>	<u>\$ 119,539</u>

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 six months ended June 30, 2020 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 six months ended June 30, 2020 were as follows (in thousands):

	Accounts receivable	Unbilled accounts receivable	Deferred revenue (current)	Deferred revenue (long- term)
Balance at January 1, 2020	\$ 168,502	\$ 24,204	\$ 100,406	\$ 20,482
Increase (decrease), net	(5,221)	17,116	5,288	3,362
Balance at June 30, 2020	<u>\$ 163,281</u>	<u>41,320</u>	<u>\$ 105,694</u>	<u>\$ 23,844</u>

The Company recognized approximately \$69 million of revenue in the six months ended June 30, 2020 that was recorded as deferred revenue at December 31, 2019 and approximately \$63 million of revenue in the six months ended June 30, 2019 that was recorded as deferred revenue at December 31, 2018. Of the Company's deferred revenue reported as long-term in its condensed consolidated balance sheet at June 30, 2020, the Company expects that approximately \$8 million will be recognized as revenue in 2021, approximately \$9 million will be recognized as revenue in 2022 and approximately \$7 million will be recognized as revenue in 2023 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. The current and long-

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term portions of deferred commission expense are included as components of Other current assets and Other assets, respectively. At both June 30, 2020 and December 31, 2019, the Company had \$3.6 million of deferred sales commissions capitalized.

(12) 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 six months ended June 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. The Company did not repurchase any stock during the six months ended June 30, 2020. At June 30, 2020, the Company had \$70.5 million remaining under the Repurchase Program for future repurchases.

(13) STOCK-BASED COMPENSATION PLANS

2019 Stock Incentive Plan

The Company's Amended and Restated 2019 Incentive Award Plan (the "2019 Plan") provides for the award 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 provided for the award of stock options, SARs, RSAs, PSAs, RSUs, PSUs and other stock-based awards to employees, officers, non-employee directors, 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.

Assumed Stock Plans

In connection with the acquisition of Edgewater Networks, Inc. in August 2018, 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") which are vesting under the same schedules as the respective Edgewater Options.

In connection with the Company's acquisitions of Performance Technologies Inc. ("PT") in 2014, and Network Equipment Technologies, Inc. ("NET") in 2012, the Company assumed their stock plans (collectively, the "Assumed Plans"). Any outstanding awards under the Assumed Plans that in the future expire, terminate, are cancelled or surrendered, or are repurchased by the Company will be returned to the 2019 Plan. Accordingly, no additional shares may be granted under the Assumed Plans.

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Executive Equity Arrangements

Inducement Awards

In connection with his appointment as President and Chief Executive Office of Ribbon, and as an inducement for Bruce McClelland's ("Mr. McClelland") commencement of employment, the Company awarded Mr. McClelland sign-on equity grants, comprised of an RSU grant and a PSU grant with both market and service conditions (the "Inducement PSUs") on March 16, 2020. Subject to Mr. McClelland's continued employment, 462,963 RSUs are eligible to vest on the earlier of March 16, 2021 or the date of the consummation of a change in control of the Company and, upon vesting, will be settled in shares of Ribbon's common stock. The RSUs had a fair market value of \$1.0 million on the date of grant. Subject to Mr. McClelland's continued employment, the PSUs are eligible to vest and be settled in up to 4,750,000 shares of Ribbon common stock upon the achievement of specified share price thresholds on or prior to September 1, 2024. These grants are reported in the applicable tables below.

Other 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, including the Inducement PSUs granted to Mr. McClelland as described above.

2020 PSU Grants. In June 2020, the Company granted certain of its executives an aggregate of 623,575 PSUs, of which 374,143 PSUs had both performance and service conditions (the "2020 Performance PSUs") and 249,432 had both market and service conditions (the "2020 Market PSUs").

Each executive's 2020 Performance PSU grant is comprised of three consecutive fiscal year performance periods from 2020 through 2022 (each, a "fiscal year performance period"), with one-third of the 2020 Performance PSUs attributable to each fiscal year performance period. The number of shares that will vest, if any, 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"). As of June 30, 2020, the Company determined that the grant date criteria for the 2020 fiscal year performance period had been met, and recorded the applicable stock-based compensation expense. The grant date criteria for the 2021 and 2022 fiscal year performance periods had not been met as of June 30, 2020, and accordingly, no expense has been recorded for the 2020 Performance PSUs underlying these fiscal year performance periods. The number of shares of common stock to be achieved upon vesting of the 2020 Performance PSUs will in no event exceed 200% of the total 2020 Performance PSUs. Shares subject to the 2020 Performance PSUs that fail to be earned will be forfeited.

The 2020 Market PSUs have one three-year performance period which will end on December 31, 2022 (the "20-22 Market Performance Period"). The number of shares subject to the 2020 Market PSUs that will vest, if any, on June 15, 2023, 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 20-22 Market Performance Period, measured by the Compensation Committee after the 20-22 Market Performance Period ends. The shares determined to be earned will vest on June 15, 2023, 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 2020 Market PSUs will in no event exceed 200% of the 2020 Market PSUs. Shares subject to the 2020 Market PSUs that fail to be earned will be forfeited.

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 "2019 Performance PSUs") and 348,829 PSUs had both market and service conditions (the "2019 Market PSUs").

Each executive's 2019 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 2019 Performance PSUs attributable to each fiscal year performance period. The number of shares that will vest, if any, 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 fiscal 2019 goals to reflect the changes to the Company's calculation of certain metrics. There was no

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incremental expense in connection with this modification. In March 2020, the Compensation Committee determined that the 2019 fiscal year performance conditions had been satisfied at the 30.493% level. 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) was measured on a linear sliding scale in relation to specific threshold, target and stretch performance conditions. As of June 30, 2020, the Company determined that the grant date criteria for the 2020 fiscal year performance period had been met, and recorded the applicable stock-based compensation expense. The grant date criteria for the 2021 fiscal year performance period had not been met as of June 30, 2020, and accordingly, no expense has been recorded for the 2019 Performance PSUs underlying the 2020 fiscal year performance period. The number of shares of common stock to be achieved upon vesting of the 2019 Performance PSUs will in no event exceed 200% of the 2019 Performance PSUs. Shares subject to the 2019 Performance PSUs that fail to be earned will be forfeited.

The 2019 Market PSUs have one three-year performance period which will end on December 31, 2021 (the "19-21 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 TSR compared with the TSR of the companies included in the Nasdaq Telecommunications Index for the same 19-21 Market Performance Period, measured by the Compensation Committee after the 19-21 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 2019 Market PSUs will in no event exceed 200% of the 2019 Market PSUs. Shares subject to the 2019 Market PSUs that fail to be earned will be forfeited.

2018 PSU Grant. In May 2018, the Company granted Franklin Hobbs, the Company's former President and Chief Executive Officer ("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. The Compensation Committee determined that the performance metrics for all of the 2018 PSUs had been achieved at the 150% level, for a total of 292,500 shares eligible to be issued. In connection with Mr. Hobbs' separation from the Company effective December 31, 2019, the vesting schedule for the 2018 Shares earned was accelerated and the shares were released on January 30, 2020.

Accounting for Performance PSUs. Once the grant date criteria have been met for a Fiscal Year Performance Period, the Company records stock-based compensation expense for the respective underlying Performance PSUs based on its assessment of the probability that each performance condition will be achieved and the level, if any, of such achievement. The Compensation Committee determines 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 becomes fixed and the unamortized expense is recorded through the remainder of the service period, generally three years from the date of grant, at which time the total Performance PSUs earned, if any, will vest, pending each executive's continued employment with the Company through that date.

Accounting for Market PSUs. 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. At June 30, 2020, the calculation of the grant date fair value of the 2020 Market PSUs had not been completed. The Company used a grant date fair value of \$4.37, the closing stock price on the date of grant, to calculate expense attributable to the three months ended June 30, 2020 for the 2020 Market PSUs. The Company is also using this stock price for 2020 Market PSU activity included in the PSU table below. The Company expects that the Monte Carlo valuation work and finalization of the grant date fair value of the 2020 Market PSUs will occur in the third quarter of 2020. At that time, the Company will record a cumulative adjustment to expense and adjust the grant date fair value of the 2020 Market PSUs for subsequent reporting. The Company does not expect the cumulative adjustment to expense will have a material impact on its consolidated financial statements.

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At March 31, 2020, the calculation of the grant date fair value of the Inducement PSUs had not been completed. The Company used a grant date fair value of \$2.16, the closing stock price on the date of grant, to calculate expense attributable to the three months ended March 31, 2020 for the Inducement PSUs. During the second quarter of 2020, the Monte Carlo valuation of the Inducement PSUs was completed and accordingly, the grant date fair value of the Inducement PSUs was finalized as of June 30, 2020. The Company recorded a cumulative adjustment to expense to account for the change in fair value of the Inducement PSUs, which adjustment did not have a material impact on its consolidated financial statements.

Stock Options

The activity related to the Company's outstanding stock options for the six months ended June 30, 2020 was as follows:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value (in thousands)
Outstanding at January 1, 2020	297,124	\$ 11.55		
Granted	—	\$ —		
Exercised	(13,202)	\$ 1.79		
Forfeited	(5,788)	\$ 2.82		
Expired	(10,494)	\$ 17.80		
Outstanding at June 30, 2020	<u>267,640</u>	\$ 11.97	4.27	\$ 172
Vested or expected to vest at June 30, 2020	<u>266,771</u>	\$ 12.01	3.86	\$ 171
Exercisable at June 30, 2020	251,837	\$ 12.60	4.08	\$ 141

Additional information regarding the Company's stock options for the six months ended June 30, 2020 was as follows (in thousands):

	Three months ended June 30, 2020	Six months ended June 30, 2020
Weighted average grant date fair value of stock options granted		
Total intrinsic value of stock options exercised	\$ 24	\$ 29
Cash received from the exercise of stock options	\$ 18	\$ 23

Restricted Stock Awards and Units

The activity related to the Company's RSAs for the six months ended June 30, 2020 was as follows:

	Shares	Weighted Average Grant Date Fair Value
Unvested balance at January 1, 2020	487,976	\$ 6.87
Granted	—	\$ —
Vested	(190,554)	\$ 6.88
Forfeited	(4,499)	\$ 7.04
Unvested balance at June 30, 2020	<u>292,923</u>	\$ 6.87

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The activity related to the Company's RSUs for the six months ended June 30, 2020 was as follows:

	Shares	Weighted Average Grant Date Fair Value
Unvested balance at January 1, 2020	2,790,060	\$ 5.11
Granted	6,087,775	\$ 2.85
Vested	(1,326,998)	\$ 4.77
Forfeited	(280,848)	\$ 4.66
Unvested balance at June 30, 2020	<u>7,269,989</u>	<u>\$ 3.30</u>

The total grant date fair value of shares of restricted stock granted under RSAs and RSUs that vested during the six months ended June 30, 2020 was \$7.6 million.

Performance-Based Stock Units

The activity related to the Company's PSUs for the six months ended June 30, 2020 was as follows:

	Shares	Weighted Average Grant Date Fair Value
Unvested balance at January 1, 2020	1,067,073	\$ 5.94
Granted	5,471,075	\$ 1.08
Vested	(315,866)	\$ 5.53
Forfeited	(359,777)	\$ 5.22
Unvested balance at June 30, 2020	<u>5,862,505</u>	<u>\$ 1.40</u>

The total grant date fair value of shares of restricted stock granted under PSUs that vested during the six months ended June 30, 2020 was \$1.7 million.

Employee Stock Purchase Plan

The Company's Amended and Restated 2000 Employee Stock Purchase Plan ("ESPP") was 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 provided 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 could purchase during each offering period was 500, subject to certain adjustments pursuant to the ESPP. The last purchase under the ESPP purchase period was made on November 28, 2019, and the ESPP expired on May 20, 2020.

Stock-Based Compensation

The condensed consolidated statements of operations include stock-based compensation for the three and six months ended June 30, 2020 and 2019 as follows (in thousands):

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	Three months ended		Six months ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Product cost of revenue	\$ 39	\$ 22	\$ 66	\$ 36
Service cost of revenue	159	151	289	243
Research and development	738	331	1,296	838
Sales and marketing	1,011	560	1,763	1,544
General and administrative	1,275	466	2,784	3,008
	<u>\$ 3,222</u>	<u>\$ 1,530</u>	<u>\$ 6,198</u>	<u>\$ 5,669</u>

There was no income tax benefit for employee stock-based compensation expense for the six months ended June 30, 2020 or 2019 due to the valuation allowance recorded.

At June 30, 2020, there was \$24.1 million, net of expected forfeitures, of unrecognized stock-based compensation expense related to unvested stock options, stock awards and stock units. This expense is expected to be recognized over a weighted average period of approximately three years.

(14) MAJOR CUSTOMERS

The following customer contributed 10% or more of the Company's revenue in the three and six months ended June 30, 2020 and 2019:

	Three months ended		Six months ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Verizon Communications Inc.	15%	19%	14%	17%

At June 30, 2020, there were two customers that each accounted for 10% or more of the Company's accounts receivable balance, representing approximately 26% in the aggregate of total accounts receivable. At December 31, 2019, one customer accounted for 10% or more of the Company's accounts receivable balance, representing approximately 22% of total accounts receivable. The Company performs ongoing credit evaluations of its customers and generally does not require collateral on accounts receivable, although in some instances the Company may require letters of credit to support customer outstanding accounts receivable balances. The Company maintains an allowance for doubtful accounts and such losses have been within management's expectations.

(15) RELATED PARTY TRANSACTIONS

As a portion of the consideration for the GENBAND 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 GENBAND 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. 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.

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(16) INCOME TAXES

The Company's income tax provisions for the six months ended June 30, 2020 and 2019 reflect 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 tax rate includes the impact of valuation allowances in various jurisdictions.

The Company continues to evaluate the impact of various COVID-19 relief packages offered by various countries, including the Coronavirus Aid, Relief, and Economic Security ("CARES") Act, which was enacted into law on March 27, 2020. At this time, the Company does not anticipate any material tax impacts.

(17) 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 sheets. Assets acquired under finance leases are included in Property and equipment, net, in the condensed consolidated balance sheets.

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 the Company's existing leases do not have a readily determinable implicit rate, the Company 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 June 30, 2020 and December 31, 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 first quarter of 2020 and 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 \$0.1 million in the six months ended June 30, 2020. The Company did not

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record additional amortization expense in the three months ended June 30, 2020. The Company previously recorded \$3.7 million of additional amortization expense in the year ended December 31, 2019, including \$2.9 million recorded in both the three and six months ended June 30, 2019. The Company did not record expense for estimated future variable lease costs in the three and six months ended June 30, 2020 and 2019. The Company recorded \$0.9 million in the aggregate in the year ended December 31, 2019 for estimated future variable lease costs. All of these amounts were recorded as Restructuring and related expense in the Company's condensed consolidated statements of operations. At June 30, 2020 and December 31, 2019, the Company had accruals of \$0.8 million and \$0.9 million, respectively, for all future anticipated variable lease costs related to these facilities. 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 under a lease that expires in August 2028. The Company's finance leases primarily consist of equipment.

At June 30, 2020, the Company had 107,800 square feet of building space in North Dallas, Texas under construction as part of the Facilities Initiative. The Company's leased Plano, Texas facility will be vacated upon completion of the construction of the North Dallas, Texas site. At that time, employees will relocate to the new site as part of the Facilities Initiative. The construction of the new North Dallas, Texas site is expected to be completed in 2020.

The Company's right-of-use lease assets and lease liabilities at June 30, 2020 and December 31, 2019 were as follows (in thousands):

	Classification	June 30, 2020	December 31, 2019
Assets			
Operating lease assets	Operating lease right-of-use assets	\$ 63,938	\$ 36,654
Finance lease assets*	Property and equipment, net	1,775	2,420
Total leased assets		\$ 65,713	\$ 39,074
Liabilities			
Current			
Operating	Operating lease liabilities	\$ 18,300	\$ 7,719
Finance	Accrued expenses and other	1,333	1,005
Noncurrent			
Operating	Operating lease liabilities, net of current	53,122	37,202
Finance	Other long-term liabilities	1,152	2,144
Total lease liabilities		\$ 73,907	\$ 48,070

* Finance lease assets were recorded net of accumulated depreciation of \$2.6 million and \$2.0 million at June 30, 2020 and December 31, 2019, respectively.

The components of lease expense for the three and six months ended June 30, 2020 and 2019 were as follows (in thousands):

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	Three months ended		Six months ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Operating lease cost*	\$ 5,217	\$ 5,633	\$ 8,561	\$ 8,075
Finance lease cost				
Amortization of leased assets	319	244	638	488
Interest on lease liabilities	47	57	102	120
Short-term lease cost	5,629	4,734	11,124	9,405
Variable lease costs (costs excluded from minimum fixed lease payments)	635	604	1,272	1,206
Sublease income	(320)	—	(564)	—
Net lease cost	\$ 11,527	\$ 11,272	\$ 21,133	\$ 19,294

* Operating lease cost for the six months ended June 30, 2020 included \$0.1 million of accelerated amortization for certain assets partially or fully vacated in 2020 with no intent or ability to sublease. The Company did not record accelerated amortization in the three months ended June 30, 2020. Operating lease cost for both the three and six months ended June 30, 2019 included \$2.9 million of accelerated amortization for certain assets that were partially or fully vacated in 2019 with no possibility of sublease.

Cash flow information related to the Company's leases for the six months ended June 30, 2020 and 2019 was as follows (in thousands):

	Six months ended	
	June 30, 2020	June 30, 2019
Cash paid for amounts included in the measurement of lease liabilities		
Operating cash flows for operating leases	\$ 7,844	\$ 5,187
Operating cash flows for finance leases	\$ 102	\$ 120
Financing cash flows for finance leases	\$ 668	\$ 500

Other information related to the Company's leases as of June 30, 2020 and December 31, 2019 was as follows:

	June 30, 2020	December 31, 2019
Weighted average remaining lease term (years)		
Operating leases	5.12	6.73
Finance leases	2.04	2.35
Weighted average discount rate		
Operating leases	5.52 %	6.50 %
Finance leases	7.22 %	7.54 %

Future minimum fixed lease payments under noncancelable leases at June 30, 2020 and December 31, 2019 were as follows (in thousands):

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	June 30, 2020	
	Operating leases	Finance leases
Remainder of 2020	\$ 11,050	\$ 788
2021	19,699	1,191
2022	16,017	591
2023	13,207	72
2024	6,737	—
2025 and beyond	16,380	—
Total lease payments	83,090	2,642
Less: interest	(11,668)	(157)
Present value of lease liabilities	\$ 71,422	\$ 2,485

	December 31, 2019	
	Operating leases	Finance leases
2020	\$ 10,290	\$ 1,644
2021	9,468	1,159
2022	7,665	581
2023	7,067	—
2024	5,303	—
2025 and beyond	15,738	—
Total lease payments	55,531	3,384
Less: interest	(10,610)	(235)
Present value of lease liabilities	\$ 44,921	\$ 3,149

(18) COMMITMENTS AND CONTINGENCIES

Litigation Settlement

As previously disclosed, the Company was involved in six lawsuits (together, the "Lawsuits") with Metaswitch Networks Ltd., Metaswitch Networks Corp. and Metaswitch Inc. (collectively, "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 agreed to pay the Company 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, 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 \$9.5 million in the second quarter of 2020.

On July 6, 2020, the Company and Metaswitch signed a First Supplemental Agreement to the Settlement and Cross-License Agreement (the "Supplemental Agreement") under which Metaswitch could elect to repay the outstanding amounts under the Royalty Agreement early in exchange for a reduction of \$0.25 million to the outstanding principal, from \$17.0 million to \$16.75 million, and the payment of no further interest by Metaswitch effective June 26, 2020. The Company recorded the reduction to the outstanding principal as a reduction to interest income. At June 30, 2020, the outstanding notes receivable

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balance of \$16.75 million was included as a component of Other current assets in the condensed consolidated balance sheet. At December 31, 2019, the Company had 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. On July 14, 2020, Metaswitch paid the Company the remaining outstanding balance of \$16.75 million.

Contingencies

Liabilities for Royalty Payments to the IIA. Prior to the ECI Merger, ECI had received research and development grants from the IIA. The Company assumed ECI's contract with the IIA, which requires the Company to pay royalties to the IIA on proceeds from the sale of products which the Israeli government has supported by way of research and development grants. The royalties for grants prior to 2017 were calculated at the rates of 1.3% to 5.0% of the aggregated proceeds from the sale of such products developed at certain of the Company's R&D centers, up to an amount not exceeding 100% of such grants plus interest at LIBOR. Effective for grants approved in 2017 and subsequently, interest was calculated at the higher of LIBOR plus 1.5% to 2.75%. At June 30, 2020, the Company's maximum possible future royalties commitment, including \$9.3 million of unpaid royalties accrued at June 30, 2020, was \$56.2 million, including interest of \$2.4 million, based on estimates of future product sales, grants received from the IIA and not yet repaid, and management's estimation of products still to be sold.

Litigation. 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. There was an oral argument on the motion to dismiss on February 12, 2020.

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.

(19) SUBSEQUENT EVENT

On August 5, 2020, the Company announced that it has entered into a definitive agreement (the "Kandy Agreement") with American Virtual Cloud Technologies, Inc. ("AVCTechnologies") to sell the Company's cloud-based enterprise services business (the "Kandy Communications Business"). Under the Kandy Agreement, AVCTechnologies will purchase the assets and assume certain liabilities associated with the Kandy Communications Business, as well as all of the outstanding interests in Kandy Communications LLC, a subsidiary of the Company. The Company will receive 13 million shares of AVCTechnologies common stock, subject to certain adjustments, as consideration for the transaction. The transaction is expected to close in the second half of 2020 and is subject to receipt of the approval of AVCTechnologies' shareholders for the issuance of the shares to the Company, AVCTechnologies' completion of necessary financing, approval of the lenders under the Company's 2020 Credit Facility and other customary closing conditions.

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 for the year ended December 31, 2019, which was filed with the U.S. Securities and Exchange Commission on February 28, 2020.

Overview

We are a leading provider of next generation software solutions to telecommunications, wireless and cable service providers and enterprises of all sizes across industry verticals. With the March 3, 2020 completion of the merger with ECI Telecom Group Ltd ("ECI"), we now also provide optical and packet networking products and software-defined solutions to service providers and critical infrastructure sectors like utilities, government and defense. With over 1,000 customers around the globe, including some of the largest telecommunications service providers, enterprises and utilities in the world, we enable our customers to evolve and modernize their communications networks and packet optical networking infrastructures through software and hardware. By securing and enabling reliable and scalable Internet Protocol ("IP") and packet optical networks, we help our customers adopt the next generation of software-, cloud- and edge-based technologies 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 - and support the increasing demand on network infrastructure created by ongoing IP traffic growth and the projected demand related to increased traffic from 5G applications and devices. We sell our products and solutions through both direct sales and indirect channels, leveraging the reach and local presence of resellers, and provide 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.

Impact of COVID-19 on Our Business

In 2020, a novel strain of the coronavirus (COVID-19) was declared by the World Health Organization to be a global pandemic. The COVID-19 pandemic has had a negative effect on the global economy, disrupting the various manufacturing, commodity and financial markets and increasing volatility, and has impeded global supply chains, including that of our recently acquired subsidiary, ECI. Continued dampened global economic conditions as a result of the COVID-19 pandemic may cause our customers to restrict spending or delay purchases for an indeterminate period of time and consequently cause our revenues to decline. In addition, our ability to deliver our solutions as agreed upon with our customers depends on the ability of our global contract manufacturers, vendors, licensors and other business partners to deliver products or perform services we have procured from them. While, to date, we have not experienced material issues, if the continuing COVID-19 pandemic impairs the ability of our business partners to support us on a timely basis, or negatively impacts the demand for our customers' other products and services, our ability to perform our customer contracts as well as the demand for our solutions may suffer. In addition, disruptions from the COVID-19 pandemic could include, and with respect to ECI have included, disruption of logistics necessary to import, export and deliver our solutions. The COVID-19 pandemic has also limited the ability of our associates to perform their work due to illness caused by the pandemic or local, state or federal orders requiring associates to remain at home. Concerns over the economic impact of the COVID-19 pandemic have also caused extreme volatility in financial and other capital markets which has and may continue to adversely impact our stock price. Such volatility may also adversely impact our ability to access capital markets if and when we would be required to do so. The degree to which the COVID-19 pandemic ultimately impacts our business, financial position and results of operations will depend on future developments beyond our control, including the severity of the pandemic, the frequency and duration of future waves of infection, the extent of actions to contain or treat the virus, how quickly and to what extent normal economic and operating conditions can resume, and the severity and duration of the global economic downturn that results from the pandemic.

As a response to the ongoing COVID-19 pandemic, we have implemented plans to manage our costs. As part of that plan, we have implemented a temporary wage reduction of 10% to 50% applicable to the base salary of most of our employees. We have significantly limited the addition of new employees and third-party contracted services, eliminated all travel except where necessary to meet customer or regulatory needs, and acted to limit discretionary spending. To the extent the business disruption continues for an extended period, additional cost management actions will be considered. Any future asset impairment charges, increases in the allowance for doubtful accounts or restructuring charges could be more likely and will be dependent on the severity and duration of this crisis.

Presentation

The term "organic Ribbon" as used in this Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") refers to the business and/or financial results, as the context dictates, of Ribbon excluding the recently acquired ECI business.

Unless otherwise noted, all financial amounts, excluding tabular information, in this MD&A are rounded to the nearest million dollar amount, and all percentages, excluding tabular information, are rounded to the nearest percentage point.

Business Acquisitions

ECI Telecom Group Ltd

On March 3, 2020 ("ECI Merger Date"), we completed the merger transaction with ECI in accordance with the terms of the Agreement and Plan of Merger, dated as of November 14, 2019, by and among Ribbon, an indirect wholly-owned subsidiary of Ribbon ("Merger Sub"), Ribbon Communications Israel Ltd., ECI, and ECI Holding (Hungary) kft, pursuant to which Merger Sub merged with and into ECI, with ECI surviving such merger as a wholly-owned subsidiary of Ribbon (the "ECI Merger"). Prior to the ECI Merger Date, ECI was a privately-held global provider of end-to-end packet-optical transport and SDN/NFV solutions for service providers, enterprises and data center operators. Ribbon believes the ECI Merger positions the Company for growth and enhances its competitive strengths by expanding its product portfolio beyond solutions primarily supporting voice applications to include data applications and optical networking.

As consideration for the ECI Merger, we issued the ECI shareholders and certain others 32.5 million shares of Ribbon common stock with a fair value of \$108.6 million (the "Stock Consideration") and paid \$322.5 million of cash, comprised of \$183.3 million to repay ECI's outstanding debt, including both principal and interest, and \$139.2 million paid to ECI's selling shareholders (the "Cash Consideration"). In addition, ECI shareholders received \$33.4 million from the sale of certain of ECI's real estate assets. Cash Consideration was financed through cash on hand and committed debt financing consisting of a new \$400 million term loan facility (the "2020 Term Loan") and new \$100 million revolving credit facility (together, the "2020 Credit Facility"), which was undrawn at the ECI Merger Date. The ECI Merger has been accounted for as a business combination and the financial results of ECI have been included in our condensed consolidated financial statements for the periods subsequent to the ECI Merger Date.

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 next generation 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 330,000 shares of our common stock with a fair value of \$1.7 million (the "Deferred Purchase Consideration"), of which 316,551 shares were issued after post-closing adjustments on March 4, 2020. The Deferred Purchase Consideration was included as a component of Accrued expenses and other in our condensed consolidated balance sheet at December 31, 2019. The Anova Acquisition has been accounted for as a business combination and the financial results of Anova have been included in our condensed consolidated financial statements for the periods subsequent to the Anova Acquisition Date.

Financial Overview

Financial Results

We reported income from operations of \$2 million for the three months ended June 30, 2020 and a loss from operations of \$7 million for the three months ended June 30, 2019. We reported losses from operations of \$27 million and \$43 million for the six months ended June 30, 2020 and 2019, respectively.

Our revenue was \$210 million and \$145 million in the three months ended June 30, 2020 and 2019, respectively, and

\$368 million and \$264 million in the six months ended June 30, 2020 and 2019, respectively.

Our gross profit was \$112 million and \$81 million in the three months ended June 30, 2020 and 2019, respectively. Our gross profit as a percentage of revenue ("total gross margin") was 53% and 55% in the three months ended June 30, 2020 and 2019, respectively. Our gross profit was \$194 million and \$137 million in the six months ended June 30, 2020 and 2019, respectively. Our total gross margin was 53% and 52% in the six months ended June 30, 2020 and 2019, respectively.

Our operating expenses were \$111 million and \$88 million in the three months ended June 30, 2020 and 2019, respectively. Operating expenses for the three months ended June 30, 2020 included \$1 million of acquisition- and integration-related expense and \$5 million of restructuring and related expense. Operating expenses for the three months ended June 30, 2019 included \$2 million of acquisition- and integration-related expense and \$9 million of restructuring and related expense.

Our operating expenses were \$221 million and \$181 million in the six months ended June 30, 2020 and 2019, respectively. Operating expenses for the six months ended June 30, 2020 included \$13 million of acquisition- and integration-related expense and \$7 million of restructuring and related expense. Operating expenses for the six months ended June 30, 2019 included \$5 million of acquisition- and integration-related expense and \$14 million of restructuring and related expense.

We recorded stock-based compensation expense of \$3 million and \$2 million in the three months ended June 30, 2020 and 2019, respectively, and \$6 million in both the six months ended June 30, 2020 and 2019. 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 MD&A for a discussion of the changes in our revenue and expenses for the three and six months ended June 30, 2020 compared to the three and six months ended June 30, 2019.

Restructuring and Cost Reduction Initiatives

In 2020, we implemented a restructuring plan to eliminate certain positions and redundant facilities, primarily in connection with the ECI Merger, to further streamline our global footprint and improve our operations (the "2020 Restructuring Initiative"). The 2020 Restructuring Initiative includes facility consolidations and a reduction in workforce. In connection with this initiative, we expect to eliminate duplicate functions arising from the ECI Merger and support our efforts to integrate the two companies. In connection with the 2020 Restructuring Initiative, we recorded restructuring and related expense of \$4.7 million and \$5.8 million in the three and six months ended June 30, 2020, respectively for severance and related costs for approximately 75 employees. The amount recorded in the three months ended March 31, 2020 represents severance for three former executives of ECI. We expect these amounts will be paid by the end of 2020. We expect to record additional restructuring and related expense approximating \$5 million in the aggregate for severance and planned facility consolidations.

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 continue to evaluate our properties included in the Facilities Initiative for accelerated amortization and/or right-of-use asset impairment. We expect that the actions under the Facilities Initiative will be completed by the end of 2020.

In connection with the 2019 Restructuring Initiative, we recorded restructuring and related expense of \$1 million and \$2 million in the three and six months ended June 30, 2020, respectively. The amount recorded in the three-month period was primarily related to restructured facilities. The amount recorded in the six-month period was comprised of \$1 million for severance and related costs for five employees and \$1 million related to facilities. We expect to record nominal additional restructuring and related expense, if any, related to severance and related costs under the 2019 Restructuring Initiative. We recorded restructuring and related expense of \$6 million in both the three and six months ended June 30, 2019 for severance and related costs for approximately 110 employees.

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 \$0.1 million of accelerated rent amortization in the six months ended June 30, 2020 and had previously recorded \$4 million of accelerated

rent amortization in 2019 as components of restructuring and related expense. The accelerated rent amortization recorded in connection with the 2019 Restructuring Initiative reduced our Operating lease right-of-use assets in our condensed consolidated balance sheets at June 30, 2020 and December 31, 2019. We continue to evaluate our properties included in the Facilities Initiative for accelerated amortization and/or right-of-use asset impairment. We may incur additional future expense if we are unable to sublease other locations included in the Facilities Initiative.

In connection with the Sonus-GENBAND merger (the "GENBAND Merger") in 2017, we implemented a restructuring plan in the fourth quarter of 2017 to eliminate certain redundant positions and facilities within the combined companies (the "GENBAND Merger Restructuring Initiative"). We recorded a nominal credit to restructuring and related expense in both the three and six months ended June 30, 2020, representing a change in estimate to the total severance and related costs required to complete the activities under this initiative. In connection with the Merger Restructuring Initiative, we recorded restructuring and related expense of \$5 million in the six months ended June 30, 2019, the majority of which was recorded in the first quarter of 2019. Virtually all of this expense was for severance and related costs for approximately 40 employees. As of June 30, 2020, the GENBAND Merger Restructuring Initiative was complete.

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, warranty accruals, 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. There were no significant changes to our critical accounting policies from December 31, 2019 through June 30, 2020 with the exception of warranty accruals. For a further discussion of our other critical accounting policies and estimates, please refer to our Annual Report on Form 10-K for the year ended December 31, 2019.

Warranty Accruals. We record warranty liabilities for estimated costs of fulfilling our obligations under standard limited hardware and software warranties at the time of sale. The liability for standard warranties is included in Accrued expenses and other and Other non-current liabilities in our condensed consolidated balance sheet at June 30, 2020. The specific warranty terms and conditions vary depending upon the country in which the Company does business, but generally includes material costs, technical support, labor and associated overhead over a period ranging from one to three years. We provide for the estimated costs to fulfill customer warranty obligations for certain of our products upon recognition of the related revenue. Estimated warranty costs include estimates for material costs, technical support, labor and associated overhead. Warranty is included as a component of Cost of revenue in our condensed consolidated statements of operations, and is determined based on actual warranty cost experience, estimates of component failure rates and our management's industry experience. Our sales contracts do not permit the right of return of the product by the customer after the product has been accepted.

Results of Operations

Three and six months ended June 30, 2020 and 2019

Revenue. Revenue for the three and six months ended June 30, 2020 and 2019 was as follows (in thousands, except percentages):

	Three months ended		Increase from prior year	
	June 30, 2020	June 30, 2019	\$	%
Product	\$ 120,862	\$ 72,059	\$ 48,803	67.7 %
Service	89,631	73,362	16,269	22.2 %
Total revenue	\$ 210,493	\$ 145,421	\$ 65,072	44.7 %

	Six months ended		Increase from prior year	
	June 30, 2020	June 30, 2019	\$	%
Product	\$ 196,761	\$ 119,539	\$ 77,222	64.6 %
Service	171,714	144,810	26,904	18.6 %
Total revenue	\$ 368,475	\$ 264,349	\$ 104,126	39.4 %

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 control 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 Analytics 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. In addition, with the recent acquisition of ECI, our revenue includes additional product and software revenue from our end-to-end packet optical transport, SDN and NFV solutions for the period since the ECI Merger Date.

The increase in product revenue in the three months ended June 30, 2020 compared to the three months ended June 30, 2019 was primarily due to the inclusion of \$48 million of product revenue from ECI in the current year quarter. The increase in product revenue in the six months ended June 30, 2020 compared to the six months ended June 30, 2019 was due to the inclusion of \$70 million of product revenue from ECI in the current year-to-date period from the ECI Merger Date, coupled with \$7 million of higher sales of organic Ribbon products, comprised of \$22 million of higher revenue from sales of software licenses and subscriptions, partially offset by \$15 million of lower revenue from software with attached appliances.

Revenue from indirect sales through our channel partner program was approximately 27% and 40% of our product revenue in the three months ended June 30, 2020 and 2019, respectively, and 31% and 40% of our product revenue in the six months ended June 30, 2020 and 2019, respectively.

Our product revenue from sales to enterprise customers was approximately 30% and 21% of our product revenue in the three months ended June 30, 2020 and 2019, respectively and approximately 32% and 25% of our product revenue in the six months ended June 30, 2020 and 2019, 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 both the three and six months ended June 30, 2020 compared to the three and six months ended June 30, 2019 was primarily attributable to the inclusion of revenue from sales of packet optical products for the period since the ECI Merger Date, of which more than half was from sales to enterprises.

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 six months ended June 30, 2020 and 2019 was comprised of the following (in thousands, except percentages):

	Three months ended		Increase from prior year	
	June 30, 2020	June 30, 2019	\$	%
Maintenance	\$ 68,623	\$ 57,141	\$ 11,482	20.1 %
Professional services	21,008	16,221	4,787	29.5 %
	\$ 89,631	\$ 73,362	\$ 16,269	22.2 %

	Six months ended		Increase from prior year	
	June 30, 2020	June 30, 2019	\$	%
Maintenance	\$ 129,691	\$ 114,130	\$ 15,561	13.6 %
Professional services	42,023	30,680	11,343	37.0 %
	<u>\$ 171,714</u>	<u>\$ 144,810</u>	<u>\$ 26,904</u>	<u>18.6 %</u>

The increase in both maintenance revenue and professional services revenue in the three and six months ended June 30, 2020 compared to the three and six months ended June 30, 2019 was primarily due to the inclusion of revenue from ECI since the ECI Merger Date in the current year periods. Maintenance revenue attributable to ECI was \$11 million in the three months ended June 30, 2020 and \$16 million in the six months ended June 30, 2020. Professional services revenue attributable to ECI was \$4 million in the three months ended June 30, 2020 and \$7 million in the six months ended June 30, 2020.

The following customer contributed 10% or more of our revenue in the three and six months ended June 30, 2020 and 2019:

Customer	Three months ended		Six months ended	
	June 30, 2020	June 30, 2019	June 30, 2020	June 30, 2019
Verizon Communications Inc.	15%	19%	14%	17%

Revenue earned from customers domiciled outside the United States was 52% and 42% of revenue in the three months ended June 30, 2020 and 2019, respectively, and 51% and 42% of revenue in the six months ended June 30, 2020 and 2019, 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. In addition, as a result of the ECI Merger, we expect that the domestic and international revenue as a percentage of revenue in future periods will change, as virtually all of ECI's revenue has historically been recognized from customers outside the United States.

Our deferred product revenue was \$10 million and \$5 million at June 30, 2020 and December 31, 2019, respectively. Our deferred service revenue was \$120 million and \$116 million at June 30, 2020 and December 31, 2019, 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 2020 will increase compared to 2019, primarily due to the ECI Merger. At this time, we are unable to determine the full impact the COVID-19 pandemic may have on our total revenue; however, we expect that our total revenue will be lower in 2020 compared to the sum of the respective Ribbon and ECI revenues for the 2019 fiscal year.

Cost of Revenue/Gross Margin. Our cost of revenue consists primarily of amounts paid to third-party manufacturers for purchased materials and services, royalties, inventory valuation adjustments, warranty costs, and manufacturing and services personnel and related costs. Our cost of revenue and gross margins for the three and six months ended June 30, 2020 and 2019 were as follows (in thousands, except percentages):

	Three months ended		Increase from prior year	
	June 30, 2020	June 30, 2019	\$	%
Cost of revenue				
Product	\$ 61,529	\$ 36,433	\$ 25,096	68.9 %
Service	36,647	28,315	8,332	29.4 %
Total cost of revenue	<u>\$ 98,176</u>	<u>\$ 64,748</u>	<u>\$ 33,428</u>	<u>51.6 %</u>
Gross margin				
Product	49.1 %	49.4 %		
Service	59.1 %	61.4 %		
Total gross margin	53.4 %	55.5 %		

	Six months ended		Increase from prior year	
	June 30, 2020	June 30, 2019	\$	%
Cost of revenue				
Product	\$ 106,462	\$ 69,580	\$ 36,882	53.0 %
Service	68,126	57,507	10,619	18.5 %
Total cost of revenue	\$ 174,588	\$ 127,087	\$ 47,501	37.4 %
Gross margin				
Product	45.9 %	41.8 %		
Service	60.3 %	60.3 %		
Total gross margin	52.6 %	51.9 %		

Our product gross margins on sales of our organic Ribbon products were 59% in the three months ended June 30, 2020, compared to 49% in the three months ended June 30, 2019, and 53% in the six months ended June 30, 2020, compared to 42% in the six months ended June 30, 2019. These increases were primarily attributable to higher software sales, coupled with lower fixed costs, compared to the same prior year periods. Our lower fixed costs reflect our recent cost reduction and restructuring initiatives, including the temporary wage reduction, and lower amortization of intangible assets from acquisitions completed in prior years. These increases were offset by lower gross margins on ECI's products due in part to delays in customer orders resulting from the COVID-19 pandemic, coupled with higher amortization of intangible assets arising from the ECI Merger.

Our purchases of materials and components were \$36 million and \$19 million in the three months ended June 30, 2020 and 2019, respectively, and \$61 million and \$36 million in the six months ended June 30, 2020 and 2019, respectively. These increases were primarily due to the inclusion of ECI's products. Our material purchases may vary in the future, dependent upon the volume and mix of hardware and software sales, both in absolute terms and as a percentage of revenue.

Our organic Ribbon service gross margins increased in both the three and six months ended June 30, 2020 compared to the same prior year periods, primarily due to our recent cost reduction and restructuring initiatives. These increases were offset by the lower margins on ECI's service revenue, primarily due to delays in maintenance contract renewals with certain customers due to the COVID-19 pandemic.

Overall, we believe that our total gross margin will decrease in 2020 compared to 2019, primarily due to the addition of ECI's product sales that include higher hardware content, offsetting gross margin improvements in other product lines.

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 six months ended June 30, 2020 and 2019 were as follows (in thousands, except percentages):

	June 30, 2020	June 30, 2019	Increase from prior year	
			\$	%
Three months ended	\$ 51,796	\$ 35,301	\$ 16,495	46.7 %
Six months ended	\$ 94,091	\$ 71,234	\$ 22,857	32.1 %

The increase in research and development expenses in the three months ended June 30, 2020 compared to the three months ended June 30, 2019 was primarily attributable to \$18 million of ECI's research and development expenses included in the current year quarter, principally employee- and infrastructure-related costs. The increase in research and development expenses in the six months ended June 30, 2020 compared to the six months ended June 30, 2019 was primarily attributable to \$24 million of ECI's research and development expenses included in the current year-to-date period for the period since the ECI Merger Date, principally employee- and infrastructure-related costs. These increases were partially offset by lower costs related to organic Ribbon's historical cost reduction and restructuring initiatives.

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 2020 will increase, primarily due to the inclusion of expenses related to Packet Optical Networks.

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 six months ended June 30, 2020 and 2019 were as follows (in thousands, except percentages):

	June 30, 2020	June 30, 2019	Increase from prior year	
			\$	%
Three months ended	\$ 37,617	\$ 28,893	\$ 8,724	30.2 %
Six months ended	\$ 73,968	\$ 58,952	\$ 15,016	25.5 %

The increase in sales and marketing expenses in the three months ended June 30, 2020 compared to the three months ended June 30, 2019 was primarily attributable to \$12 million of ECI's sales and marketing expenses included in the current year period, which primarily consisted of employee-related costs. The increase in sales and marketing expenses in the six months ended June 30, 2020 compared to the six months ended June 30, 2019 was primarily attributable to \$17 million of ECI sales and marketing expenses included in the year-to-date period since the ECI's Merger Date, which primarily consisted of employee- and infrastructure-related expenses. These increases were partially offset by lower costs related to organic Ribbon's historical cost reduction and restructuring initiatives.

We believe that our sales and marketing expenses will increase in 2020 compared to 2019, primarily due to the inclusion of expenses related to ECI.

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 six months ended June 30, 2020 and 2019 were as follows (in thousands, except percentages):

	June 30, 2020	June 30, 2019	Increase from prior year	
			\$	%
Three months ended	\$ 15,094	\$ 12,466	\$ 2,628	21.1 %
Six months ended	\$ 32,299	\$ 31,160	\$ 1,139	3.7 %

The increase in general and administrative expenses in the three months ended June 30, 2020 compared to the three months ended June 30, 2019 was primarily attributable to \$4 million of ECI general and administrative expenses included in the current year quarter, which primarily consisted of employee-related costs. These expenses were partially offset by \$2 million of lower litigation expenses in the three months ended June 30, 2020. The increase in the six months ended June 30, 2020 compared to the six months ended June 30, 2019 was primarily attributable to \$6 million of ECI general and administrative expenses included in the current year-to-date period since the ECI Merger Date, which primarily consisted of employee-related expenses. These expenses were partially offset by \$5 million of lower litigation and settlement expenses in the current year-to-date period compared to the six months ended June 30, 2019.

We believe that our general and administrative expenses will increase in 2020 compared to 2019, primarily due to the ECI Merger.

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 \$1 million and \$13 million in the three and six months ended June 30, 2020, respectively, virtually all of which was for professional fees primarily in connection with the ECI Merger.

We recorded acquisition- and integration-related expense of \$2 million and \$5 million in the three and six months ended June 30, 2019, respectively. The amount recorded in the three months ended June 30, 2019 was primarily comprised of integration-related expense. The amount recorded in the six months ended June 30, 2019 was comprised of \$2 million of acquisition-related expense for professional and services fees primarily related to the Anova Acquisition and \$3 million of integration-related expense.

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 MD&A.

We recorded restructuring and related expense of \$5 million and \$7 million in the three and six months ended June 30, 2020, respectively. We recorded restructuring and related expense of \$9 million and \$14 million in the three and six months ended June 30, 2019, 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 six months ended June 30, 2020 and 2019 were as follows (in thousands, except percentages):

	Three months ended		Increase from prior year	
	June 30, 2020	June 30, 2019	\$	%
Interest income	\$ 98	\$ 11	\$ 87	790.9 %
Interest expense	(5,498)	(1,273)	4,225	331.9 %
	<u>\$ (5,400)</u>	<u>\$ (1,262)</u>	<u>\$ 4,138</u>	<u>327.9 %</u>

	Six months ended		Increase from prior year	
	June 30, 2020	June 30, 2019	\$	%
Interest income	\$ 416	\$ 42	\$ 374	890.5 %
Interest expense	(9,211)	(2,668)	6,543	245.2 %
	<u>\$ (8,795)</u>	<u>\$ (2,626)</u>	<u>\$ 6,169</u>	<u>234.9 %</u>

Interest income in the three and six months ended June 30, 2020 primarily represents interest earned on the outstanding note receivable from Metaswitch. Interest expense in the three and six months ended June 30, 2020 was comprised of interest and debt issuance costs in connection with the 2020 Credit Facility, interest on other borrowings and finance leases, and interest expense recorded in connection with the factoring of certain accounts receivable. Interest expense in the six months ended June 30, 2020 also included the write-off of debt issuance costs in connection with the retirement of the 2019 Credit Facility.

Interest income in the three months ended June 30, 2019 was nominal and consisted of interest earned on our cash equivalents. Interest expense in the three months ended June 30, 2019 primarily related to revolver and term borrowings under the 2019 Credit Facility. Interest expense in the six months ended June 30, 2019 primarily related to borrowings under the 2019 Credit Facility and the promissory note issued to certain of GENBAND's equity holders in connection with the GENBAND Merger.

The higher interest expense in both the three and six months ended June 30, 2020 compared to the same prior year periods was primarily due to higher outstanding borrowings. The increase in interest income in both the three and six months ended June 30, 2020 compared to the same prior year periods was due to the interest earned on the note receivable from Metaswitch.

Income Taxes. We recorded provisions for income taxes of \$2 million and \$6 million in the six months ended June 30, 2020 and 2019, 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 tax rate includes the

impact of valuation allowances in various 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

On March 3, 2020, we entered into a Senior Secured Credit Facilities Credit Agreement (the "2020 Credit Agreement"). The proceeds of the Credit Agreement were used, in part, to pay off in full all obligations of the Company under the 2019 Credit Facility. See "Liquidity and Capital Resources" in this MD&A for a description of the terms and conditions of the 2020 Credit Agreement. At June 30, 2020, we had an outstanding 2020 Term Loan Facility balance of \$397.5 million at an average interest rate of 3.9%. The 2020 Revolving Credit Facility did not have any outstanding borrowings at June 30, 2020 but had \$5.2 million of letters of credit outstanding at an interest rate of 3.0%. The principal and interest payments for the 2020 Credit Agreement long-term debt are included in the table below.

In connection with the ECI Merger, we assumed certain contractual obligations related to operating leases, future purchases, employee postretirement defined benefit plans and uncertain tax positions, and which are included in the table below.

Our related and assumed contractual obligations at June 30, 2020 consisted of the following (in millions):

	Payments due by period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Operating lease obligations	\$ 28.0	\$ 10.4	\$ 13.5	\$ 3.6	\$ 0.5
Purchase obligations	55.5	53.6	1.7	0.2	—
Debt obligations - principal *	399.9	14.9	40.0	345.0	—
Debt obligations - interest	66.4	15.6	29.1	21.7	—
Employee postretirement defined benefit plans	9.0	—	—	—	9.0
Uncertain tax positions **	13.1	13.1	—	—	—
	<u>\$ 571.9</u>	<u>\$ 107.6</u>	<u>\$ 84.3</u>	<u>\$ 370.5</u>	<u>\$ 9.5</u>

* Debt obligations - principal represents the outstanding balances on our 2020 Credit Facility of \$397.5 million and short-term loans aggregating \$2.4 million at June 30, 2020, representing the outstanding term loan principal.

** This liability is not subject to fixed payment terms and the amount and timing of payments, if any, that we will make related to this liability are not known.

Except for the material changes above in connection with the 2020 Credit Agreement and the ECI Merger, 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 for the year ended December 31, 2019.

Liquidity and Capital Resources

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

	Six months ended		Change
	June 30, 2020	June 30, 2019	
Net (loss) income	\$ (41.4)	\$ 18.6	\$ (60.0)
Adjustments to reconcile net (loss) income to cash flows provided by operating activities	49.5	32.9	16.6
Changes in operating assets and liabilities	28.6	(22.4)	51.0
Net cash provided by operating activities	\$ 36.7	\$ 29.1	\$ 7.6
Net cash (used in) provided by investing activities	\$ (318.2)	\$ 1.1	\$ (319.3)
Net cash provided by (used in) financing activities	\$ 331.1	\$ (22.9)	\$ 354.0

Our cash, cash equivalents and restricted cash aggregated \$94 million at June 30, 2020. We had cash of \$45 million at December 31, 2019. We had cash and restricted cash aggregating \$45 million at June 30, 2020 and cash aggregating \$12 million at December 31, 2019 held by our non-U.S. subsidiaries. If we elected to repatriate all excess funds held by our non-U.S. subsidiaries as of June 30, 2020, 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 April 29, 2019, we, as guarantor, and Ribbon Communications Operating Company, Inc., as borrower, entered into a syndicated, amended and restated credit facility (the "2019 Credit Facility") with SVB, as lead agent. The 2019 Credit Facility provided for a \$50 million term loan facility that was advanced in full on April 29, 2019, and a \$100 million revolving line of credit. At December 31, 2019, we had an outstanding term loan debt balance of \$49 million and an outstanding revolving line of credit balance of \$8 million with a combined average interest rate of 3.30%, and \$5 million of outstanding letters of credit at an interest rate of 1.50%.

Revolving loans under the 2019 Credit Facility bore 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 varied depending on our consolidated leverage ratio (as defined in the 2019 Credit Facility). The base rate and the LIBOR rate were each subject to a zero percent floor.

On March 3, 2020, we entered into a Senior Secured Credit Facilities Credit Agreement (the "2020 Credit Agreement"), by and among us, as a guarantor, Ribbon Communications Operating Company, Inc., as the borrower ("Borrower"), Citizens Bank, N.A., as administrative agent, a lender, issuing lender, swingline lender, joint lead arranger and bookrunner, Santander Bank, N.A., as a lender, joint lead arranger and bookrunner, and the other lenders party thereto (each, together with Citizens Bank, N.A. and Santander Bank, N.A., referred to individually as a "Lender", and collectively, the "Lenders"). The proceeds of the Credit Agreement were used, in part, to pay off in full all obligations of the Company under the 2019 Credit Facility.

The 2020 Credit Agreement provides for \$500 million of commitments from the lenders to the Borrower, comprised of a \$400 million term loan (the "2020 Term Loan Facility") and a \$100 million facility available for revolving loans (the "2020 Revolving Credit Facility" and together with the 2020 Term Loan Facility, the "2020 Credit Facility"). Under the 2020 Revolving Credit Facility, a \$30 million sublimit is available for letters of credit and a \$20 million sublimit is available for swingline loans. The 2020 Credit Facility is scheduled to mature in March 2025. The 2020 Credit Agreement includes procedures for additional financial institutions to become lenders thereunder, or for any existing lender to fund one or more new tranches of term loans, or increase its commitment under the 2020 Term Loan Facility or the 2020 Revolving Credit Facility, subject, in each case, to an aggregate dollar limit equal to 100% of the Company's Consolidated Adjusted EBITDA (as defined in the 2020 Credit Agreement) as of the most recently ended quarter for which financial statements have been delivered to the lenders, plus additional amounts, so long as the Borrower's Consolidated Net Leverage Ratio (as defined in the 2020 Credit Agreement) does not exceed 2.75:1.00.

The indebtedness and other obligations under the 2020 Credit Facility are unconditionally guaranteed on a senior secured basis by the Company, Edgewater Networks, Inc., a wholly-owned subsidiary of the Company, and Genband Inc., a wholly-owned subsidiary of the Company (together, the "Guarantors"). The 2020 Credit Facility is secured by first-priority liens on substantially all of the assets of the Borrower and the Guarantors, including substantially all of the assets of the Company.

The 2020 Credit Agreement requires periodic interest payments until maturity. The Borrower may prepay all loans under the 2020 Credit Agreement at any time without premium or penalty (other than customary LIBOR breakage costs), subject to certain notice requirements.

Loans incurred under the 2020 Credit Facility bear interest at the Borrower's option at either the LIBOR rate plus a margin ranging from 1.50% to 3.50% per year, or the base rate (the highest of the Federal Funds Effective Rate (as defined in the Credit Agreement) plus 50%, or the prime rate announced from time to time in The Wall Street Journal) plus a margin ranging from 0.50% to 2.50% per year (the "Applicable Margin"). The Applicable Margin varies depending on our Consolidated Net Leverage Ratio (as defined in the 2020 Credit Agreement). The base rate and the LIBOR rate are each subject to a zero percent floor.

The 2020 Credit Agreement requires compliance with certain financial covenants, including a minimum Consolidated Fixed Charge Coverage Ratio and a maximum Consolidated Net Leverage Ratio (each as defined in the 2020 Credit Agreement, and each tested on a quarterly basis). We were in compliance with all covenants of the 2020 Credit Facility at June 30, 2020.

In addition, the 2020 Credit Agreement contains various covenants that, among other restrictions, limit our and our subsidiaries' ability to incur or assume indebtedness; grant or assume liens; make acquisitions or engage in mergers; sell, transfer, assign or convey assets; repurchase equity and make dividend and certain other restricted payments; make investments; engage in transactions with affiliates; enter into sale and leaseback transactions; enter into burdensome agreements; change the nature of its business; modify their organizational documents; or amend or make prepayments on certain junior debt.

The 2020 Credit Agreement 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 the Company or any of its subsidiaries occurs, all obligations under the 2020 Credit Agreement will immediately become due and payable. If any other event of default exists under the 2020 Credit Agreement, the lenders may accelerate the maturity of the obligations outstanding under the Credit Agreement 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 2020 Credit Agreement, the lenders may commence foreclosure or other actions against the collateral.

At June 30, 2020, we had an outstanding 2020 Term Loan Facility balance of \$397.5 million at an average interest rate of 3.9%. The 2020 Revolving Credit Facility did not have any outstanding borrowings at June 30, 2020 but had \$5.2 million of letters of credit outstanding at an interest rate of 3.0%.

We are exposed to financial market risk related to foreign currency fluctuations and changes in interest rates. These exposures are actively monitored by management. To manage the volatility related to the exposure to changes in interest rates, we have entered into a derivative financial instrument. Management's objective is to reduce, where it is deemed appropriate to do so, fluctuations in earnings and cash flows associated with changes in interest rates. Our policies and practices are to use derivative financial instruments only to the extent necessary to manage exposures. We do not hold or issue derivative financial instruments for trading or speculative purposes.

As a result of exposure to interest rate movements, during March 2020, we entered into an interest rate swap arrangement, which effectively converted our \$400 million term loan with its variable-rate interest based upon one-month LIBOR to an aggregate fixed rate of 0.904%, plus a leverage-based margin as defined in the 2020 Credit Facility. The notional amount of this swap as of June 30, 2020 was \$400 million, and the swap matures on March 3, 2025, the same date the 2020 Credit Facility matures.

Our objectives in using interest rate derivatives are to add stability to interest expense and to manage its exposure to interest rate movements. To accomplish this objective, we are using an interest rate swap as part of its interest rate risk management strategy. Interest rate swaps designated as cash flow hedges involve the receipt of variable amounts from a counterparty in exchange for making fixed-rate payments over the life of the agreements without exchange of the underlying notional amount.

The effective portion of changes in the fair value of derivatives designated and that qualify as cash flow hedges is recorded in accumulated other comprehensive (loss) income in the condensed consolidated balance sheet and is subsequently reclassified into earnings in the period that the hedged forecasted transactions affect earnings. During the three and six months ended June 30, 2020, such a derivative was used to hedge the variable cash flows associated with the 2020 Credit Facility. Any

ineffective portion of the change in fair value of the derivative would be recognized directly in earnings. However, during the three and six months ended June 30, 2020, we recorded no hedge ineffectiveness.

Amounts reported in accumulated other comprehensive (loss) income related to our derivative will be reclassified to interest expense as interest is accrued on our variable-rate debt. Based upon projected forward rates, we estimate as of June 30, 2020 that \$3.1 million may be reclassified as an increase to interest expense over the next 12 months.

We had two outstanding uncommitted and unsecured short-term loans aggregating \$2.4 million which we use for financing exports in China, one with China Zheshang Bank and the other with Bank of Communications Hangzhou Branch. These short term loans were all entered into in March 2020 and expired in July 2020. At June 30, 2020, these short-term loans had a weighted average interest rate of 4.27%. Both of these loans were repaid in July 2020, and we re-entered into one of them, in the amount of \$0.7 million, on July 17, 2020.

We use letters of credit, performance and bid bonds in the course of its business. As of June 30, 2020, we had \$33.2 million of letters of credit, bank guarantees, performance and bid bonds outstanding (collectively, "Guarantees"), comprised of the \$5.2 million of letters of credit under the 2020 Credit Agreement described above, and \$28.0 million of Guarantees under various uncommitted facilities. At June 30, 2020, we had cash collateral of \$4.4 million supporting the Guarantees under our uncommitted facilities. This cash collateral is included in Restricted cash in our condensed consolidated balance sheet at June 30, 2020.

In connection with the GENBAND 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. On April 29, 2019, concurrently with the closing of the 2019 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. No shares were repurchased under this program during the three and six months ended June 30, 2020. At June 30, 2020, there was \$70.5 million available for the repurchase of shares under the repurchase program.

Our operating activities provided \$37 million and \$29 million of cash in the six months ended June 30, 2020 and 2019, respectively.

Cash provided by operating activities in the six months ended June 30, 2020 was primarily the result of lower accounts receivable, other operating assets and inventory, higher accrued expenses and other long-term liabilities, and our non-cash operating activities. These amounts were partially offset by our net loss and lower accounts payable. Our lower accounts receivable primarily reflected typical mid-year seasonality. The decrease in other operating assets was primarily due to the scheduled payment received from Metaswitch in connection with the 2019 litigation settlement. The increase in accrued expenses and other long-term liabilities was primarily due to the derivative liability we recorded in connection with our interest rate swap, which we entered into in the first quarter of 2020.

Cash provided by operating activities in the six months ended June 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, lower accounts payable, accrued expenses and other long-term liabilities, and deferred revenue, coupled with the reduction in the deferred consideration owed in connection with our acquisition of Edgewater Networks, Inc. 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, including payments in connection with our company-wide cash bonus program, and lower deferred purchase consideration. Our lower accounts receivable primarily reflected typical mid-year seasonality.

Our investing activities used \$318 million of cash in the six months ended June 30, 2020, comprised of \$347 million of cash paid as cash consideration for ECI and \$15 million of investments in property and equipment. These amounts were partially offset by \$43 million of cash proceeds from the sale of land in connection with the Merger.

Our investing activities provided \$1 million of cash in the six months ended June 30, 2019, comprised of \$7 million of maturities of marketable securities, partially offset by \$6 million of investments in property and equipment.

Our financing activities provided \$331 million of cash in the six months ended June 30, 2020, primarily due to \$403 million of proceeds from term debt, which was comprised of \$400 million of proceeds from the 2020 Credit Facility and \$3 million of proceeds from short-term loans in China for the financing of certain export activities. These proceeds were partially offset by the repayment of amounts outstanding under the 2019 Credit Facility aggregating \$57 million at the time we entered into the 2020 Credit Facility, \$11 million for the payment of debt issuance costs in connection with the 2020 Credit Facility, principal payments aggregating \$4 million related to the 2020 Credit Facility and the short-term loans in China, and \$1 million in the aggregate for the payment of tax withholding obligations related to the net share settlement of restricted stock awards upon vesting and principal payments of finance leases. We both borrowed and repaid less than \$1 million under our revolving line of credit such that we did not have any outstanding revolving borrowings at June 30, 2020.

Our financing activities used \$23 million of cash in the six months ended June 30, 2019. We repaid outstanding borrowings of \$112 million under the 2019 Credit Facility, \$25 million on the Promissory Note and \$22 million to the selling Edgewater shareholders for the outstanding deferred purchase consideration. We spent slightly under \$5 million to repurchase and retire shares of our common stock on the open market and used \$1 million to pay withholding obligations related to the net share settlement of restricted stock awards upon vesting. Our borrowings under the 2019 Credit Facility totaled \$142 million, comprised of \$92 million of borrowings under the revolving line of credit and \$50 million of long-term debt. Cash proceeds from the sale of our common stock under our Amended and Restated Employee Stock Purchase Plan and from option exercises totaled slightly less than \$1 million.

Based on our current expectations, we believe our current cash and available borrowings under the 2020 Credit Facility will be sufficient to meet our anticipated cash needs for working capital and capital expenditures for at least twelve months. We further believe that our financial resources, along with managing discretionary expenses, will allow us to manage the anticipated impact of COVID-19 on our business operations. Looking ahead, we have developed contingency plans to reduce costs further if the situation deteriorates further. The challenges posed by COVID-19 on our business are evolving rapidly. Consequently, we will continue to evaluate our financial position in light of future developments, particularly those relating to COVID-19. However, it is difficult to predict future liquidity requirements with certainty, and our cash and available borrowings under the 2020 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

The Financial Accounting Standards Board ("FASB") has issued the following accounting pronouncements, all of which became effective for us in 2020 and none of which had a material impact on our condensed consolidated financial statements:

In March 2020, the FASB issued Accounting Standard Updates ("ASU") 2020-04, *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting* ("ASU 2020-04"), which provides optional expedients and exceptions for applying generally accepted accounting principles to contract modifications and hedging relationships, subject to meeting certain criteria that reference LIBOR or another reference rate expected to be discontinued.

In March 2020, the FASB issued ASU 2020-03, *Codification Improvements to Financial Instruments* ("ASU 2020-03"), which makes narrow-scope amendments related to topics regarding fair value option disclosures, applicability of the portfolio exception in Accounting Standards Codification ("ASC") 820 to nonfinancial items, disclosures for depository and lending institutions, cross reference to guidance in ASC 470-50 on line of credit or revolving debt arrangements, cross reference to net asset value practical expedient in ASC 820-10, interaction between ASC 842 and ASC 326 and between ASC 326 and ASC 860-20.

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.

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.

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*.

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.

The FASB has issued the following accounting pronouncement which becomes effective for us in 2021, which we do not believe will have a material impact on our condensed consolidated financial statements upon adoption:

The FASB issued ASU 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes* ("ASU 2019-12"), which modifies ASC 740 to simplify the accounting for income taxes. ASU 2019-12 addresses the accounting for hybrid tax regimes, tax basis step-up in goodwill obtained in a transaction that is not a business combination, separate financial statements of legal entities not subject to tax, intraperiod tax allocation exception to incremental approach, ownership changes in investments - changes from a subsidiary to an equity method investment, ownership changes in investments - changes from an equity method investment to a subsidiary, interim period accounting for enacted changes in tax law and year-to-date loss limitation in interim period tax accounting.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to financial market risk related to foreign currency fluctuations and changes in interest rates. Except as presented below, there have been no material changes in market risk from the information provided in Item 7A. Quantitative and Qualitative Disclosures About Market Risk of our Annual Report on Form 10-K, for the year ended December 31, 2019.

To manage the volatility related to the exposure to changes in interest rates, we have entered into a derivative financial instrument. Our objective is to reduce, where it is deemed appropriate to do so, fluctuations in earnings and cash flows associated with changes in interest rates. Our policies and practices are to use derivative financial instruments only to the extent necessary to manage exposures. We do not hold or issue derivative financial instruments for trading or speculative purposes.

Amounts reported in accumulated other comprehensive (loss) income related to our derivative will be reclassified to interest expense as interest is accrued on our variable-rate debt. The fair value of our derivative was a liability of \$13.5 million at June 30, 2020. Based upon projected forward rates, we estimate as of June 30, 2020 that \$3.1 million may be reclassified as an increase to interest expense over the next twelve months.

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 June 30, 2020.

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 June 30, 2020 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 filed a reply to such opposition on November 1, 2019. There was an oral argument on the motion to dismiss on February 12, 2020.

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 six months ended June 30, 2020 to the risk factors described in Part I, Item 1A. of our Annual Report on Form 10-K for the year ended December 31, 2019, with the exception of the risk factors below.

Risks Related to the ECI Telecom Group Ltd. Merger

Combining Ribbon and ECI may be more difficult, costly or time-consuming than expected and the anticipated benefits and cost savings of the ECI Merger may not be realized.

On March 3, 2020, we completed our previously announced merger transaction with ECI in accordance with the terms of the Agreement and Plan of Merger, dated as of November 14, 2019, by and among Ribbon, ECI, an indirect wholly-owned subsidiary of Ribbon ("Merger Sub"), Ribbon Communications Israel Ltd., ECI and ECI Holding (Hungary) kft, pursuant to which Merger Sub merged with and into ECI, with ECI surviving such merger as a wholly-owned subsidiary of Ribbon (the "Merger").

The success of the ECI Merger, including anticipated benefits and cost savings, will depend, in part, on our ability to successfully combine and integrate the businesses. It is possible that the integration process could result in the loss of key employees, higher than expected costs, diversion of management attention, the disruption of our ongoing businesses or inconsistencies in standards, controls, procedures and policies that adversely affect the combined company's ability to maintain relationships with customers, vendors and employees or to achieve the anticipated benefits and cost savings of the ECI Merger.

We have incurred and will incur additional transaction fees, including legal, regulatory and other costs associated with closing the transaction, as well as expenses relating to formulating and implementing integration plans, including facilities and systems consolidation costs and employment-related costs. We continue to assess the magnitude of these costs, and additional unanticipated costs may be incurred in the ECI Merger and the integration of the two companies' businesses. While we expect that the elimination of duplicative costs as well as the realization of other efficiencies related to the integration of the businesses should allow us to offset integration-related costs over time, this net benefit may not be achieved in the near term or at all. As part of the integration process, we may also attempt to divest certain assets of the combined company, which may not be possible on favorable terms, or at all, or if successful, may change the profile of the combined company. If we experience difficulties with the integration process, the anticipated benefits of the ECI Merger may not be realized fully or at all, or may take longer to realize than anticipated. The actual cost savings of the ECI Merger could be less than expected.

Risks Related to the COVID-19 Pandemic

The COVID-19 pandemic and resulting deteriorations in global economic conditions may have a material adverse impact on our business, financial position and results of operations.

In 2020, a novel strain of the coronavirus (COVID-19) was declared by the World Health Organization to be a global pandemic. The COVID-19 pandemic has had a negative effect on the global economy, disrupting the various manufacturing, commodity and financial markets and increasing volatility, and has impeded global supply chains, including that of our recently acquired subsidiary, ECI Telecom Group Ltd. Dampened global economic conditions as a result of the COVID-19 pandemic may cause our customers to restrict spending or delay purchases for an indeterminate period of time. In addition, our ability to deliver our solutions as agreed with our customers depends on the ability of our global contract manufacturers, vendors, licensors, and other business partners to deliver products or perform services we have procured from them. If the COVID-19 pandemic impairs the ability of our business partners to support us on a timely basis, or negatively impacts the demand for our customers' other products and services, our ability to perform our customer contracts as well as the demand for our solutions may suffer. In addition, disruptions from the COVID-19 pandemic include the temporary closures of some of our facilities, as well as those of our contract manufacturers, vendors and suppliers, the inability to obtain key components of our products, the disruption of logistics necessary to import, export and deliver our solutions, limitations on the ability of our customers to perform or make timely payments, and/or workforce disruptions due to illness, quarantines, government actions, facility closures, partial work permits limiting the capacity of production facilities, or other restrictions.

Concerns over the economic impact of COVID-19 pandemic have also caused extreme volatility in financial and other capital markets which has and may continue to adversely impact our stock price. Such volatility may also adversely impact our ability to access capital markets if and when we would be required to do so.

Actions taken globally in response to the COVID-19 pandemic have created significant dislocation in demand and pricing for oil, which has subsequently impacted a variety of currencies around the world. These fluctuations in the relative value of currencies could have a significant impact on demand for our products and the net sales price and profitability.

The degree to which the COVID-19 pandemic ultimately impacts our business, financial position and results of operations will depend on future developments beyond our control, including the severity of the pandemic, including the frequency and duration of future waves of infection; the extent of actions to contain or treat the virus; how quickly and to what extent normal economic and operating conditions can resume; the health of and the effect on our workforce, particularly if members of our workforce are quarantined as a result of exposure, worker absenteeism as a result of illness or other factors, social distancing measures including work from home measures and other travel, health-related, business, government or other restrictions in connection with pandemics or disease outbreaks; and the severity and duration of the global economic downturn that results from the pandemic.

Risks Related to our Business and Industry

The terms of our credit agreement could adversely affect our operating flexibility and pose risks of default, which would negatively impact our liquidity and operations.

The terms of our credit agreement could adversely affect our operating flexibility and pose risks of default which would negatively impact our liquidity and operations. In addition, we may not be able to refinance our debt or obtain additional financing on favorable terms, or at all.

Our syndicated credit facility with Citizens Bank N.A, as Administrative Agent, provides \$500 million of commitments, comprised of a \$400 million term loan and a \$100 million revolving facility, a \$30 million sublimit that is available for letters of credit and a \$20 million sublimit that is available for swingline loans. The senior secured credit facility is scheduled to mature in March 2025. The credit agreement includes procedures for additional financial institutions to become lenders, or for any existing lender to fund one or more new tranches of term loans, or increase its commitment under the facility, subject, in each case, to an aggregate dollar limit equal to 100% of the Company's Consolidated Adjusted EBITDA (as defined in the 2020 Credit Agreement) so long as the Borrowers Consolidated Net Leverage Ratio (as defined in the Credit Agreement) does not exceed 2.75:1.00. Provisions in the credit agreement impose limitations on our ability to, among other things, incur additional indebtedness, create liens, make acquisitions or engage in mergers, enter into transactions with affiliates, dispose of assets, make certain investments and amend or repay certain junior debt.

In addition, we are required to meet certain financial covenants customary for financings of this type. Our failure to comply with these covenants may result in the declaration of an event of default, which could cause us to be unable to borrow under the credit facility or result in the acceleration of the maturity of indebtedness outstanding under the credit facility at such time. If the maturity of our indebtedness is accelerated, we may not have sufficient funds available for repayment or we may not have the ability to borrow or obtain sufficient funds to replace the accelerated indebtedness on terms acceptable to us, or at all.

The United Kingdom's Financial Conduct Authority, which regulates the London Inter-bank Offered Rate ("LIBOR"), has announced that it intends to stop encouraging or requiring banks to submit LIBOR rates after 2021, and it is unclear if LIBOR will cease to exist or if new methods of calculating LIBOR will evolve. We have the option under our current credit facility to determine our interest rate that includes either the LIBOR rate or the base rate. If LIBOR ceases to exist or the methods of calculating LIBOR change from their current form, we may no longer have the ability to elect the LIBOR rate option under our current credit facility, and our current or future indebtedness may be adversely affected. This could impact our interest costs and our ability to borrow additional funds under our current credit facility.

If we are prevented from borrowing or if we are unable to extend, renew or replace the credit facility by the maturity date of March 2025, on favorable terms, or at all, this could have a material adverse effect on our liquidity and cause our business, operations and financial condition to suffer. In addition, we may not have sufficient funds available for repayment or we may not have the ability to borrow or obtain sufficient funds to replace the indebtedness on terms acceptable to us, or at all.

We cannot be sure that our current cash and available borrowings under our 2020 Credit Facility will be sufficient to meet our future needs. If we are unable to generate sufficient cash flows in the future, and if availability under our current facility is not sufficient to support our operations, we may need to refinance our debt or obtain additional financing. We may not be able to refinance our debt or obtain additional financing on favorable terms or at all.

Risks Related to ECI

If the market for 5G network solutions and Cloud-based applications does not evolve in the way the Company anticipates, it may not be able to realize a key part of its business strategy.

A material part of the Company's research and development is invested in developing networking products and solutions to deliver major new features supported by the 5G standards, and a key part of the Company's growth strategy depends on its ability to gain market share for these networking products and solutions. Deployment of wide-scale commercial 5G networks will occur at a variety of different timing depending on the unique attributes and priorities of each region, communication service provider, and government regulatory environment, if at all. For these reasons, the development of the market for the Company's 5G networking products and solutions may be mis-timed with the market opportunity, and any significant delays could have a materially adverse effect on the Company's growth strategy.

In addition, part of the Company's growth strategy involves taking advantage of the shift towards Cloud-based applications and services. The Cloud-based service delivery paradigm continues to evolve and grow, and is beginning to include a new Mobile Edge Computing (MEC) approach that shifts the workload to the edge of the mobile network to take advantage of the speeds and reduce latency of the new 5G network. The pace at which these new architectures are adopted are difficult to predict and will have a direct impact on our growth. While it is expected that 5G will help accelerate the demand for and use of Cloud-based and MEC applications, this will only be known once 5G is widely implemented. If the market for 5G products and solutions or Cloud-based applications, or the impact of 5G on the demand for Cloud-based applications, does not evolve in the way the Company anticipates, or if customers do not adopt the Company's 5G networking products and solutions or its Cloud-based applications, a key part of the Company's growth strategy may not materialize which could have a material adverse effect on the Company's business, results of operations, financial condition, cash flows and prospects.

The Israel Innovation Authority (IIA) government grants received by the Company's ECI subsidiary for research and development expenditures have been significantly reduced in the last few years and may be reduced further or eliminated due to government budget cuts or reallocation of the government's resources. These grants also place certain limitations on the Company's ability to manufacture products and transfer or license know-how outside of Israel and require the Company to satisfy specified conditions.

The Company currently receives grants from the Government of Israel through the IIA for the financing of a portion of the Company's research and development expenditures in Israel pursuant to the Encouragement of Research, Development and Technological Innovation in the Industry Law 5744-1984 (together with its predecessor legislation, the "Innovation Law"). In the last few years these grants have been substantially reduced, as a result of changes in the policy of the IIA. The IIA may reallocate or further reduce or eliminate these grants in the future, which could require the Company to directly fund a larger portion of research and development in Israel, reducing the overall profitability of the Company.

The Company is required to repay the grants received from the IIA in the form of royalties paid on proceeds from the sale of products that were developed using this funding and services associated with such products. The royalties are payable in an amount of up to 100% of the U.S. dollar-linked value of the amount of the grant (which may be increased under certain circumstances) (referred to as the "royalty ceiling") plus interest at the rate of 12-month LIBOR on the date that the grant application is made. The Company's royalty rates are generally between 1.3% and 5% of the proceeds from the sale of relevant products and services.

The terms of the IIA grants generally require that products developed with grants be manufactured in Israel, unless approval for transferring such manufacturing outside Israel is received from the IIA, however, such approval is not required for the transfer of manufacturing outside Israel of up to 10% of the manufacturing. Such approval may be provided by the IIA in connection with the approval of the grant application itself (as the Company has requested in its grant applications since 2013), in which case the royalty repayment rate is increased by 1% with respect to any such approved percentage. If manufacturing of IIA-funded products is transferred outside Israel (subject to IIA approval) in excess of the percentage approved by the IIA in connection with the grant approval, then the repayment rate is increased by 1% and the royalty repayment amount with respect to such products may be increased to up to three times the amount of the grants received (plus interest at the rate of 12-month LIBOR on the date that the grant application is made).

IIA prior approval is also required for the sale, licensing, distribution or other transfer (referred to as a transfer) of know-how created, in whole or in part, in connection with an IIA-funded project to a third party outside Israel. If such IIA approval is received and the know-how is transferred outside Israel, a redemption fee is typically required to be paid to the IIA, which is calculated according to a formula provided under the Innovation Law, up to a maximum redemption fee of no more than either (i) three times (if certain prescribed research and development activities are retained in Israel); or (ii) six times the amount of the grants received (plus accrued interest) for the applicable know-how being transferred, subject to the deduction of royalties previously paid to the IIA. If the IIA implements additional or more stringent restrictions on transfer of manufacturing activities and transfer of funded know-how outside Israel under the Innovation Law, it could have a material adverse effect on the Company's business, results of operations, financial condition, cash flows and prospects.

Risks Relating to our International Operations

Conditions in Israel may materially and adversely affect the Company's business.

ECI Telecom Ltd., is organized under Israeli law, and a material number of the Company's employees are located in Israel. Accordingly, political, economic and military conditions in Israel may directly affect the Company's business. Since Israel was established in 1948, a number of armed conflicts have occurred between Israel and its neighboring countries. In recent years, these have included hostilities between Israel and Hezbollah in Lebanon and Hamas in the Gaza Strip, both of which resulted in rockets being fired into Israel, causing casualties and disruption of economic activities. Popular uprisings in various countries in the Middle East and North Africa are affecting the political stability of those countries and have led to a decline in the regional security situation. Such instability may also lead to deterioration in the political and trade relationships that exist between Israel and these countries. Any armed conflicts, terrorist activities or political instability involving Palestinian entities or other countries in the region could adversely affect the Company's business, results of operations, financial condition, cash flows and prospects. Although the Israeli Government currently covers the reinstatement value of direct damages that are caused by terrorist attacks or acts of war, the Company cannot assure prospective investors that this coverage will be maintained or will be adequate in the event the Company submits a claim.

A number of countries, principally in the Middle East, still restrict doing business with Israel and Israeli companies, and additional countries may impose restrictions on doing business with Israel and Israeli companies if hostilities in Israel or

political instability in the region continue or increase. In addition, there have been increased efforts by activists to cause companies and consumers to boycott Israeli goods based on Israeli Government policies. Such actions, particularly if they become more widespread, may adversely impact the Company's ability to sell its products. Any hostilities involving Israel or the interruption or curtailment of trade between Israel and its present trading partners, or significant downturn in the economic or financial condition of Israel, could have a material adverse effect on the Company's business, results of operations, financial condition, cash flows and prospects.

The Company's operations could also be disrupted by the absence for significant periods of one or more of its executive officers, key employees or a significant number of other employees because of military service. Some of the Company's employees in Israel are obliged to perform military reserve duty, which generally accumulates over a period of three years from several days to up to a maximum of 84 days (and up to 108 days, in special circumstances specified under applicable law) and, in certain emergency circumstances, employees may be called to immediate and unlimited active duty. In response to increases in terrorist activity, there have been periods of significant call-ups of military reservists and it is possible that there will be similar large-scale military reserve duty call-ups in the future.

Any of these circumstances could have a material adverse effect on the Company's business, results of operations, financial condition, cash flows and prospects.

Impact of Assessment of Adjusted Gross Revenue dues in India.

A dispute has arisen in India between the large telecommunications service providers and the Department of Telecommunications ("DoT") regarding how to compute the Adjusted Gross Revenue ("AGR") due from the former to the DoT. The service providers claim that AGR should only comprise of revenue accrued from core services. The DoT has argued that AGR includes all revenues (before discounts) from both telecommunications and non-telecommunications services. The Supreme Court of India recently issued a judgment accepting the position of the DoT, requiring private telecommunications service providers to pay out the higher sums towards license fee and spectrum usage fee, plus interest and penalties, which are dependent on the value of their AGR. If this judgment stands, the sums that the telecommunications operators owe the Indian government will include back charges, interest and penalties, which may be substantial.

The telecommunications service providers are appealing the decision, requesting various forms of relief from the Indian government, including delayed payments. Until such time as this matter resolved, including approval of any settlement by the Supreme Court of India, telecommunications service providers are generally reducing their capital investments in India to preserve cash. Unless such issue is resolved expeditiously, this matter could have a material impact on the Company.

Worldwide efforts to contain capital spending and global economic conditions and uncertainties in the geopolitical environment have been and may continue to be materially adverse to our business.

One factor that significantly affects our operating results is the impact of economic conditions on the willingness of our current and potential customers to make capital investments. Given the uncertainty regarding global economic conditions and uncertainties in the geopolitical environment, we believe that customers have tried to maintain or improve profitability through cost control and constrained capital spending, which places additional pressure on IT departments to demonstrate acceptable return on investment. Some of our customers have canceled or delayed, and current and prospective customers may continue to cancel and delay, spending on the development or roll-out of capital and technology projects with us due to economic uncertainty and, consequently, our results of operations have been, and may continue to be, adversely affected. In addition, current uncertain worldwide economic and political environments make it increasingly difficult for us, our customers and our suppliers to accurately forecast future product demand, which could result in an inability to satisfy demand for our products and a loss of market share. Our revenue is likely to decline in such circumstances, which may result in erosion of our profit margins and significant losses.

Moreover, economic conditions worldwide may contribute to slowdowns in the communications and networking industries, as well as to specific segments and markets in which we operate, particularly the wireline sector, resulting in, among other things:

- reduced demand for our products and services as a result of our customers choosing to refrain from building capital-intensive networks;
- increased price competition for our products, not only from our competitors, but also as a consequence of customers disposing of unutilized product;
- risk of excess and obsolete inventories;
- excess facilities and manufacturing capacity; and/or
- higher overhead costs as a percentage of revenue and higher interest expense.

Continuing turmoil in the geopolitical environment in many parts of the world, as well as changes implemented by the current U.S. presidential administration, may continue to put pressure on global economic conditions which in turn, could materially adversely affect our operating results. For example, following recent border clashes with China, India has enacted bans on the import of some goods manufactured in China. While the current import bans do not include our products, if India expands the bans to include the products we sell in India that are currently manufactured in China, we may be required to find new manufacturing locations for such products, which could impact our ability to sell such products or timely deliver the products, and could result in lower or lost sales in India. The need to move manufacturing of such products could also negatively impact the margin earned on the sale of such products.

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)
April 1, 2020 to April 30, 2020	1,172	\$ 2.83	—	\$ 70,463,973
May 1, 2020 to May 31, 2020	4,126	\$ 3.36	—	\$ 70,463,973
June 1, 2020 to June 30, 2020	—	\$ —	—	\$ 70,463,973
Total	5,298	\$ 3.24	—	\$ 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 second quarter of 2020, 5,298 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 second quarter of 2020. At June 30, 2020, 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
2.1	Agreement and Plan of Merger, dated as of November 14, 2019, by and among the Registrant, Ribbon Communications Israel Ltd., Eclipse Communications Ltd., ECI Telecom Group Ltd. and ECI Holding (Hungary) Korlátolt Felelősségű Társaság (incorporated by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K, filed November 14, 2019 with the SEC).
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	Employment Agreement between the Registrant and Miguel Lopez, dated June 22, 2020 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, filed June 23, 2020 with the SEC).
10.2	Severance Agreement between the Registrant and Miguel Lopez, dated June 22, 2020 (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K, filed June 23, 2020 with the SEC).
10.3	Ribbon Communications, Inc. Amended and Restated 2019 Incentive Award Plan (incorporated by reference to Exhibit 99.1 to the Registrant's Form S-8 Registration Statement, filed June 2, 2020 with the SEC).
10.4 *	Form of Consent to Temporary Wage Reduction entered into with Executive Officers.
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
104 *	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* 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: August 6, 2020

RIBBON COMMUNICATIONS INC.

By: /s/ Miguel A. Lopez

Miguel A. Lopez
Executive Vice President and Chief Financial Officer (Principal
Financial Officer)

Form of Consent to Temporary Wage Reduction

_____, 2020

As of the date hereof, I voluntarily consent to Ribbon Communications Inc.'s and its subsidiaries' (collectively, "Ribbon" or the "Company") reduction of my current base salary in an amount equal to 20%¹ beginning in the first payroll cycle following May 15, 2020 (the "Temporary Wage Reduction"). I understand and agree that this Temporary Wage Reduction is a result of the current economic downturn impacting the Company's business. I further understand that the Temporary Wage Reduction will be in effect for at least 60 days, but in any event as long as it takes the Company to recover from the current economic downturn. I acknowledge that, to the extent possible and legally permissible, the Temporary Wage Reduction will not result in a reduction in compensation based employer and employee contributions to employee benefits schemes in which I am a participant.

I understand that my consent or refusal to consent to the Temporary Wage Reduction does not prohibit the Company from taking lawful cost reduction measures in the future, including during the Temporary Wage Reduction. I further understand that if: (i) I am laid off in a reduction in force or otherwise terminated due to no fault of my own during the Temporary Wage Reduction period; and (ii) I am eligible for severance under an agreement with, or policy of, the Company as a result of such termination, I will receive Company paid severance under the terms and conditions of such agreement or policy calculated based on my regular base salary as if the Temporary Wage Reduction had never occurred.

I further agree that, by consenting to this Temporary Wage Reduction, I cannot subsequently claim that such a reduction constitutes a basis, in part or in whole, for a "Good Reason" termination under my severance agreement (or any similar voluntary resignation that may result in severance or similar payments under an employment or similar agreement or arrangement), constructive dismissal, breach of contract, or other violation of applicable law.

Finally, I understand and agree that my current base salary is amended by this consent until the Temporary Wage Reduction is no longer in effect.

[To be acknowledged and date stamped]

¹ 50% with respect to the President & Chief Executive Officer

CERTIFICATION

I, Bruce McClelland, 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: August 6, 2020

/s/ Bruce McClelland

Bruce McClelland
President and Chief Executive Officer
(Principal Executive Officer)

CERTIFICATION

I, Miguel A. Lopez, 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: August 6, 2020

/s/ Miguel A. Lopez

Miguel A. Lopez
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

**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 June 30, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Bruce McClelland, 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: August 6, 2020

/s/ Bruce McClelland

Bruce McClelland President and Chief Executive Officer (Principal
Executive Officer)

**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 June 30, 2020 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Miguel A. Lopez, 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: August 6, 2020

/s/ Miguel A. Lopez

Miguel A. Lopez Executive Vice President and Chief Financial Officer
(Principal Financial Officer)