UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 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 July 3, 2021

OR

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

For the transition period from to

Commission File Number: 001-34674

Calix, Inc.
(Exact Name of Registrant as Specified in Its Charter)

Delaware	**68-0438710**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Employer Identification No.)**

2777 Orchard Parkway, San Jose, CA 95131
(Address of Principal Executive Offices) (Zip Code)

(408) 514-3000
(Registrant's Telephone Number, Including Area Code)

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

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
Common Stock, par value $0.025 per share	CALX	New York Stock Exchange

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

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

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

Large Accelerated Filer	☐	Accelerated Filer	☒
Non-accelerated filer	☐	Smaller Reporting Company	☐
Emerging Growth Company	☐		

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

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

As of July 19, 2021, there were 63,496,164 shares of the Registrant’s common stock, par value $0.025 outstanding.

CALIX, INC.

FORM 10-Q

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PART I. FINANCIAL INFORMATION

ITEM 1. Financial Statements

CALIX, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS
(In thousands, except par value)

	July 3, 2021 (Unaudited)	December 31, 2020 (See Note 1)
ASSETS		
Current assets:		
Cash and cash equivalents	$ 58,590	$ 80,807
Marketable securities	117,259	52,982
Accounts receivable, net	80,164	69,419
Inventory	77,136	52,268
Prepaid expenses and other current assets	17,449	11,414
Total current assets	350,598	266,890
Property and equipment, net	19,663	20,381
Right-of-use operating leases	10,983	11,741
Goodwill	116,175	116,175
Other assets	10,416	12,165
	$ 507,835	$ 427,352
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 34,971	$ 13,115
Accrued liabilities	58,627	68,736
Deferred revenue	23,951	19,189
Total current liabilities	117,549	101,040
Long-term portion of deferred revenue	21,307	19,904
Operating leases	11,920	12,946
Other long-term liabilities	11,421	13,137
Total liabilities	162,197	147,027
Commitments and contingencies (See Note 7)		
Stockholders' equity:		
Preferred stock, $0.025 par value; 5,000 shares authorized; no shares issued and outstanding as of July 3, 2021 and December 31, 2020	—	—
Common stock, $0.025 par value; 100,000 shares authorized; 63,200 shares issued and outstanding as of July 3, 2021, and 62,122 shares issued and outstanding as of December 31, 2020	1,580	1,553
Additional paid-in capital	972,259	948,055
Accumulated other comprehensive loss	(182)	(191)
Accumulated deficit	(628,019)	(669,092)
Total stockholders' equity	345,638	280,325
	$ 507,835	$ 427,352

See accompanying notes to condensed consolidated financial statements.

CALIX, INC.

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In thousands, except per share data)
(Unaudited)

	Three Months Ended		Six Months Ended	
	July 3, 2021	June 27, 2020	July 3, 2021	June 27, 2020
Revenue:				
Systems	$ 159,553	$ 110,841	$ 312,855	$ 205,350
Services	9,117	8,182	17,889	15,355
Total revenue	168,670	119,023	330,744	220,705
Cost of revenue:				
Systems	72,673	56,721	142,336	107,429
Services	6,378	5,897	12,547	11,247
Total cost of revenue	79,051	62,618	154,883	118,676
Gross profit	89,619	56,405	175,861	102,029
Operating expenses:				
Sales and marketing	29,710	21,343	57,761	41,967
Research and development	25,716	20,921	50,080	41,592
General and administrative	13,664	11,193	26,689	21,862
Restructuring charges	—	6,286	—	6,286
Total operating expenses	69,090	59,743	134,530	111,707
Income (loss) from operations	20,529	(3,338)	41,331	(9,678)
Interest and other income (expense), net:				
Interest expense, net	(119)	(617)	(244)	(907)
Other income (expense), net	255	(109)	343	(94)
Total interest and other income (expense), net	136	(726)	99	(1,001)
Income (loss) before provision for income taxes	20,665	(4,064)	41,430	(10,679)
Provision for income taxes	207	148	357	477
Net income (loss)	$ 20,458	$ (4,212)	$ 41,073	$ (11,156)
Net income (loss) per common share:				
Basic	$ 0.32	$ (0.07)	$ 0.65	$ (0.20)
Diluted	$ 0.30	$ (0.07)	$ 0.61	$ (0.20)
Weighted-average number of shares used to compute net income (loss) per common share:				
Basic	63,042	57,261	62,795	56,906
Diluted	67,634	57,261	67,347	56,906
Net income (loss)	$ 20,458	$ (4,212)	$ 41,073	$ (11,156)
Other comprehensive loss, net of tax - foreign currency translation adjustments, net	44	3	9	249
Comprehensive income (loss)	$ 20,502	$ (4,209)	$ 41,082	$ (10,907)

See accompanying notes to condensed consolidated financial statements.

CALIX, INC.

CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands, unaudited)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Treasury Stock	Total Stockholders' Equity
	Shares	Amount					
Balance at April 3, 2021	62,851	$ 1,572	$ 961,846	$ (226)	$ (648,477)	$ —	$ 314,715
Stock-based compensation	—	—	6,223	—	—	—	6,223
Issuance of common stock under equity incentive plans, net of forfeitures	349	8	4,190	—	—	—	4,198
Net income	—	—	—	—	20,458	—	20,458
Other comprehensive income	—	—	—	44	—	—	44
Balance at July 3, 2021	63,200	$ 1,580	$ 972,259	$ (182)	$ (628,019)	$ —	$ 345,638

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Treasury Stock	Total Stockholders' Equity
	Shares	Amount					
Balance at March 28, 2020	56,628	$ 1,549	$ 899,978	$ (1,106)	$ (709,520)	$ (39,986)	$ 150,915
Stock-based compensation	—	—	3,241	—	—	—	3,241
Issuance of common stock under equity incentive plans, net of forfeitures	1,515	38	9,183	—	—	—	9,221
Net loss	—	—	—	—	(4,212)	—	(4,212)
Other comprehensive income	—	—	—	3	—	—	3
Balance at June 27, 2020	58,143	$ 1,587	$ 912,402	$ (1,103)	$ (713,732)	$ (39,986)	$ 159,168

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Treasury Stock	Total Stockholders' Equity
	Shares	Amount					
Balance at December 31, 2020	62,122	$ 1,553	$ 948,055	$ (191)	$ (669,092)	$ —	$ 280,325
Stock-based compensation	—	—	11,394	—	—	—	11,394
Issuance of common stock under equity incentive plans, net of forfeitures	1,078	27	12,810	—	—	—	12,837
Net income	—	—	—	—	41,073	—	41,073
Other comprehensive income	—	—	—	9	—	—	9
Balance at July 3, 2021	63,200	$ 1,580	$ 972,259	$ (182)	$ (628,019)	$ —	$ 345,638

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Treasury Stock	Total Stockholders' Equity
	Shares	Amount					
Balance at December 31, 2019	56,448	$ 1,545	$ 895,899	$ (854)	$ (702,576)	$ (39,986)	$ 154,028
Stock-based compensation	—	—	6,225	—	—	—	6,225
Issuance of common stock under equity incentive plans, net of forfeitures	1,695	42	10,278	—	—	—	10,320
Net loss	—	—	—	—	(11,156)	—	(11,156)
Other comprehensive loss	—	—	—	(249)	—	—	(249)
Balance at June 27, 2020	58,143	$ 1,587	$ 912,402	$ (1,103)	$ (713,732)	$ (39,986)	$ 159,168

See accompanying notes to condensed consolidated financial statements.

CALIX, INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands, unaudited)

	Six Months Ended	
	July 3, 2021	June 27, 2020
Operating activities:		
Net income (loss)	$ 41,073	$ (11,156)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Stock-based compensation	11,394	6,225
Depreciation and amortization	7,737	7,006
Asset retirements and write-downs	—	3,749
Changes in operating assets and liabilities:		
Accounts receivable, net	(10,745)	(12,082)
Inventory	(24,868)	3,494
Prepaid expenses and other assets	(6,390)	1,175
Accounts payable	21,918	(671)
Accrued liabilities	(10,184)	7,868
Deferred revenue	6,164	(947)
Other long-term liabilities	(2,742)	(726)
Net cash provided by operating activities	33,357	3,935
Investing activities		
Purchases of property and equipment	(3,928)	(4,480)
Purchases of marketable securities	(147,277)	—
Maturities of marketable securities	83,000	—
Net cash used in investing activities	(68,205)	(4,480)
Financing activities:		
Proceeds from common stock issuances related to employee benefit plans	12,837	10,320
Payments related to financing arrangements	(212)	(1,529)
Proceeds from line of credit	—	30,000
Repayment of line of credit	—	(34,000)
Payments to originate the line of credit	—	(285)
Net cash provided by financing activities	12,625	4,506
Effect of exchange rate changes on cash and cash equivalents	6	(238)
Net increase (decrease) in cash and cash equivalents	(22,217)	3,723
Cash and cash equivalents at beginning of period	80,807	47,457
Cash and cash equivalents at end of period	$ 58,590	$ 51,180

See accompanying notes to condensed consolidated financial statements.

CALIX, INC.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

1. Company and Basis of Presentation

Company

Calix, Inc. (together with its subsidiaries, "Calix" or the "Company") was incorporated in August 1999 and is a Delaware corporation. The Company is the leading global provider of cloud and software platforms, systems and services that focus on the access network, the portion of the network that governs available bandwidth and determines the range and quality of services that can be offered to subscribers. These cloud and software platforms enable broadband service providers ("BSPs") of all types and sizes to innovate and transform their businesses. The Company's BSP customers are empowered to utilize real-time data and insights from Calix platforms to simplify their businesses and deliver experiences that excite their subscribers. These insights enable BSPs to grow their businesses through increased subscriber acquisition, loyalty and revenue, thereby increasing the value of their businesses and contributions to their communities.

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements, including the accounts of Calix, Inc. and its wholly-owned subsidiaries, have been prepared in accordance with the requirements of the U.S. Securities and Exchange Commission ("SEC") for interim reporting. As permitted under those rules, certain footnotes or other financial information that are normally required by U.S. generally accepted accounting principles ("GAAP") can be condensed or omitted. In the opinion of management, the financial statements include all normal and recurring adjustments that are considered necessary for the fair presentation of the Company's financial position and operating results. All intercompany balances and transactions have been eliminated in consolidation. The Condensed Consolidated Balance Sheet as of December 31, 2020 has been derived from the audited financial statements at that date.

The results of the Company's operations can vary during each quarter of the year. Therefore, the results and trends in these interim financial statements may not be the same as those for the full year or any future periods. The information included in this Quarterly Report on Form 10-Q should be read in conjunction with the audited financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2020.

The Company's fiscal year begins on January 1st and ends on December 31st. Quarterly periods are based on a 4-4-5 calendar with the first quarter ending on the Saturday closest to March 31st. As a result, the Company had five more days in the six months ended July 3, 2021 than for the six months ended June 27, 2020. The preparation of financial statements in conformity with GAAP for interim financial reporting requires management to make estimates and assumptions that affect the amounts reported in the condensed consolidated financial statements and accompanying notes. Actual results could differ from those estimates.

Risks and Uncertainties

The Company is subject to risks and uncertainties as a result of the COVID-19 pandemic. The extent of the impact of the COVID-19 pandemic on the Company's business is highly uncertain and difficult to predict, particularly as variants of the coronavirus continue to spread around the world. Although the availability of vaccines has increased, there are no assurances as to when the pandemic will be fully contained. In March 2020, the Company instituted office closures, travel restrictions and a work-from-anywhere policy for substantially all of its employees due to shelter-in-place mandates. In July 2021, the Company reopened its U.S. offices to fully-vaccinated employees who choose to work in the office and visitors and lifted certain travel restrictions. The spread of COVID-19 has had a prolonged impact on the Company's supply chain operations due to restrictions, reduced capacity and limited availability from suppliers on whom the Company relies for sourcing components and materials and from third-party partners on whom the Company relies for manufacturing, warehousing and logistics services. Although demand for the Company's products has been strong in the short-term as subscribers seek more bandwidth and better Wi-Fi, customers' purchasing decisions over the long-term may be impacted by the pandemic and its impact on the economy, which could in turn impact the Company's revenue and results of operations. Furthermore, the Company's supply chain continues to face constraints primarily due to challenges in sourcing components and materials for the Company's products. The prolonged impact of COVID-19 could exacerbate these constraints or cause further supply chain disruptions. As of the issuance date of these condensed consolidated financial statements, the extent to which the COVID-19 pandemic may materially impact the Company's financial condition, liquidity or results of operations remains uncertain.

2. Significant Accounting Policies

The Company's significant accounting policies are disclosed in its Annual Report on Form 10-K for the year ended December 31, 2020. The Company's significant accounting policies did not change during the six months ended July 3, 2021.

Newly Adopted Accounting Standard

The Company did not adopt any new accounting standards during the six months ended July 3, 2021 that were significant to the Company.

Recent Accounting Pronouncements Not Yet Adopted

There have been no additional accounting pronouncements or changes in accounting pronouncements during the six months ended July 3, 2021 as compared to the recent accounting pronouncements described in the Company's Annual Report on Form 10-K for the year ended December 31, 2020, that are significant or potentially significant to the Company.

3. Cash, Cash Equivalents and Marketable Securities

The Company has invested its excess cash primarily in money market funds and highly liquid marketable securities such as commercial paper, corporate debt securities and U.S. government securities. The Company considers all investments with maturities of three months or less when purchased to be cash equivalents. Marketable securities represent highly liquid commercial paper, U.S. government agency securities and U.S. government securities with maturities greater than 90 days at date of purchase. Cash equivalents are stated at amounts that approximate fair value based on quoted market prices. Marketable securities are recorded at their fair values.

Marketable securities with maturities greater than one year are classified as current because management considers all marketable securities to be available for current operations.

The Company's investments have been classified and accounted for as available-for-sale. Such investments are recorded at fair value and unrealized holding gains and losses are reported as a separate component of accumulated other comprehensive loss in the stockholders' equity until realized. Realized gains and losses on sales of marketable securities, if any, are determined on the specific identification method and are reclassified from accumulated other comprehensive loss to results of operations as other income (expense), net. Realized and unrealized gains and losses were de minimis for the period ended July 3, 2021.

Cash, cash equivalents and marketable securities consisted of the following (in thousands):

	July 3, 2021	December 31, 2020
Cash and cash equivalents:		
Cash	$ 17,777	$ 30,745
Commercial paper	21,399	—
Money market funds	18,263	10,068
Corporate debt securities	1,151	—
U.S. government securities	—	39,994
Total cash and cash equivalents	58,590	80,807
Marketable securities:		
Commercial paper	114,150	—
U.S. government agency securities	3,109	—
U.S. government securities	—	52,982
Total marketable securities	117,259	52,982
	$ 175,849	$ 133,789

The carrying amounts of the Company's money market funds approximate their fair values due to their nature, duration and short maturities.

4. Fair Value Measurements

The Company measures its cash equivalents and marketable securities at fair value on a recurring basis. Fair value is an exit price, representing the amount 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 liability. The Company utilizes the following three-tier value hierarchy, which prioritizes the inputs used in measuring fair value:

Level 1 – Observable inputs that reflect quoted prices (unadjusted) for identical assets or liabilities in active markets.

Level 2 – Observable inputs other than quoted prices included in Level 1 for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-driven valuations in which all significant inputs and significant value drivers are observable in active markets.

Level 3 – Unobservable inputs to the valuation derived from fair valuation techniques in which one or more significant inputs or significant value drivers are unobservable. The fair value hierarchy also requires the Company to maximize the use of observable inputs, when available, and to minimize the use of unobservable inputs when determining inputs and determining fair value.

The following tables sets forth the Company's financial assets measured at fair value on a recurring basis based on the three-tier fair value hierarchy (in thousands):

As of July 3, 2021	Level 1	Level 2	Total
Money market funds	$ 18,263	$ —	$ 18,263
Commercial paper	—	135,549	135,549
U.S. government agency securities	—	3,109	3,109
Corporate debt securities	—	1,151	1,151
	$ 18,263	$ 139,809	$ 158,072

As of December 31, 2020	Level 1
Money market funds	$ 10,068
U.S. government securities	92,976
	$ 103,044

5. Balance Sheet Details

Accounts receivable, net consisted of the following (in thousands):

	July 3, 2021	December 31, 2020
Accounts receivable	$ 80,971	$ 70,824
Allowance for doubtful accounts	(807)	(1,405)
	$ 80,164	$ 69,419

Inventory consisted of the following (in thousands):

	July 3, 2021	December 31, 2020
Raw materials	$ 182	$ 34
Finished goods	76,954	52,234
	$ 77,136	$ 52,268

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

	July 3, 2021	December 31, 2020
Test equipment	$ 37,133	$ 37,670
Software	14,905	16,093
Computer equipment	9,897	9,062
Furniture and fixtures	2,025	2,069
Leasehold improvements	1,466	1,345
Total	65,426	66,239
Accumulated depreciation and amortization	(45,763)	(45,858)
	$ 19,663	$ 20,381

Other long-term assets consisted of the following (in thousands):

	July 3, 2021	December 31, 2020
Intangible asset	$ 8,201	$ 9,517
Other long-term assets	2,215	2,648
	$ 10,416	$ 12,165

Intangible Asset Acquisition

In March 2018, and as amended in December 2020, the Company entered into an agreement with a vendor to develop certain software product and related enhancements pursuant to which the Company is obligated to make revenue-share payments under the program, subject to aggregate fixed revenue-share payments of $15.8 million. The payments are based on a revenue-share rate applied to revenue from the developed-product and the corresponding hardware sales through March 2024. If the minimum revenue-share payments are not achieved by the end of that period, a true-up payment will be due. The Company had its first sale in August 2019, and as a result, the Company capitalized an intangible asset with a value of $13.2 million in the third quarter of 2019 and also recognized a liability of $13.2 million (a non-cash investing activity). The intangible asset has an estimated five-year useful life and is being amortized using the greater of the ratio of current gross revenue for the products to the total of current and anticipated future gross revenue for the products or the straight-line method. As of July 3, 2021, the liability, including accrued interest, was $14.0 million of which $3.4 million is included in accrued liabilities and $10.6 million in other long-term liabilities in the accompanying Condensed Consolidated Balance Sheet. As of December 31, 2020, the liability, including accrued interest, was $13.9 million of which $2.9 million was included in accrued liabilities and $11.0 million in other long-term liabilities.

Accrued liabilities consisted of the following (in thousands):

	July 3, 2021	December 31, 2020
Compensation and related benefits	$ 16,725	$ 23,740
Warranty and retrofit	9,911	9,208
Taxes payable	4,459	3,476
Professional and consulting fees	4,347	4,497
Component inventory held by suppliers	4,002	3,992
Current portion of revenue share obligations	3,417	2,925
Customer advances or rebates	3,359	8,374
Operating leases	3,005	2,994
Product returns	2,062	1,888
Operations	1,741	950
Freight	1,543	1,955
Other	4,056	4,737
	$ 58,627	$ 68,736

Changes in the Company’s accrued warranty and retrofit liability were as follows (in thousands):

	Three Months Ended		Six Months Ended	
	July 3, 2021	June 27, 2020	July 3, 2021	June 27, 2020
Balance at beginning of period	$ 9,650	$ 7,430	$ 9,208	$ 7
Provision for warranty and retrofit charged to cost of revenue	1,003	1,276	2,205	2
Utilization of reserve	(742)	(974)	(1,502)	(2
Balance at end of period	$ 9,911	$ 7,732	$ 9,911	$ 7

Accrued Restructuring Charges

Responding to trends caused by the COVID-19 pandemic, the Company initiated a restructuring plan in June 2020 to accelerate the Company’s All Platform future and to align with a work-from-anywhere culture. The Company incurred restructuring charges of approximately $6.3 million, consisting of facilities-related charges and severance and other termination-related benefits during 2020.

As part of the Company’s shift to a work-from-anywhere culture, many of the Company’s employees elected to work remotely on a permanent basis. In light of this change, the Company evaluated its space needs and determined that a portion of the Company's leased office spaces in Richardson, Texas and San Jose, California would no longer be utilized. As a result, the right-of-use assets related to these leases were written down, resulting in a charge of $3.5 million during 2020. In addition, the Company wrote off assets with net book value of $0.3 million and accrued common areas maintenance fees and property taxes related to the unused office space totaling $1.4 million during 2020.

The following table summarizes restructuring activities (in thousands):

	Facilities	Severance and Related Benefits	Total
Balance as of December 31, 2020	$ 1,244	$ 132	$ 1
Cash payments	(133)	(132)	(
Balance as of July 3, 2021	$ 1,111	$ —	$ 1

6. Credit Agreements

Line of Credit

The Company has a loan and security agreement with Bank of America, N.A. (“BofA Loan Agreement”). The BofA Loan Agreement provides for a revolving facility up to a principal amount of $35.0 million, including a $10.0 million sublimit for letters of credit. The BofA Loan Agreement matures, and all outstanding amounts become due and payable, in January 2023. The BofA Loan Agreement is secured by substantially all of the Company’s assets, including its intellectual property. Loans under the credit facility bear interest at a rate per annum equal to either LIBOR (customarily defined) plus an applicable margin between 1.5% to 2.0% or Prime Rate (customarily defined) plus an applicable margin between 0.5% to 1.0% (3.75% as of July 3, 2021), in each case largely based on a fixed charge coverage ratio measured at the end of each fiscal quarter. As of July 3, 2021, the Company had no outstanding borrowings and had full availability of borrowings up to $35.0 million.

7. Commitments and Contingencies

Lease Commitments

The Company leases office space under non-cancelable operating leases. Certain of the Company's operating leases contain renewal options and rent acceleration clauses. Future minimum payments under the non-cancelable operating leases consisted of the following as of July 3, 2021 (in thousands):

Period	Future Minimum Lease Payments
Remainder of 2021	$ 1,905
2022	3,911
2023	4,053
2024	3,855
2025	3,342
Thereafter	158
Total future minimum lease payments	17,224
Less imputed interest	(2,299)
	$ 14,925

As of July 3, 2021, the operating lease liability consisted of the following (in thousands):

Accrued liabilities - current portion of operating leases	$ 3,005
Operating leases	11,920
	$ 14,925

The Company leases its headquarters office space in San Jose, California under a lease agreement that expires in December 2025. The future minimum lease payments under the lease are $10.7 million and are included in the table above.

The weighted average discount rate for the Company's operating leases as of July 3, 2021 was 6.6%. The weighted average remaining lease term as of July 3, 2021 was 4.3 years.

For the three and six months ended July 3, 2021, total rent expense of the Company was $0.9 million and $2.1 million, respectively. For the three and six months ended June 27, 2020, total rent expense of the Company was $1.1 million and $2.2 million, respectively. Cash paid within operating cash flows for operating leases was $2.0 million and $1.7 million for the six months ended July 3, 2021 and June 27, 2020, respectively.

Purchase Commitments

The Company's suppliers, including contract manufacturers ("CMs") and original design manufacturers ("ODMs"), place orders for certain component inventory in advance based upon the Company's build forecasts in order to reduce manufacturing lead times and ensure adequate component supply. The components are used by the CMs and ODMs to build the products included in the build forecasts. The Company generally does not take ownership of the components held by CMs and ODMs. The Company places purchase orders with its CMs and ODMs in order to fulfill its monthly finished product inventory requirements. The Company incurs a liability when the CMs and ODMs convert the component inventory to a finished product and takes ownership of the finished goods inventory. In the event of termination of services with a manufacturing partner, the Company has purchased, and may be required to purchase in the future, certain of the remaining components inventory held by the CM or ODM as well as any outstanding orders pursuant to the contractual provisions with such CM or ODM. As of July 3, 2021, the Company had approximately $140.9 million of outstanding purchase commitments for inventories to be delivered by its suppliers, including CMs and ODMs, within one year.

The Company has from time to time, and subject to certain conditions, reimbursed certain suppliers for component inventory purchases when this inventory has been rendered excess or obsolete, for example due to manufacturing and engineering change orders resulting from design changes, manufacturing discontinuation of products by its suppliers, or in cases where the Company has committed inventory levels that greatly exceed projected demand. The estimated excess and obsolete inventory liabilities related to such manufacturing and engineering change orders and other factors, which are included in accrued liabilities in the accompanying balance sheets, was $4.0 million for both of the periods ending July 3, 2021 and December 31, 2020, respectively. The Company records the related charges in cost of systems revenue in its Condensed Consolidated Statements of Comprehensive Income (Loss).

Litigation

From time to time, the Company is involved in various legal proceedings arising from the normal course of business activities. The Company is not currently a party to any legal proceedings that, if determined adversely to the Company, in management's opinion, are currently expected to individually or in the aggregate have a material adverse effect on the Company's business, operating results or financial condition taken as a whole.

8. Stockholders' Equity

2019 Equity Incentive Award Plan

Employees and consultants of the Company, its subsidiaries and affiliates, as well as members of the Company's Board of Directors, are eligible to receive awards under the 2019 Equity Incentive Award Plan ("the 2019 Plan"). The 2019 Plan provides for the grant of stock options, including incentive stock options and nonqualified stock options, stock appreciation rights, restricted stock, restricted stock units, other stock or cash-based awards and dividend equivalents to eligible individuals. At the Company's 2021 annual meeting of stockholders, the stockholders approved an increase in the number of shares of common stock issuable under the 2019 Plan by 3.8 million shares. As of July 3, 2021, there were 7.0 million shares available for issuance under the 2019 Plan.

Stock Options

During the three months ended July 3, 2021, stock option awards exercisable for up to an aggregate of 0.5 million shares of common stock were granted with a grant date weighted-average exercise price of $40.82 per share. During the six months ended July 3, 2021, stock option awards exercisable for up to an aggregate of 0.6 million shares of common stock were granted with a grant date weighted-average exercise price of $39.38 per share. These stock option awards vest 25% on the first anniversary of the vesting commencement date and on a quarterly basis thereafter over an additional three years.

In February 2021, performance-based stock option awards exercisable for up to an aggregate of 0.7 million shares of common stock were granted to certain Company executives with a grant date exercise price of $36.74 per share. The actual number of shares earned is contingent upon achievement of annual corporate financial targets for bookings and non-GAAP net income for 2021 (collectively, the "2021 Performance Targets") during the one-year performance period. These performance-based stock option awards will vest, subject to certification by the Compensation Committee of the Company's Board of Directors upon the achievement of the 2021 Performance Targets, as to 25% of the shares of common stock earned on the one year anniversary of the date of grant, and as to the remaining 75% of the shares of common stock earned, in substantially equal quarterly installments over the subsequent 36 months, subject to the executive's continuous service with the Company through the respective vesting dates. If the non-GAAP net income target is achieved below 80% of target or the bookings target is achieved below 90% of target, no shares would be awarded, and the performance-based stock option awards would be forfeited in full. If both targets are achieved at the minimum threshold of 80% of target for non-GAAP net income and 90% of target for bookings, then the shares are awarded at 50% of the granted shares, with an increasing percentage of shares awarded above the minimum thresholds up to 100% of the granted shares if both targets are achieved at 100% or more of target. The probability of meeting the performance conditions related to these performance-based stock option awards was assessed to be probable as of July 3, 2021, and stock-based compensation expense of $1.9 million was recognized for the three months ended July 3, 2021. For the six months ended July 3, 2021, stock-based compensation expense of $2.9 million was recognized.

During the three months ended July 3, 2021, 0.1 million shares of common stock were issued pursuant to the exercise of stock options at a weighted-average exercise price of $7.38 per share. During the six months ended July 3, 2021, 0.6 million shares of common stock were issued pursuant to the exercise of stock options at a weighted-average exercise price of $9.17 per share. As of July 3, 2021, unrecognized stock-based compensation expense of $31.7 million related to stock options, net of estimated forfeitures, is expected to be recognized over a weighted-average period of 2.4 years.

Employee Stock Purchase Plans

The Company maintains two employee stock purchase plans - the Amended and Restated Employee Stock Purchase Plan (the "ESPP") and the Amended and Restated 2017 Nonqualified Employee Stock Purchase Plan (the "NQ ESPP").

The ESPP allows eligible employees to purchase shares of the Company's common stock through payroll deductions of up to 15% of their eligible compensation subject to certain Internal Revenue Code limitations. In addition, no participant may purchase more than 2,000 shares of common stock in each offering period.

The offering periods under the ESPP are two six-month offering periods from August 15th through February 14th and February 15th through August 14th of each year. The price of common stock purchased under the ESPP is 85% of the lower of the fair market value of the common stock on the commencement date and the end date of each six-month offering period. At the

Company's 2021 annual meeting of stockholders, the stockholders approved an increase in the number of shares of common stock issuable under the ESPP by 1.3 million shares, which will go into effect for the six-month purchase period commencing August 15, 2021 and ending on February 14, 2022. The total shares authorized for issuance under the ESPP increased from 9.8 million shares to 11.1 million shares. As of July 3, 2021, there were 2.4 million shares available for issuance under the ESPP. During the six months ended July 3, 2021, 0.2 million shares were purchased under the ESPP. As of July 3, 2021, unrecognized stock-based compensation expense of $0.3 million related to the ESPP is expected to be recognized over a remaining service period of 0.1 years.

The NQ ESPP allows eligible employees to purchase shares of the Company's common stock through payroll deductions of up to 25% of their eligible compensation. Eligible employees have the right to (a) purchase the maximum number of whole shares of common stock that can be purchased with the elected payroll deductions during each offering period for which the employee is enrolled at a purchase price equal to the closing price of the Company's common stock on the last day of such offering period and (b) receive an equal number of shares of the Company's common stock that are subject to a risk of forfeiture in the event the employee terminates employment within the one year period immediately following the purchase date. The NQ ESPP provides two six-month offering periods from November 15th through May 14th and May 15th through November 14th of each year. At the Company's 2021 annual meeting of stockholders, the stockholders approved an increase in the number of shares of common stock issuable under the NQ ESPP by 0.8 million shares. The maximum number of shares of common stock currently authorized for issuance under the NQ ESPP is 5.5 million shares, with a maximum of 0.5 million shares allocated per purchase period. As of July 3, 2021, there were 2.9 million shares available for issuance under the NQ ESPP, including the stockholder-approved 0.8 million share increase. During the three and six months ended July 3, 2021, 0.2 million shares were purchased and issued. As of July 3, 2021, unrecognized stock-based compensation expense of $6.0 million related to the NQ ESPP is expected to be recognized over a remaining weighted-average service period of 1.1 year.

Stock-Based Compensation

The following table summarizes stock-based compensation expense (in thousands):

	Three Months Ended		Six Months Ended	
	July 3, 2021	June 27, 2020	July 3, 2021	June 27, 2020
Cost of revenue:				
Products	$ 186	$ 126	$ 348	$ 233
Services	157	90	307	205
Sales and marketing	1,723	1,002	3,170	1,958
Research and development	1,644	1,098	3,227	2,107
General and administrative	2,513	926	4,342	1,722
	$ 6,223	$ 3,242	$ 11,394	$ 6,225

9. Revenue from Contracts with Customers

The Company derives revenue from contracts with customers primarily from the following and categorizes its revenue as follows:

- Systems include revenue from the sale of access and premises systems, software platform licenses and cloud-based software subscriptions; and
- Services include revenue from professional services, customer support, software- and cloud-based maintenance, extended warranty subscriptions, training and managed services.

The following is a summary of revenue disaggregated by geographic region based upon the location of the customers (in thousands):

	Three Months Ended		Six Months Ended	
	July 3, 2021	June 27, 2020	July 3, 2021	June 27, 2020
United States	$ 133,618	$ 108,198	$ 268,324	$ 196,248
Canada	7,444	2,868	13,950	6,431
Europe	9,844	2,110	13,259	6,231
Middle East	5,172	2,330	12,260	4,631
Caribbean	6,954	2,310	11,717	4,682
Other	5,638	1,207	11,234	2,482
	$ 168,670	$ 119,023	$ 330,744	$ 220,705

Contract Asset

The primary contract asset is revenue recognized on professional services contracts where the services are transferred to the customer over time, which has yet to be billed, and is classified within accounts receivable. Amounts are billed in accordance with the agreed-upon contractual terms. The balance as of December 31, 2020 was $2.3 million of which $0.7 million remained in the Company's Condensed Consolidated Balance Sheet as of July 3, 2021. The closing balance as of July 3, 2021 was $1.4 million of which the Company expects to bill 66% of the balance during the remainder of 2020. The decrease in the contract asset was driven by billings for past services and a reduction in expected cash collections on ongoing projects partially offset by additional unbilled work performed during the three months ended July 3, 2021.

Contract Liability

Deferred revenue consisted of the following (in thousands):

	July 3, 2021	December 31, 2020
Current:		
Products and services	$ 19,399	$ 14,651
Extended warranty	4,552	4,538
	23,951	19,189
Long-term:		
Products and services	2,729	1,879
Extended warranty	18,578	18,025
	21,307	19,904
	$ 45,258	$ 39,093

The increase in the deferred revenue balance for the three and six months ended July 3, 2021 is primarily driven by cash payments received or due in advance of satisfying the Company’s performance obligations offset by $6.8 million and $11.1 million of revenue recognized that was included in the deferred revenue balance at the beginning of each period, respectively.

Revenue allocated to remaining performance obligations represent contract revenue that has not yet been recognized, which includes deferred revenue and amounts that will be invoiced and recognized as revenue in future periods. This amount was $92.0 million as of July 3, 2021, and the Company expects to recognize 36% of such revenue over the next 12 months and the remainder thereafter.

Contract Costs

The Company capitalizes certain sales commissions related primarily to multi-year subscriptions and extended warranty support for which the expected amortization period is greater than one year. As of July 3, 2021, the unamortized balance of deferred commissions was $2.3 million. For the three and six months ended July 3, 2021, the amount of amortization was $0.2 million and $0.3 million, respectively. There was no impairment loss in relation to the costs capitalized.

Concentration of Customer Risk

No company accounted for more than 10% of the Company's total revenue for the three and six months ended July 3, 2021. Lumen Technologies, Inc. (formerly CenturyLink, Inc.) represented 15% of total revenue for three and six months ended June 27, 2020. No other customers accounted for more than 10% of the Company’s total revenue for three and six months ended June 27, 2020.

No customer represented more than 10% of the Company’s accounts receivable as of July 3, 2021 or December 31, 2020.

10. Income Taxes

The following table presents the provision for income taxes from operations and the effective tax rates for the periods indicated (in thousands, except percentages):

	Three Months Ended		Six Months Ended	
	July 3, 2021	June 27, 2020	July 3, 2021	June 27, 2020
Provision for income taxes	$ 207	$ 148	$ 357	$ 477
Effective tax rate	1.0 %	(3.6) %	0.9 %	(4.5)

The effective tax rate for the three months ended July 3, 2021 was determined using an estimated annual effective tax rate adjusted for discrete items, if any, that occurred during the respective periods.

Deferred tax assets are recognized if realization of such assets is more likely than not. The Company has established and continues to maintain a full valuation allowance against its net deferred tax assets, with the exception of certain foreign deferred tax assets, as the Company does not believe that realization of those assets is more likely than not.

The Company’s effective tax rate may be subject to fluctuation during the year as new information is obtained, which may affect the assumptions used to estimate the annual effective tax rate, including factors such as the mix of forecasted pre-tax earnings in the various jurisdictions in which it operates, valuation allowances against deferred tax assets, the recognition or de-recognition of tax benefits related to uncertain tax positions and changes in or the interpretation of tax laws in jurisdictions where it conducts business.

While the Company has reported U.S. pre-tax income for the first half of 2021, the Company has not yet been able to establish a sustained level of profitability in the U.S. or other sufficient significant positive evidence to conclude that its U.S. deferred tax assets are more likely than not to be realized. Therefore, the Company continues to maintain a valuation allowance against most of its U.S. deferred tax assets. At some point, if the Company establishes a sustained level of profitability and projects continued profitability, the Company may reverse a significant portion of its valuation allowance recorded against U.S. deferred tax assets, resulting in a non-recurring non-cash income tax benefit.

11. Net Income (Loss) Per Common Share

The following table sets forth the computation of basic and diluted net income (loss) per common share for the periods indicated (in thousands, except per share data):

	Three Months Ended		Six Months Ended	
	July 3, 2021	June 27, 2020	July 3, 2021	June 27, 2020
Numerator:				
Net income (loss)	$ 20,458	$ (4,212)	$ 41,073	$ (11
Denominator:				
Weighted-average common shares outstanding used to compute basic net income (loss) per share	63,042	57,261	62,795	56
Effect of dilutive common stock equivalents	4,592	—	4,552	
Weighted-average common shares outstanding used to compute diluted net income (loss) per share	67,634	57,261	67,347	56
Net income (loss) per common share:				
Basic net income (loss) per common share	$ 0.32	$ (0.07)	$ 0.65	$ (
Diluted net income (loss) per common share	$ 0.30	$ (0.07)	$ 0.61	$ (
Potentially dilutive shares, weighted average	1,096	6,996	752	6

Potentially dilutive shares have been excluded from the computation of diluted net income (loss) per common share when their effect is antidilutive. These antidilutive shares were primarily from stock options. For each of the periods presented where the Company reported a net loss, the effect of all potentially dilutive securities would be antidilutive, and as a result diluted net loss per common share is the same as basic net loss per common share.

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

This report includes "forward-looking statements" within the meaning of Section 27A of the Securities Act and Section 21E of the Securities and Exchange Act of 1934, as amended, or the Exchange Act. All statements other than statements of historical facts are "forward-looking statements" for purposes of these provisions, including any projections of earnings, revenue or other financial items, any statement of or concerning the following: the plans and objectives of management for future operations, proposed new products or licensing, product development, anticipated customer demand or capital expenditures, anticipated growth and trends in our business and industry, future economic and/or market conditions or performance and assumptions underlying any of the above. In some cases, forward-looking statements can be identified by the use of terminology such as "could," "may," "will," "would," "expects," "believes," "intends," "plans," "anticipates," "estimates," "projects," "predicts," "potential," or "continue" or the negative thereof or other comparable terminology. Readers are cautioned that these forward-looking statements are only predictions and are subject to risks, uncertainties and assumptions that are difficult to predict. Although we believe that the expectations reflected in the forward-looking statements contained herein are reasonable, there can be no assurance that such expectations or any of the forward-looking statements will prove to be correct, and actual results could differ materially from those projected or assumed in the forward-looking statements. Our future financial condition and results of operations, as well as any forward-looking statements, are subject to inherent risks and uncertainties, including those identified in the Risk Factors discussed in Part II, Item 1A, of this report on Form 10-Q, as well as in other sections of this report and in our Annual Report on Form 10-K for the year ended December 31, 2020. All forward-looking statements and reasons why results may differ included in this Quarterly Report on Form 10-Q are made as of the date hereof, and we assume no obligation to update these forward-looking statements or reasons why actual results might differ.

Overview

We are the leading global provider of cloud and software platforms, systems and services that focus on the access network, the portion of the network that governs available bandwidth and determines the range and quality of services that can be offered to subscribers. These cloud and software platforms enable broadband service providers, or BSPs, of all types and sizes to innovate and transform their businesses. Our BSP customers are empowered to utilize real-time data and insights from Calix platforms to simplify their businesses and deliver experiences that excite their subscribers. These insights enable BSPs to grow their businesses through increased subscriber acquisition, loyalty and revenue, thereby increasing the value of their businesses and contributions to their communities.

We market our cloud and software platforms, systems and services to BSPs globally through our direct sales force as well as select resellers. Our customers range from smaller, regional BSPs to some of the world's largest BSPs. We have enabled approximately 1,600 BSP customers purchasing directly and through partners to deploy passive optical, Active Ethernet and point-to-point Ethernet fiber access networks.

Our revenue and potential revenue growth will depend on our ability to sell and license our cloud and software platforms, systems and services to strategically aligned customers of all types such as wireless internet service providers, fiber overbuilders, cable MSOs, municipalities and electric cooperatives in the United States and internationally. Our growth is also highly dependent on the speed and willingness of customers to adopt these platforms.

Revenue fluctuations result from many factors, including, but not limited to: increases or decreases in customer orders for our products and services, market, financial or other factors that may delay or materially impact customer purchasing decisions, non-availability of products due to supply chain challenges, including component shortages and increasing lead times as well as disruptions as a result of the COVID-19 pandemic, contractual terms with customers that result in delayed revenue recognition and varying budget cycles and seasonal buying patterns of our customers. More specifically, our customers tend to spend less in the first quarter as they are finalizing their annual budgets, and in certain regions, customers are challenged by winter weather conditions that inhibit fiber deployment in outside infrastructure. Our revenue is also dependent upon our customers' timing of purchases, capital expenditure plans and decisions to upgrade their network or adopt new technologies, including adoption of our software and cloud platform solutions, as well as our ability to grow our customer base.

Cost of revenue is strongly correlated to revenue and tends to fluctuate due to all of the above factors that may cause revenue fluctuations. Factors that impacted our cost of revenue for the three and six months ended July 3, 2021, and that we expect will impact cost of revenue in future periods, also include: changes in the mix of products delivered, customer location and regional mix, changes in the cost of our inventory, including higher costs due to materials shortages including components, supply constraints or unfavorable changes in trade policies, investments to support expansion of cloud and customer support offerings as well as our customer success organization, changes in product warranty and incurrence of retrofit costs, tariffs and associated costs to mitigate the impact of tariffs, amortization of intangibles, asset write-offs, support fees for silicon-related development work for our products and inventory write-downs. Given the recent supply chain disruptions related to component shortages and longer lead times as a result of increased global demand for certain components and related to the COVID-19 pandemic, we have seen more challenges in supply chain logistics due to greater global demand for transport services as well as increases in our global freight charges as we have elected to ship by air in order to meet delivery commitments to our customers and as air freight rates have increased from prior year levels. Cost of revenue also includes fixed expenses related to our internal operations, which could increase our cost of revenue as a percentage of revenue if our revenue declines.

Our gross profit and gross margin fluctuate based on timing of factors such as changes in customer mix and changes in the mix of products demanded and sold (and any related write-downs of existing inventory) and have in the past been negatively impacted by increases in mix of revenue from channel sales rather than direct sales or other unfavorable customer or product mix, shipment volumes and any related volume discounts, changes in our product and services costs, pricing decreases or discounts, new product introductions or upgrades to existing products, customer rebates and incentive programs due to competitive pressure or materials shortages, supply constraints, investments to support expansion of cloud and customer support offerings, tariffs or unfavorable changes in trade policies.

Our operating expenses fluctuate based on the following factors among others: changes in headcount and personnel costs, which comprise a significant portion of our operating expenses; variable compensation due to fluctuations in shipment volumes or level of achievement against performance targets; timing of research and development expenses, including investments in innovative solutions and new customer segments, prototype builds and outsourced development resources; investments in marketing programs; asset write-offs; investments in our business and information technology infrastructure; and fluctuations in stock-based compensation expenses due to timing of equity grants or other factors affecting vesting.

While we had net income of $33.5 million in 2020 and $41.1 million for the first half of 2021, we have incurred significant losses since our inception, and as of July 3, 2021, we had an accumulated deficit of $628.0 million. Further, as a result of factors contributing to the fluctuations described above among other factors, many of which are outside our control, our quarterly operating results fluctuate from period to period. Comparing our operating results on a period-to-period basis may not be meaningful, and you should not rely on our past results as an indication of our future performance.

COVID-19 Pandemic

We are subject to risks and uncertainties as a result of the COVID-19 pandemic. The extent of the impact of the COVID-19 pandemic on our business is highly uncertain and difficult to predict, particularly as variants of the coronavirus continue to spread around the world. Although the availability of vaccines has increased, there are no assurances as to when the pandemic will be fully contained. In March 2020, we instituted office closures, travel restrictions and a work-from-anywhere policy for substantially all our employees due to shelter-in-place mandates. In July 2021, we reopened our U.S. offices to fully-vaccinated employees who choose to work in the office and visitors and lifted certain travel restrictions. The spread of COVID-19 has had a prolonged impact on our supply chain operations due to restrictions, reduced capacity and limited availability from suppliers on whom we rely for sourcing components and materials and from third-party partners on whom we rely for manufacturing, warehousing and logistics services. Although demand for our products has been strong in the short-term as subscribers seek more bandwidth and better Wi-Fi, customers' purchasing decisions over the long-term may be impacted by the pandemic and its impact on the economy, which could in turn impact our revenue and results of operations. Furthermore, our supply chain continues to face constraints primarily due to challenges in sourcing components and materials for our products. The prolonged impact of COVID-19 could exacerbate these constraints or cause further supply chain disruptions.

Critical Accounting Policies and Estimates

Our financial statements are prepared in accordance with U.S. GAAP. These accounting principles require us to make certain estimates and judgments that can affect the reported amounts of assets and liabilities as of the date of the financial statements, as well as the reported amounts of revenue and expenses during the periods presented. Management bases its estimates, assumptions and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances. To the extent there are material differences between these estimates and actual results, our financial statements may be affected. Our management evaluates its estimates, assumptions and judgments on an ongoing basis.

Our critical accounting policies and estimates, which are revenue recognition and inventory valuation, are described under "Critical Accounting Policies and Estimates" in "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, 2020. For the six months ended July 3, 2021, there have been no significant changes in our critical accounting policies and estimates.

Recent Accounting Pronouncements

There have been no additional accounting pronouncements or changes in accounting pronouncements during the six months ended July 3, 2021 as compared to the recent accounting pronouncements described in our Annual Report on Form 10-K for the year ended December 31, 2020 that are significant or potentially significant to us.

Results of Operations

Comparison of the Three and Six Months Ended July 3, 2021 and June 27, 2020

Revenue

The following table sets forth our revenue (dollars in thousands):

	Three Months Ended				Six Months Ended			
	July 3, 2021	June 27, 2020	Variance in Dollars	Variance in Percent	July 3, 2021	June 27, 2020	Variance in Dollars	Variance in Percent
Revenue:								
Systems	$ 159,553	$ 110,841	$ 48,712	44 %	$ 312,855	$ 205,350	$ 107,505	52 %
Services	9,117	8,182	935	11 %	17,889	15,355	2,534	17 %
	$ 168,670	$ 119,023	$ 49,647	42 %	$ 330,744	$ 220,705	$ 110,039	50 %
Percent of total revenue:								
Systems	95 %	93 %			95 %	93 %		
Services	5 %	7 %			5 %	7 %		
	100 %	100 %			100 %	100 %		

Our revenue increased by $49.6 million and $110.0 million for the three and six months ended July 3, 2021, respectively, as compared to the corresponding periods in 2020 mostly due to higher systems revenue of $48.7 million and $107.5 million. Services revenue increased by $0.9 million and $2.5 million compared to the corresponding periods in 2020. The increase in systems revenue was primarily due to higher revenue from our small, regional customers and, to a lesser extent, our medium-sized customers, as service providers adopt our All Platform offerings and seek to provide a better Wi-Fi experience. The increase in services revenue was due to the continued ramp in our service offerings aligned with cloud and software products for their customers.

For the three and six months ended July 3, 2021, revenue generated in the United States was $133.6 million and $268.3 million, or 79% and 81% of our total revenue, respectively, compared to $108.2 million and $196.2 million, or 91% and 89% of our total revenue, respectively, for the same periods in 2020. International revenue was $35.1 million and $62.4 million, or 21% and 19% of our total revenue, respectively, for the three and six months ended July 3, 2021, as compared to $10.8 million and $24.5 million, or 9% and 11% of our total revenue, respectively, for the same periods in 2020.

No customer accounted for more than 10% of our total revenue for the three and six months ended July 3, 2021. For both the three and six months ended June 27, 2020, only Lumen Technologies, Inc. (formerly CenturyLink, Inc.), or Lumen, accounted for more than 10% of our total revenue, representing 15% of our total revenue.

Cost of Revenue, Gross Profit and Gross Margin

The following table sets forth our cost of revenue (dollars in thousands):

	Three Months Ended				Six Months Ended			
	July 3, 2021	June 27, 2020	Variance in Dollars	Variance in Percent	July 3, 2021	June 27, 2020	Variance in Dollars	Variance in Percent
Cost of revenue:								
Systems	$ 72,673	$ 56,721	$ 15,952	28 %	$ 142,336	$ 107,429	$ 34,907	32 %
Services	6,378	5,897	481	8 %	12,547	11,247	1,300	12 %
	$ 79,051	$ 62,618	$ 16,433	26 %	$ 154,883	$ 118,676	$ 36,207	31 %

Our cost of revenue increased by $16.4 million and $36.2 million for the three and six months ended July 3, 2021, respectively, as compared with the corresponding periods in 2020. The $16.0 million and $34.9 million increases in our systems cost of revenue were less than the percentage increase in revenue compared with the corresponding periods in 2020 and were due to continued growth in our All Platform offerings along with favorable customer and product mix, the increasing spread between fixed costs in relation to revenue growth and a refund for previously paid U.S. import tariffs due to the subsequent export of tariffed products. This was partially offset by increased freight costs due to higher prices for transportation as well as a mix towards more air shipments to meet delivery commitments. The increase in services cost of revenue for the three and six months ended July 3, 2021 compared with the corresponding periods in 2020 was mainly due to increased personnel costs as we made further investments in our customer success organization.

The following table sets forth our gross profit and gross margin (dollars in thousands):

	Three Months Ended				Six Months Ended			
	July 3, 2021	June 27, 2020	Variance in Dollars	Variance in Percent	July 3, 2021	June 27, 2020	Variance in Dollars	Variance in Percent
Gross profit:								
Systems	$ 86,880	$ 54,120	$ 32,760	61 %	$ 170,519	$ 97,921	$ 72,598	74 %
Services	2,739	2,285	454	20 %	5,342	4,108	1,234	30 %
	$ 89,619	$ 56,405	$ 33,214	59 %	$ 175,861	$ 102,029	$ 73,832	72 %
Gross margin:								
Systems	54.5 %	48.8 %			54.5 %	47.7 %		
Services	30.0 %	27.9 %			29.9 %	26.8 %		
Overall	53.1 %	47.4 %			53.2 %	46.2 %		

Gross profit increased to $89.6 million and $175.9 million for the three and six months ended July 3, 2021, respectively, from $56.4 million and $102.0 million during the corresponding periods in 2020 due to higher gross margin for both systems and services. The increase in systems gross margin for the three and six months ended July 3, 2021 compared to the corresponding periods in 2020 was mainly due to continued growth in our All Platform offerings along with favorable product and customer mix as well as a credit for previously paid tariffs due to product re-export. Services gross margin increased for the three and six months ended July 3, 2021 compared to the corresponding periods in 2020 as our service revenue mix shifted away from low gross margin deployment services to higher gross margin software maintenance and services aligned with our platform offerings.

Operating Expenses

Sales and Marketing Expenses

The following table sets forth our sales and marketing expenses (dollars in thousands):

	Three Months Ended				Six Months Ended			
	July 3, 2021	June 27, 2020	Variance in Dollars	Variance in Percent	July 3, 2021	June 27, 2020	Variance in Dollars	Variance in Percent
Sales and marketing expenses	$ 29,710	$ 21,343	$ 8,367	39 %	$ 57,761	$ 41,967	$ 15,794	38 %
Percent of total revenue	18 %	18 %			17 %	19 %		

Sales and marketing expenses for the three months ended July 3, 2021 increased by $8.4 million compared with the corresponding period in 2020 primarily due to increases in personnel expenses of $5.1 million, mainly related to investments in sales headcount and higher sales incentive compensation, marketing expenses of $1.3 million and stock-based compensation of $0.7 million.

Sales and marketing expenses for the six months ended July 3, 2021 increased by $15.8 million compared with the corresponding period in 2020 primarily due to increases in personnel expenses of $11.9 million, mainly related to investments in sales headcount and higher sales incentive compensation, marketing expenses of $1.8 million, stock-based compensation of $1.2 million and outside services expenses of $0.8 million. These increases were partially offset by a decrease in travel expenses of $1.1 million.

We expect to slightly increase our investments in sales and marketing as a percentage of revenue in order to extend our market reach and grow our business in support of our key strategic initiatives.

Research and Development Expenses

The following table sets forth our research and development expenses (dollars in thousands):

	Three Months Ended				Six Months Ended			
	July 3, 2021	June 27, 2020	Variance in Dollars	Variance in Percent	July 3, 2021	June 27, 2020	Variance in Dollars	Variance in Percent
Research and development expenses	$ 25,716	$ 20,921	$ 4,795	23 %	$ 50,080	$ 41,592	$ 8,488	20 %
Percent of total revenue	15 %	18 %			15 %	19 %		
Percentage of systems gross profit	30 %	39 %			29 %	42 %		

Research and development expenses for the three months ended July 3, 2021 increased by $4.8 million as compared with the corresponding period in 2020 mainly due to increases in outside services of $3.1 million, personnel expenses of $1.6 million and stock-based compensation of $0.5 million. These increases were partially offset by lower facilities expenses of $0.7 million.

Research and development expenses for the six months ended July 3, 2021 increased by $8.5 million as compared with the corresponding period in 2020 mainly due to increases in outside services of $4.8 million, personnel expenses of $3.5 million, stock-based compensation of $1.1 million and depreciation and amortization of $0.7 million. These increases were partially offset by lower facilities expenses of $1.6 million.

We expect to slightly increase our investments in research and development as a percentage of systems gross profit to expand the functionality and capabilities of our platforms.

General and Administrative Expenses

The following table sets forth our general and administrative expenses (dollars in thousands):

	Three Months Ended				Six Months Ended			
	July 3, 2021	June 27, 2020	Variance in Dollars	Variance in Percent	July 3, 2021	June 27, 2020	Variance in Dollars	Variance in Percent
General and administrative expenses	$ 13,664	$ 11,193	$ 2,471	22 %	$ 26,689	$ 21,862	$ 4,827	22 %
Percent of total revenue	8 %	9 %			8 %	10 %		

General and administrative expenses for the three months ended July 3, 2021 increased by $2.5 million as compared with the corresponding period in 2020 mainly due to increases in stock-based compensation of $1.6 million, unallocated-facilities expenses of $0.8 million, and personnel expenses of $0.7 million. Beginning in the third quarter of 2020, we changed our facility allocation to align with our work-from-anywhere initiative, and consequently, most of our facilities expenses are retained in general and administrative expenses. These increases were partially offset by a decrease in our bad debt expense of $0.9 million.

General and administrative expenses for the six months ended July 3, 2021 increased by $4.8 million as compared with the corresponding period in 2020 mainly due to increases in stock-based compensation of $2.6 million, unallocated-facilities expenses of $2.1 million, and personnel expenses of $1.4 million. These increases were partially offset by a decrease in our bad debt expense of $1.1 million.

We expect our general and administrative expenses to decline as a percentage of revenue over time as revenue continues to grow.

Restructuring Charges

Responding to changes and trends caused by the COVID-19 pandemic, we initiated a restructuring plan in June 2020 to accelerate our All Platform future and to align with a work-from-anywhere culture. We incurred restructuring charges of $6.3 million, consisting of facilities-related charges and severance and other termination related benefits, for the six months ended June 27, 2020. See Note 5, “Balance Sheet Details” of the Notes to Condensed Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q for further details.

Provision for Income Taxes

The following table sets forth our provision for income taxes (dollars in thousands):

	Three Months Ended				Six Months Ended			
	July 3, 2021	June 27, 2020	Variance in Dollars	Variance in Percent	July 3, 2021	June 27, 2020	Variance in Dollars	Variance in Percent
Provision for income taxes	$ 207	$ 148	$ 59	40 %	$ 357	$ 477	$ (120)	(25) %
Effective tax rate	1.0 %	(3.6)%			0.9 %	(4.5)%		

The effective tax rate for the three and six months ended July 3, 2021 was determined using an estimated annual effective tax rate adjusted for discrete items, if any, that occurred during the respective periods.

While we have recently reported profitability, we have not yet been able to establish a sustained level of profitability in the U.S. or other sufficient significant positive evidence to conclude that our U.S. deferred tax assets are more likely than not to be realized. Therefore, we continue to maintain a valuation allowance against most of our U.S. deferred tax assets. At some point, if we establish a sustained level of profitability and project continued profitability, we may reverse a significant portion of our valuation allowance recorded against U.S. deferred tax assets, resulting in a non-recurring, non-cash income tax benefit.

Our effective tax rate may be subject to fluctuation during the year as new information is obtained, which may affect the assumptions used to estimate the annual effective tax rate, including factors such as the mix of forecasted pre-tax earnings in the various jurisdictions in which we operate, valuation allowances against deferred tax assets, the recognition or de-recognition of tax benefits related to uncertain tax positions and changes in or the interpretation of tax laws in jurisdictions where we conduct business.

Liquidity and Capital Resources

We have funded our operations and investing activities primarily through sales of our common stock, including an underwritten public offering in August 2020, cash flow generated from operations and various borrowing arrangements. As of July 3, 2021, we had cash, cash equivalents and marketable securities of $175.8 million, which consisted of deposits held at banks and major financial institutions and highly liquid marketable securities such as U.S. government agency securities and commercial paper.

Operating Activities

Net cash provided by operating activities was $33.4 million for the six months ended July 3, 2021 and consisted of net income of $41.1 million and non-cash charges of $19.1 million, consisting of stock-based compensation of $11.4 million and depreciation and amortization of $7.7 million. This was partially offset by cash flow decreases of $26.8 million reflected in the net change in assets and liabilities.

Cash flow decreases resulting from the net change in assets and liabilities primarily consisted of an increase in inventory of $24.9 million to support revenue growth and to mitigate supply chain shortages and disruptions and a decrease in total accrued liabilities of $12.9 million, mainly related to incentive compensation payouts, rebate redemptions and a reduction of customer advance payments. In addition, there was an increase in accounts receivable of $10.7 million, due to product shipment timing, and an increase in prepaid expenses and other assets of $6.4 million mainly due to advance payments to our supply chain partners for deposits, expedite fees and component surcharges. These changes were partially offset by an increase in accounts payable of $21.9 million due to increased inventory purchases and an increase in deferred revenue of $6.2 million due to Calix Cloud subscriptions, support contracts and extended warranties.

During the six months ended June 27, 2020, net cash provided by operating activities was $3.9 million and consisted of $17.0 million of non-cash charges and $1.9 million of cash flow decreases reflected in the net change in assets and liabilities, partially offset by a net loss of $11.2 million. Cash flow decreases resulting from the net change in assets and liabilities primarily consisted of an increase in accounts receivable of $12.1 million, due to the timing of product shipments. In addition, there was a decrease in deferred revenue of $0.9 million due to the invoice timing of our customer support and subscription offerings and a decrease in accounts payable of $0.7 million, primarily due to timing of payments to our suppliers. These changes were partially offset by an increase in accrued liabilities of $7.9 million, due to an increase in accruals related to our restructuring activities and an increase our liability for components at certain suppliers. In addition, there was a decrease in inventory of $3.5 million due to lower deliveries as a result of the supply disruption during 2020 and an increase in prepaid expenses and other assets of $1.2 million, due to an increase in our VAT receivable and employee receivables related to income tax obligations associated with our NQ ESPP. Non-cash charges primarily consisted of depreciation and amortization of $7.0 million, stock-based compensation of $6.2 million and lease restructuring charges of $3.7 million.

Investing Activity

For the six months ended July 3, 2021, cash used in investing activities of $68.2 million consisted of net purchases of marketable securities of $64.3 million and capital expenditures of $3.9 million, consisting primarily of purchases of test equipment and computer equipment.

Net cash used in investing activities of $4.5 million for the six months ended June 27, 2020 consisted of capital expenditures primarily for purchases of test equipment and computer equipment.

Financing Activities

Net cash provided by financing activities of $12.6 million for the six months ended July 3, 2021 consisted of proceeds from the issuance of common stock related to our employee equity plans.

Net cash provided by financing activities of $4.5 million for the six months ended June 27, 2020 mainly consisted of proceeds from the issuance of common stock related to our employee equity plans of $10.3 million. These inflows were partially offset by the partial re-payment of our line of credit of $4.0 million, payments related to financing arrangements of $1.5 million and payments to originate the credit line of $0.3 million.

Working Capital and Capital Expenditure Needs

Our material cash commitments include non-cancelable firm purchase commitments, normal recurring trade payables, compensation-related and expense accruals, operating leases and revenue-share obligations. We believe that our outsourced approach to manufacturing provides us significant flexibility in both managing inventory levels and financing our inventory. In the event that our revenue plan does not meet our expectations, we may be required to curtail or eliminate expenditures to mitigate the impact on our working capital.

The BofA Loan Agreement provides for a revolving facility up to a principal amount of up to $35.0 million, including a $10.0 million sublimit for letters of credit. The BofA Loan Agreement matures, and all outstanding amounts become due and payable, in January 2023. The BofA Loan Agreement is secured by substantially all of our assets, including our intellectual property. Loans under the credit facility bear interest at a rate per annum equal to either LIBOR (customarily defined) plus an applicable margin between 1.5% to 2.0% or Prime Rate (customarily defined) plus an applicable margin between 0.5% to 1.0% (3.75% as of July 3, 2021), in each case largely based on a fixed charge coverage ratio measured at the end of each fiscal quarter. As of July 3, 2021, we had no outstanding borrowings and had full availability of $35.0 million.

In March 2018, we entered into an agreement with a vendor to develop software products pursuant to which we would become obligated, if the vendor delivered software that meets our technical requirements for commercial sale, to make minimum revenue-share payments of $15.8 million over the subsequent three years. The payments are based on a revenue-share rate applied to revenue from developed product sales subject to a minimum and a maximum aggregate amount over the three-year sales period. We had our first sale in August 2019. Revenue-share payments are paid quarterly in arrears, and we began making payments in the fourth quarter of 2020. In December 2020, we amended the agreement to increase the revenue-share rate, limit the revenue-share payments to $15.8 million and extend the revenue-share period until March 2024.

We believe, based on our current operating plan and expected operating cash flows, that our existing cash, cash equivalents and marketable securities will be sufficient to meet our anticipated cash needs for at least the next twelve months. If we are unable to execute on our current operating plan or continue to generate operating income and positive cash flows, our liquidity, results of operations and financial condition will be adversely affected, and we may need to seek other sources of liquidity, including the sale of additional equity or borrowing, to support our working capital needs. In addition, we may choose to seek other sources of liquidity even if we believe we have generated sufficient cash flows to support our operational needs. There is no assurance that any other sources of liquidity may be available to us on acceptable terms or at all. If we are unable to generate sufficient cash flows or obtain other sources of liquidity, we will be forced to limit our development activities, reduce our investment in growth initiatives and institute cost-cutting measures, all of which may adversely impact our business and potential growth.

Contractual Obligations and Commitments

Our principal commitments as of July 3, 2021 consisted of our contractual obligations under non-cancelable outstanding purchase obligations, operating lease obligations for office space and a revenue share obligation. The following table summarizes our contractual obligations as of July 3, 2021 (in thousands):

	Payments Due by Period				
	Total	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years
Non-cancelable purchase commitments [1]	$ 165,782	$ 149,752	$ 13,570	$ 2,460	$ —
Operating lease obligations [2]	17,224	3,883	8,059	5,220	62
Revenue share obligation [3]	15,131	2,391	12,740	—	—
	$ 198,137	$ 156,026	$ 34,369	$ 7,680	$ 62

[1] Represents outstanding purchase commitments to be delivered by our third-party manufacturers or other vendors. See Note 7, "*Commitments and Contingencies*" of the Notes to Condensed Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q for further discussion regarding our outstanding purchase commitments.

[2] Future minimum operating lease obligations in the table above primarily include payments for our office locations, which expire at various dates through 2026. See Note 7 "*Commitments and Contingencies*" of the Notes to Condensed Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q for further discussion regarding our operating leases.

[3] Represents remaining payments related to a revenue-share obligation, including imputed interest associated with developed software product and related enhancements, by an engineering service provider. The schedule reflects our expected revenue-share payments based on our revenue projections for the developed products over a sales period through March 2024. If the minimum revenue-share payments are not achieved by the end of that period, a true-up payment will be due. See Note 5 *"Balance Sheet Details"* of the Notes to Condensed Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q for further discussion regarding our outstanding liability.

Off-Balance Sheet Arrangements

As of July 3, 2021 and December 31, 2020, we did not have any off-balance sheet arrangements.

ITEM 3. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

The primary objectives of our investment activity are to preserve principal, provide liquidity and maximize income without significantly increasing risk. By policy, we do not enter into investments for trading or speculative purposes. As of July 3, 2021, we had cash, cash equivalents and marketable securities of $175.8 million, which was held primarily in cash, money market funds and highly liquid marketable securities such as U.S. government agency securities and commercial paper. Due to the nature of these money market funds and highly liquid marketable securities, we believe that we do not have any material exposure to changes in the fair value of our cash equivalents and marketable securities as a result of changes in interest rates.

Our exposure to interest rate risk also relates to the amount of interest we must pay on our borrowings under our Loan Agreement with BofA. Borrowings under the BofA Loan Agreement will bear interest through maturity at a variable annual rate based upon an annual rate of either a prime rate or a LIBOR rate, plus an applicable margin between 0.5% to 1.0% for prime rate advances and between 1.5% and 2.0% for LIBOR advances based on our fixed charge coverage ratio. As of July 3, 2021, we had no outstanding borrowings under the BofA Loan Agreement.

Foreign Currency Exchange Risk

Our primary foreign currency exposures are described below.

Economic Exposure

The direct effect of foreign currency fluctuations on our sales and expenses has not been material because our sales and expenses are primarily denominated in U.S. dollars, or USD. However, we are indirectly exposed to changes in foreign currency exchange rates to the extent of our use of foreign CMs whom we pay in USD. Increases in the local currency rates of these vendors in relation to USD could cause an increase in the price of products that we purchase. Additionally, if the USD strengthens relative to other currencies, such strengthening could have an indirect effect on our sales to the extent it raises the cost of our products to non-U.S. customers and thereby reduces demand. A weaker USD could have the opposite effect. The precise indirect effect of currency fluctuations is difficult to measure or predict because our sales are influenced by many factors in addition to the impact of such currency fluctuations.

Translation Exposure

Our sales contracts are primarily denominated in USD and, therefore, the majority of our revenue is not subject to foreign currency risk. We are directly exposed to changes in foreign exchange rates to the extent such changes affect our expenses related to our foreign assets and liabilities with our subsidiaries in China and the United Kingdom, whose functional currencies are Chinese Renminbi, or RMB, and British Pounds Sterling, or GBP.

Our operating expenses are incurred primarily in the United States, in China associated with our research and development operations that are maintained there and in the United Kingdom for our international sales and marketing activities. Our operating expenses are generally denominated in the functional currencies of our subsidiaries in which the operations are located. The percentages of our operating expenses denominated in the following currencies for the indicated periods were as follows:

	Six Months Ended	
	July 3, 2021	June 27, 2020
USD	92 %	92 %
RMB	6 %	5 %
GBP	2 %	3 %
	100 %	100 %

If USD had appreciated or depreciated by 10%, relative to RMB and GBP, our operating expenses for the first six months of 2021 would have decreased or increased by approximately $1.1 million, or approximately 1%. We do not currently enter into forward exchange contracts to hedge exposure denominated in foreign currencies or any derivative financial instruments. In the future, we may consider entering into hedging transactions to help mitigate our foreign currency exchange risk.

Foreign exchange rate fluctuations may also adversely impact our financial position as the assets and liabilities of our foreign operations are translated into USD in preparing our Condensed Consolidated Balance Sheets. The effect of foreign exchange rate fluctuations on our consolidated financial position for the six months ended July 3, 2021 was a net translation gain of $9,000. This gain is recognized as an adjustment to stockholders' equity through accumulated other comprehensive loss.

Transaction Exposure

We have certain assets and liabilities, primarily receivables and accounts payable (including inter-company transactions) that are denominated in currencies other than the relevant entity's functional currency. In certain circumstances, changes in the functional currency value of these assets and liabilities create fluctuations in our reported consolidated financial position, cash flows and results of operations. Transaction gains and losses on these foreign currency denominated assets and liabilities are recognized each period within "Other expense, net" in our Condensed Consolidated Statements of Comprehensive Income (Loss). During the six months ended July 3, 2021, the net gain we recognized related to these foreign exchange assets and liabilities was approximately $0.5 million.

ITEM 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Based on their evaluation as of July 3, 2021, our Chief Executive Officer and Chief Financial Officer, with the participation of our management, have concluded that our disclosure controls and procedures (as defined in Rules 13a–15(e) and 15d–15(e) under the Exchange Act) were effective at the reasonable assurance level.

Limitations on the Effectiveness of Controls

Our disclosure controls and procedures provide our Chief Executive Officer and Chief Financial Officer reasonable assurance that our disclosure controls and procedures will achieve their objectives. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate, to allow timely decisions regarding required disclosure. Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting can or will prevent all human error. Our management recognizes that a control system, no matter how well designed and implemented, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Furthermore, the design of a control system must reflect the fact that there are internal resource constraints, and the benefit of controls must be weighed relative to their corresponding costs. Because of the limitations in all control systems, no evaluation of controls can provide complete assurance that all control issues and instances of error, if any, within our company are detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur due to human error or mistake. Additionally, controls, no matter how well designed, could be circumvented by the individual acts of specific persons within the organization. The design of any system of controls is also based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated objectives under all potential future conditions.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the period covered by this report that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. Legal Proceedings

For a description of our material pending legal proceedings, please refer to Note 6 *"Commitments and Contingencies – Litigation"* of the Notes to Condensed Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q, which is incorporated by reference.

ITEM 1A. Risk Factors

We have identified the following additional risks and uncertainties that may affect our business, financial condition and/or results of operations. The risks described below include any material changes to and supersede the description of the risk factors disclosed in Part I, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2020, as filed with the Securities and Exchange Commission on February 22, 2021. Investors should carefully consider the risks described below, together with the other information set forth in this Quarterly Report on Form 10-Q, before making any investment decision. The risks described below are not the only ones we face. Additional risks not currently known to us or that we currently believe are immaterial may also significantly impair our business operations. Our business could be harmed by any of these risks. The trading price of our common stock could decline due to any of these risks, and investors may lose all or part of their investment.

Business and Operational Risks

Our business and results of operations have been and are expected to continue to be negatively affected by the COVID-19 pandemic that has severely impacted the global economy.

Since late 2019, the COVID-19 pandemic has severely impacted the global economy, disrupting financial markets, global manufacturing activities, customer purchasing patterns and general business operations, resulting in business closures, significant unemployment rates and substantial and prolonged government restrictions on business, travel and personal activities. These measures have disrupted our global supply chain activities and significantly limited our business travel, customer engagements and normal business activities, all of which heighten our business and operational risks. With the increased availability of vaccines in the U.S., we recently reopened our offices for fully-vaccinated employees who choose to work at the office and resumed business travel with safety precautions as we continue to focus on the safety, well-being and productivity of our workforce amid the pandemic. We cannot predict the continued impact of the pandemic and the degree to which our business and results of operations may be affected, particularly given the extended duration of the pandemic and lack of global vaccine availability and adoption. There continue to be outbreaks, and variants that are more highly transmissible and/or that cause more severe disease may continue to emerge. There are no assurances that the global economy will recover quickly or at all, or that impacted areas will be able to adequately contain COVID-19 infections.

In particular, the pandemic and related restrictions continue to adversely impact our global supply chain operations with materially longer lead times, increased competition for limited supplies, shortages of key components and materials and disruptions in operations, including office and factory closures, at our third-party manufacturers, logistics partners and suppliers. If the pandemic and related restrictive measures continue for a prolonged period, we may experience a sustained shortage of components and materials, which may have a material negative impact on our ability to supply products to meet customer requirements and could materially adversely affect our business and results of operations. Business closures, infection outbreaks, travel restrictions and other impacts of the COVID-19 pandemic have also adversely affected economies, financial markets and the financial viability and liquidity of businesses in the U.S. and internationally, heightening our collections risk. Our customers' purchasing decisions may be impacted by the pandemic, which could in turn impact our sales and results of operations. Although demand for our products has been strong in the short-term as subscribers seek more bandwidth and better Wi-Fi, customers' purchasing decisions over the long-term may be impacted by the pandemic and its impact on the economy. For example, BSPs may choose not to invest at this time in our new platforms or delay infrastructure improvements due to the uncertainty in the global economy. The prolonged disruptions to our business and operations and other adverse impacts of the COVID-19 pandemic or further disruptions we may experience in the future could have a material adverse effect on our business, results of operations and financial condition.

We have risks associated with material dependencies on third-party vendors for our global supply chain operations that could disrupt our business and adversely impact our gross margin and results of operations.

We have material dependencies on third-party vendors for our global supply chain operations, including for services to design, source components and materials, manufacture, transport and deliver our products, which heighten the complexity of our global supply chain operations. If any of these third-party vendors stop providing their services, for any reason, we would have to obtain similar services from alternative sources, which may not be available on commercially reasonable terms, if at all. We also have limited control over disruptions that may occur at the facilities of these third-party partners, such as supply interruptions, labor shortages, strikes, design and manufacturing failures, quality control issues, transportation backlogs, systems failures or even facility closures arising from the COVID-19 pandemic or natural disasters. In addition, switching development firms or manufacturers could delay the manufacture and availability of products and/or require us to re-qualify our products with our customers, which would be costly and time-consuming. For example, in recent years, we transitioned substantially all of our product manufacturing to locations outside of China, which required significant resources and involved unanticipated costs, disruptions in our operations and product shortages due to manufacturing and production delays that impaired our ability to fulfill customer orders and resulted in revenue below our plan in the first quarter of 2019. Any interruption in the development, supply or distribution of our products would adversely affect our ability to meet scheduled product deliveries to our customers and could result in lost revenue or higher costs, which would negatively impact our gross margin and operating results and harm our business.

Particular risks associated with management of our global supply chain operations include the following:

- ***Manufacturing constraints and disruptions.*** We do not have internal manufacturing capabilities and rely solely on a small number of manufacturing partners to manufacture and supply our products. Our business operations and ability to supply our products are highly dependent upon our ability to secure adequate third-party manufacturing capabilities and capacity and to effectively manage our manufacturing partners to meet our business needs. Our dependency solely on third-party manufacturers makes us vulnerable to possible supply and capacity constraints and reduces our control over manufacturing disruptions due to component availability, delivery schedules, quality, manufacturing yields and costs. If these manufacturing disruptions and constraints are prolonged, or if these manufacturing partners do not have adequate capabilities or business continuity plans to fulfill their obligations to us, our business could be disrupted. Furthermore, we expect to face increasing competition for manufacturing capacity and resources as other companies seek to transition manufacturing operations out of China due to uncertainties around tariffs, trade disputes or other factors. If we are unable to effectively manage our vendors or if we fail to invest adequate resources to manage our supply chain operations, our ability to meet customer orders and generate revenue may be negatively impacted. A substantial portion of our manufacturing is done at facilities outside of the U.S., largely in Asia, which presents increased supply risk, including the risk of supply interruptions or reductions in manufacturing quality or controls. Our international manufacturing also creates risks and uncertainties associated with regulatory changes or government actions such as local business requirements, trade restrictions and tariffs, economic sanctions or related legislation, which may complicate our export and import activities, be disruptive to the operations of our manufacturers and logistics partners or result in higher costs and variability of supply. Manufacturing in Asia further heightens our risk of meeting customer delivery requirements as we rely upon our logistics partners to transport and import significant volumes of products to the U.S. where we generate a substantial majority of our revenue.
- ***Extended lead times; component and materials shortages.*** We source components and materials to manufacture our products from a limited number of suppliers, resulting in our product supply being subject to such suppliers' lead times, volume constraints and increasing costs. We have experienced and may continue to experience extended lead times and product unavailability due to factory disruptions or closures as well as delays and unanticipated costs associated with the supply of our products, including transportation backlogs, particularly in light of the COVID-19 pandemic. We also expect continued shortages and/or delay of critical components and related services as a result of growing demand in the industry or other sectors. For example, increases in computing needs, Internet-of-Things devices, wireless products, automotive electronics and artificial intelligence all drive increased demand for certain components, such as chipsets and memory products, which have resulted and may continue to result in lower availability, longer lead times, increased prices for such components and increasing competition for logistics services. More recently, one of our silicon suppliers extended their lead time from 32 to 50 weeks and increased prices. Extended lead times and shortages could impair our ability to meet our customer requirements, require us to pay higher prices or incur expedite fees, which would harm our business and negatively impact our gross margin and results of operations.
- ***Limited sources and sole-sourced supply.*** We have sole-source or limited-source dependencies with suppliers for some key product components such as chipsets and certain of our application-specific integrated circuit processors and resistor components, including certain components sourced solely through suppliers located in China. Any of these suppliers upon whom we or our business partners rely could stop producing our components, be subject to higher costs or tariffs, epidemics or other conditions that disrupt their operations, cease operations or enter into exclusive arrangements with our competitors. For example, we have experienced disruptions in our supply of certain components that are sourced from suppliers in China, Southeast Asia, Mexico and other countries as a result of the COVID-19 pandemic, which have caused delays in supply of our products due to production disruptions, factory closures and longer lead times for components and from uncertainty around trade and tariff policies between the U.S. and China. Sole-source or limited-source dependencies on these suppliers limit our ability to mitigate these disruptions

in our supply chain and such disruptions, particularly if prolonged, may adversely affect our ability to obtain components and materials needed to manufacture our products at acceptable prices or at all, which would adversely affect our ability to meet scheduled product deliveries to our customers, increase costs and in turn harm our business and results of operations.

- ***Limitations on ability to manage third-party risks.*** Our business with third-party manufacturers typically represents a relatively small percentage of their total revenue, and our orders may not be given adequate priority if such manufacturers have to allocate limited capacity among competing customers, which could delay supplies of product to us or limit our ability to ramp product volumes within desired timeframes. If any of our manufacturing partners are unable or unwilling to continue manufacturing our products in required volumes and at high quality levels, we would have to identify, qualify and select acceptable alternative manufacturers, which could disrupt our ability to maintain continuous supply of product to meet customer requirements. An alternative manufacturer may not be available to us when needed or may not be in a position to satisfy our production requirements at commercially reasonable prices and quality. In addition, we and/or our manufacturers may not be able to negotiate commercially reasonable terms and sufficient quantities of component supplies with component and materials suppliers to meet our manufacturing needs because our purchase volumes may be too low for us to be considered a priority customer for securing supplies, particularly when there are shortages or limited availability of key components and materials. As a result, suppliers could stop selling to us and our manufacturers at commercially reasonable prices, or at all. Any such interruption or delay may force us and our manufacturers to seek components or materials from alternative sources, which may not be available, or result in higher prices. Switching suppliers could also require that we redesign our products to accommodate new components and could require us to re-qualify our products with our customers, which would be costly and time consuming. Any significant interruption in manufacturing or supply availability, including labor shortages or competition for components, would require us to reduce our product supply to customers, which would result in lost revenue and harm our customer relationships.
- ***Ability to forecast and manage inventory liability with vendors.*** We have experienced unanticipated increases in demand from customers, including from higher consumer demand for internet services and improved WiFi due to COVID-19, which in turn has resulted in delayed shipments and variable shipping patterns. If we underestimate our product demand, our manufacturers may have inadequate component inventory, which could interrupt our product manufacturing, increase our cost of product revenue associated with expedite fees and air freight and/or result in delays or cancellation of customer orders. If we are unable to deliver products in a timely fashion to our customers, we may lose customer goodwill or our customers may choose to purchase from other vendors, all of which may have a material negative impact on our revenue and operating results. If we overestimate our product demand, our manufacturers may purchase excess components and build excess inventory, and we could be required to pay for these excess parts or products and their storage costs. Long lead times for component supply, which have been exacerbated by factory closures and shortages due to the COVID-19 pandemic as well as higher demand for certain components, and unanticipated demand for our products have in the past and are expected to continue to impact our ability to accurately forecast our production requirements. We may incur liabilities for certain component inventory purchases that have been rendered excess or obsolete, which may have an adverse effect on our gross margin, financial condition and results of operations.

Security breaches and data loss may expose us to liability, harm our reputation and adversely affect our business.

As part of our business operations, we collect, store, process, use and/or disclose sensitive data relating to our business, including in connection with the provision of our cloud services and in our information systems and data centers (including third-party data centers). We also engage third-party providers to assist in the development of our products and for services that may include the collection, handling, processing and/or storage of personal data on our behalf. In addition, we host our customers' subscriber data in third-party data centers in the course of providing our products and cloud-based platform solutions and services to our customers. While we and our third-party providers apply multiple layers of security to control access to data and use encryption and authentication technologies to secure data from unauthorized access, use, alteration and disclosure, these security measures may be compromised. Malicious hackers may attempt to gain access to our network or data centers; steal proprietary information related to our business, products, employees and customers; hold data ransom; or otherwise interrupt our systems and services or those of our supply chain partners, vendors, customers or others. In particular, there has been a spike in the number of high-profile cybersecurity attacks and security breaches and as we continue to increase our reliance on virtual environments and communications systems, cloud-based solutions and other technologies to support our work-from-anywhere culture and overall business needs, our exposure to third-party vulnerabilities and security risks similarly increase. Although we monitor our networks and continue to enhance our security protections, particularly as we transitioned to a work-from-anywhere workforce, hackers are increasingly more sophisticated and aggressive, and our efforts may be inadequate to prevent all incidents of data breach or theft. The theft, loss or misuse of proprietary or personal data collected, stored or processed by us or our service providers to run our business could result in significant security and remediation costs, regulatory fines and penalties, and/or costs related to defending legal claims. If we or our third-party providers do not allocate and effectively implement and manage the resources necessary to maintain adequate security and data protection measures, we could be subjected to data loss, unauthorized data disclosure or a compromise or breach of our systems, products or those of our third-party data centers. As we continue to grow our cloud-based platforms and services portfolio and increase reliance on third-party development partners and third-party software and cloud-based solutions, risks arising from or related to security breaches or data loss are likely to increase. Any loss of data or compromise of our systems, including our product platforms that collect and process personal data, or third-party data centers upon which our product platforms rely, could result in loss of confidence in the security of our offerings and loss of customer goodwill, damage our reputation, cause the loss of current or potential customers or partners, lead to legal and regulatory liability and adversely affect our business, financial condition, operating results and cash flows.

We are subject to business and operational risks associated with our international operations that could harm our business.

We are subject to business and operational risks associated with our international operations, which include our global supply chain operations, our development center located in Nanjing, China and dependencies on third-party development partners in India, and, to a lesser extent, our international sales operations. We face a number of risks associated with our international operations, including costs of complying with differing and changing laws and regulatory requirements, tariffs, export quotas, custom duties and other trade restrictions; effects of inflation, currency controls and/or fluctuations in currency exchange rates; limited or unfavorable IP protection; and uncertainties associated with political conflicts and instabilities, variable economic conditions, terrorist attacks or acts of war. Our development operations and activities in China and India involve these and other significant risks, including: local labor conditions and regulations; knowledge transfer related to our technology and exposure to misappropriation of IP or confidential information, including information that is proprietary to us, our customers and third parties; heightened exposure to changes in the economic, security, political and pandemic conditions; international trade agreements and U.S. tax provisions that could adversely affect our international operations; complexities of managing development timelines and deliverables from abroad; and differences in local business practices and customs that may not align with our expectations and standards.

In addition to the foregoing risks, our international sales operations involve risks associated with greater costs and complexity localizing and supporting our products and platforms in local markets; trade regulations, compliance requirements and incremental costs applicable to the qualification, production, sale and delivery of our products; longer collection periods, financial instability and other difficulties impacting collection of accounts receivable in certain jurisdictions; more intense competition including from local equipment suppliers; and our reliance on value added resellers to sell and support our products in international markets given our limited presence and infrastructure outside the U.S. To expand our international operations, we will need to invest time and resources to attract key talent, execute on our international strategy and drive international market demand for our products. If we invest substantial time and resources to expand our international operations and are unable to do so successfully and in a timely manner, our business, financial condition and results of operations may suffer.

If we do not successfully execute on our business strategy to increase our sales to new and existing BSPs, our operating results, financial condition, cash flows and long-term growth may be negatively impacted.

Our growth is dependent upon our ability to increase sales to existing and new BSP customers of all types and sizes, and the execution of our strategy to increase sales to BSPs involves significant risk. The majority of our revenue is not recurring in nature, and our customers generally have no committed purchase requirements, may cancel orders and may cease to purchase our products at any time. If our customers stop purchasing our products for any reason, our business and results of operations would be harmed. If we are unable to successfully increase our sales to new and existing BSPs, our operating results, financial condition, cash flows and long-term growth may be negatively impacted. Our strategy includes investing in regional sales teams and select channel partners to sell to smaller regional BSPs. A large portion of our current sales are to customers with relatively smaller regional networks and limited capital expenditure budgets. The spending patterns of many of these customers are generally less formal and often characterized by small and sporadic purchases, and the potential revenue from any one of these customers is limited. We rely primarily on channel partners, including value added resellers, internationally and for certain U.S. markets. We face fierce competition for business with key channel partners. If we are unable to secure the services of channel partners that we believe are key to our strategy, we may fail to grow our sales as planned. Furthermore, we rely on our channel partners to promote and sell our products. The loss of a key channel partner or the failure of our partners to provide adequate services could have a negative effect on customer satisfaction and could cause harm to our business.

Our selling efforts to larger BSPs require substantial investments of technical, marketing and sales resources through lengthy equipment qualification and sales cycles without any assurance of generating sales. We may be required to invest in costly upgrades to meet more stringent performance criteria and interoperability requirements, develop new customer-specific features or adapt our products to meet required standards. We have invested and expect to continue to invest considerable time, effort and expenditures, including investment in product research and development, related to these opportunities without any assurance that our efforts will result in revenue.

The quality of our support and services offerings is important to sustain and increase our sales to new and existing customers. Our services to customers have increasingly broadened to help them deploy our products within their networks. Once our products are deployed within our customers' networks, they depend on our support organization to resolve any issues relating to those products. If we do not effectively assist our customers in deploying our products, succeed in helping them quickly resolve post-deployment issues or provide effective support, it could adversely affect our ability to sell our products to existing customers and harm our reputation with potential new customers. As a result, our failure to maintain high quality support and services could result in the loss of customers, which would harm our business.

If we do not successfully increase our sales through adoption of our platform offerings, our operating results, financial condition, cash flows and long-term growth may be negatively impacted.

We have platform offerings that are new and early in their life cycles and subject to uncertain market demand. If our customers are unwilling to adopt these new offerings, install our new products or deploy our new services, or if we are unable to achieve market acceptance of our products and platforms, our business and financial results may be harmed. Moreover, adoption of our cloud product offerings, such as our Revenue EDGE, is dependent on the success of our customers in investing, marketing, selling and deploying broader services—including ancillary services—to their subscribers, and our ability to differentiate our products from competing or substitutive product and service offerings. For example, our EDGE Suites include network security, parental controls and a growing ecosystem of services from partners like Arlo and Servify. However, if subscriber demand for such services does not grow as expected or declines, or our customers are unable or unwilling to invest in our platforms to deploy and market these services, demand for our products may decrease or fail to grow at rates we anticipate.

We may have difficulty evolving and scaling our business and operations to meet customer and market demand, which could result in lower profitability or cause us to fail to execute on our business strategies.

In order to grow our business, we will need to continually evolve and scale our business and operations to meet customer and market demand. Evolving and scaling our business and operations places increased demands on our management as well as our financial and operational resources to effectively manage organizational change; design scalable processes; accelerate and/or refocus research and development activities; expand our manufacturing, supply chain and distribution capacity; increase our sales and marketing efforts; broaden our customer-support and services capabilities; maintain or increase operational efficiencies; scale support operations in a cost-effective manner; implement appropriate operational and financial systems; and maintain effective financial disclosure controls and procedures. If we cannot evolve and scale our business and operations effectively, we may not be able to execute our business strategies in a cost-effective manner and our business, financial condition, profitability and results of operations could be adversely affected.

We could become subject to litigation that could harm our business or negatively impact our results of operations.

In the ordinary course of business we are subject to legal claims, or may become involved in regulatory proceedings, related to disputes over commercial, competition, IP, labor and employment and other matters. Regardless of the merits of any such claims, litigation and regulatory proceedings are inherently uncertain, costly, disruptive to our business and operations, harmful to our reputation, and distracting to management. In particular, as a technology company, we may be subject to IP claims asserting patent, copyright, trademark and/or other infringement claims that are costly to defend and could limit our ability to use some technologies in the future. The risk of such claims is heightened as we expand our products and services and increasingly rely on more technologies, including third-party IP rights that we license and incorporate into our products and services. Third parties from whom we license IP may be unable or unwilling to indemnify us for such claims or offer any other remedy to us. Increasingly, patent infringement claims are asserted by patent holding companies, which are non-practicing entities that do not conduct business as an operating company and hold and own patents only for the purpose of aggressively pursuing royalties through infringement assertions or patent infringement litigation. We have received and expect to continue to receive assertions from non-practicing entities and other third parties alleging that we may be infringing their patents or other IP rights; offering licenses to such IP; and/or threatening litigation. Any claims asserting that our products infringe the proprietary rights of third parties, with or without merit, could be time-consuming, result in costly litigation and divert the efforts of our engineering teams and management. These claims could also result in the suspension of ability to import, market and sell our products and services, product shipment delays or requirements to modify our products or enter into costly settlements or licensing agreements. Such royalty or licensing agreements, if required, may not be available to us on acceptable terms, if at all. Furthermore, we may additionally be financially responsible for claims made against our customers, including costs of litigation and damages awarded, under indemnity obligations which could further negatively impact our results of operations. Protracted litigation could cause us to incur significant defense costs, which would negatively impact our results of operations.

We have a history of losses and fluctuations in our gross margin and operating results, which make it difficult to predict our future performance and could cause the market price of our stock to decline.

We have a history of net operating losses and fluctuations in our quarterly and annual gross margin and operating results, including due to factors outside of our control. Factors that impact variability of our operating results include our ability to predict our revenue and reduce and control our costs, our ability to predict product functions and features desired by our customers, the impact of global economic conditions, our ability to effectively manage our global supply chain operations, our ability to effectively manage third parties upon whom we depend to conduct our business, our customers' spending patterns and purchasing decisions, the impact of competition, customer adoption of our products, our ability to manage our legal, contractual and regulatory obligations and liabilities, and other risk factors identified in the lead-in to "Management's Discussion and Analysis of Financial Condition and Results of Operations" above and in this "Risk Factors" section. Our gross margin is further impacted by customer, geographic and product mix, the impact of competition on our prices, our ability to manage our costs associated with components and materials, excess and obsolescence, expedite fees and logistics-related activities, contractual commitments and other product costs. Fluctuating results make it difficult to predict our future performance and could cause the market price of our stock to decline. We expect to continue to incur significant expenses and cash outlays as we expand our business and operations and target new customer opportunities. Given our anticipated growth and the intense competitive pressures we face, we may be unable to adequately control our operating expenses or maintain positive operating income. Comparing our operating results on a period-to-period basis may not be meaningful, and you should not rely on our past results as an indication of our future performance. If our revenue or operating results fall below the expectations of investors or securities analysts, or below any guidance we may provide to the market, the market price of our stock would likely decline.

We cannot guarantee that we will achieve sustained profitability. We will have to generate and sustain significant and consistent increased revenue, while continuing to control our expenses, to maintain profitability. If we are unable to generate positive operating income and positive cash flows from operations, our liquidity, results of operations and financial condition will be adversely affected. If we are unable to generate cash flows or obtain other sources of liquidity to support our operational needs, we will be forced to limit our development activities, reduce our investment in growth initiatives and institute cost-cutting measures, all of which would adversely impact our business and growth.

Historically, our customer base has been concentrated, and the loss of any of our key customers may adversely impact our revenue and results of operations, and any delays in payment by a key customer could negatively impact our cash flows and working capital.

Historically, a large portion of our sales has been, and in the future may be, to a limited number of large customers. Changes in the BSP market, such as financial difficulties, spending cuts or corporate consolidations that impact purchasing decisions by these customers have and may again negatively impact our revenue, and as a result, revenue from such customers may remain flat or continue to decline. For example, Lumen, our only greater than 10% customer in 2018, 2019 and 2020, completed a large acquisition in 2017 and more recently reorganized and rebranded, which disrupted its historical levels of purchases with us and has continued to result in significantly reduced levels of purchases. There is no assurance that purchasing levels by Lumen will increase from current levels. We have continued to experience delays or declines in purchases by certain BSPs due to deterioration in their financial condition. For example, Windstream and Frontier, two of our medium-sized customers, each completed a financial restructuring and emerged from Chapter 11 bankruptcy in September 2020 and April 2021, respectively. Any decrease or delay in purchases and/or capital expenditure plans of any of our key customers, particularly if prolonged or sustained, or our inability to grow our sales with existing customers, may have a material negative impact on our revenue and results of operations.

In addition, some larger customers may demand discounts and rebates or desire to purchase their access systems and software from multiple providers. As a result of these factors, our future revenue opportunities may be limited, and we may face pricing pressures, which in turn could adversely impact our gross margin and our profitability. The loss of, reduction in or pricing discounts associated with orders from any key customer would significantly reduce our revenue and harm our business. Furthermore, delays in payment and/or extended payment terms from any of our key or larger customers could have a material negative impact on our cash flows and working capital to support our business operations.

Over the years, the BSP market has undergone substantial consolidation, reducing the number of potential customers and delays or decreases in capital spending. Continued consolidation of the BSP industry and among independent local exchange carriers and IOC customers, who represent a large part of our business, could make it more difficult for us to grow our customer base, increase sales of our products and maintain adequate gross margin.

We are exposed to customer credit risks that could adversely affect our operating results and financial condition.

We generally extend credit terms for sales to our customers which exposes us to credit risk. If we are unable to collect our accounts receivable balances as anticipated, our operating results and financial condition will be harmed. A number of factors contribute to this risk, including our ability to adequately assess a customer’s creditworthiness and financial condition, changes in a customer’s financial condition and/or liquidity, our ability to timely collect our accounts receivable from customers, disagreements with customers on invoiced balances and economic downturns or other unanticipated events impacting a customer’s ability to pay. Furthermore, some of our international customers operate in countries with developing economies, volatile financial markets or currency regulations that impact their ability to make payments in U.S. dollars. The COVID-19 pandemic has also presented financial challenges to numerous businesses, including delays in collections from some of our international customers in emerging markets and, if prolonged, may result in liquidity issues leading to heightened difficulties with collections. While we take measures to pursue collections on our accounts receivable, we have from time to time written down accounts receivable and written off doubtful accounts and may need to do so in future periods. The determination of allowances for doubtful accounts involves significant judgment, and if we underestimate our allowance for doubtful accounts, we will have to make further write-downs. Such write-downs or write-offs could negatively affect our operating results for the period in which they occur and could harm our cash flow or our financial condition.

Changing market and customer requirements may adversely affect the valuation of our inventory.

Customer demand for our products can change rapidly in response to market and technology developments. We may, from time to time, adjust inventory valuations downward or end of life certain of our products in response to our assessment of our business strategy as well as consideration of demand from our customers for specific products or product lines. If we fail to accurately plan our inventory levels, we may have to write off excess or obsolete inventory. Such write-offs could have a material adverse effect on our gross margin, financial condition and results of operations.

If we lose any of our key personnel, or are unable to attract, train and retain qualified personnel, our ability to manage our business and continue our growth would be negatively impacted.

Our success depends, in large part, on the continued contributions of our key personnel who are highly skilled and would be difficult to replace. Competition for skilled personnel is intense. We cannot be certain that we will be successful in attracting and retaining qualified personnel, or that newly hired personnel will function effectively, both individually and as a group. If we are unable to effectively recruit, hire and utilize new employees to align with our company objectives, execution of our business strategy and our ability to react to changing market conditions may be impeded, and our business, financial condition and results of operations may suffer. A year ago, we transitioned to a “work-from-anywhere” model and if we do not effectively manage our distributed workforce, we could face challenges maintaining our corporate culture, which could increase attrition or limit our ability to attract personnel. None of our key personnel are bound by a written employment contract to remain with us for a specified period. In addition, we do not currently maintain key person life insurance covering our key personnel. If we lose the services of any key personnel, our business, financial condition and results of operations may suffer.

If we experience disruptions with our enterprise resource planning system, we may not be able to effectively transact business or produce financial statements, which would adversely affect our business, results of operations and cash flows.

In January 2020, we migrated our Oracle enterprise resource planning, or ERP, system to Oracle’s cloud platform. With the migration to Oracle’s cloud platform, we are highly dependent upon Oracle to host, manage and maintain our ERP system, and any disruptions to their business or processes, or delays in their ability to provide services to us, may in turn disrupt our business operations or increase costs. Furthermore, we will receive quarterly system updates and enhancements on the cloud platform according to Oracle’s release timeline and change management processes, which if not managed properly may disrupt our business operations and delay our ability to process transactions and produce reports necessary to conduct our business. We are highly dependent upon our ERP system for critical business functions, including order processing and management, supply chain and procurement operations, financial planning, accounting and reporting; accordingly, protracted disruption in functionality or processing capabilities of the ERP system could materially impair our ability to conduct our business, process transactions timely or produce accurate financial statements on a timely basis. If our ability to conduct our business, process transactions or produce accurate financial statements on a timely basis remains impaired, our business, results of operations and cash flows would be adversely affected.

As a public company we are subject to significant accounting, legal and regulatory requirements; our failure to comply with these requirements may adversely affect our operating results and financial condition.

We are subject to significant accounting, legal and regulatory requirements, including requirements and rules under the Sarbanes-Oxley Act, or SOX, and the Dodd-Frank Wall Street Reform and Consumer Protection Act, or Dodd-Frank, among other rules and regulations implemented by the SEC, as well as listing requirements of the New York Stock Exchange, or NYSE. We incur significant accounting, legal and other expenses and must invest substantial time and resources to comply with public company reporting and compliance requirements, including costs to ensure we have adequate internal controls over accounting and financial reporting, proper documentation and testing procedures among other requirements. We cannot be certain that the actions we have taken to implement internal controls over financial reporting will be sufficient. We have in the past discovered, and may in the future discover, areas of our internal financial and accounting controls and procedures that need improvement, particularly as we enhance, automate and improve functionality of our processes and internal applications, including Oracle's cloud platform. New laws and regulations as well as changes to existing laws and regulations affecting public companies, including the provisions of SOX and Dodd-Frank and rules adopted by the SEC and the NYSE, would likely result in increased costs to us as we respond to their requirements. We continue to invest resources to comply with evolving laws and regulations, and this investment may result in increased general and administrative expense.

If we fail to maintain proper and effective internal controls, our ability to produce accurate financial statements on a timely basis could be impaired, which would adversely affect our operating results and our stock price.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of financial statements in accordance with U.S. generally accepted accounting principles. Our management does not expect that our internal control over financial reporting will prevent or detect all error and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within our company will have been detected. If we are unable to produce accurate financial statements on a timely basis, investors could lose confidence in the reliability of our financial statements, which could cause the market price of our common stock to decline and make it more difficult for us to finance our operations and growth.

Risks Related to Our Products

Our products are highly technical and may contain undetected hardware or software defects or software bugs, which could harm our reputation and adversely affect our business.

Our products, including our smart home and business systems and our cloud and software platforms, are highly technical and, when deployed, are critical to the operation of many networks. Our products have contained and may contain undetected defects, bugs or security vulnerabilities, which risks may be exacerbated as we continue to expand our cloud and software portfolio and include services from third-party partners. Some defects in our products may only be discovered after a product has been installed and used by customers and may in some cases only be detected under certain circumstances or after extended use. Any errors, bugs, defects or security vulnerabilities discovered in our products after commercial release could result in loss of revenue or delay in revenue recognition, loss of customers and increased service and warranty and retrofit costs, any of which could adversely affect our business, operating results and financial condition. In addition, we could face claims for security and data breach, product liability, tort or breach of warranty. Our contracts with customers contain provisions relating to warranty disclaimers and liability limitations, which may not be upheld. Defending a lawsuit, regardless of its merit, is costly and may divert management's attention and adversely affect the market's perception of us and our products. In addition, if our business liability insurance coverage proves inadequate or future coverage is unavailable on acceptable terms or at all, our business, operating results and financial condition could be adversely impacted.

If we are unable to ensure that our products interoperate properly and as required within our customers' networks, our business will be harmed.

Our products must interoperate with our customers' existing and planned networks, which often have varied and complex specifications, utilize multiple protocol standards, include software applications and customizations and products from multiple vendors and contain multiple generations of products that have been added over time. As a result, we must continually ensure that our products interoperate properly with these existing and planned networks. To meet these requirements, we must undertake development efforts, including test protocols, that require substantial capital investment and employee resources. We may not accomplish these development goals quickly or cost-effectively, if at all. If we fail to maintain compatibility with other software or equipment found in our customers' existing and planned networks, we may face substantially reduced demand for our products, which would reduce our revenue opportunities and market share. We rely upon interoperability arrangements with equipment and software vendors for the use or integration of their technology with our products. If these relationships fail, we may have to devote substantially more resources to the development of alternative products and processes and our efforts may not be as effective as the combined solutions under our current arrangements. In some cases, these other vendors are either companies that we compete with directly or companies that have extensive relationships with our existing and potential customers and may have influence over the purchasing decisions of those customers. Some of our competitors have stronger relationships with some of our interoperability partners, and as a result, our ability to have successful interoperability arrangements with these companies may be harmed. Our failure to establish or maintain key relationships with key interoperability vendors may harm our ability to successfully sell and market our products.

Our estimates regarding warranty or product obligations are highly subjective. If our estimates change, the liability for warranty or product obligations may be increased, impacting future cost of revenue.

Our products are highly complex, and our product testing may not be adequate to detect all defects, errors, failures and quality issues. Accordingly, our estimates regarding future warranty or product obligations are highly subjective, and if our estimates change, the liability for warranty or product obligations may be increased, impacting future cost of revenue. Quality or performance problems for products covered under warranty could adversely impact our reputation and negatively affect our operating results and financial position. The development and production of new products with high complexity often involves problems with software, components and manufacturing methods. If significant warranty or other product obligations arise due to reliability or quality issues arising from defects in software, faulty components or improper manufacturing methods, our operating results and financial position could be negatively impacted by cost associated with fixing software or hardware defects; high service and warranty expenses; high inventory obsolescence expense; delays in collecting accounts receivable; payment of liquidated damages for performance failures; and loss of customer goodwill and future sales.

Our business and operations depend on proprietary technologies, and our financial performance may suffer if we cannot protect and enforce the intellectual property rights.

Our success and ability to compete depend on proprietary technology. We rely significantly upon patent, copyright, trademark, trade secret and other IP laws, IP registration rights and agreements with our employees, customers, partners, suppliers and other parties, to establish and maintain IP rights necessary for our business and operations. U.S. IP laws afford us only limited protection, and the laws of some foreign countries do not protect proprietary rights to the same extent. Our patent applications may not result in issued patents, and our issued patents may not be enforceable. Our IP rights could be challenged, invalidated, infringed or circumvented any of which could impair or harm our business and operations and be costly to defend. Our failure to adequately protect our IP rights could result in our competitors offering similar products, resulting in the loss of our competitive advantage and decreased sales.

We and our third-party providers may be unable to adequately prevent unauthorized third-party copying or use of our IP. For example, contractual provisions protecting our IP could be breached, our IP could be reverse engineered or unlawfully distributed. It may become more difficult to adequately protect our IP as we expand our reliance on third parties for the design, development and/or manufacture of our products. In addition, we may become subject to increased risks arising from or related to security breaches or data loss and have greater difficulty protecting our IP as our work-from-anywhere workforce and work product become more distributed. Policing the unauthorized use of our IP is difficult and costly. Litigation, which could result in substantial costs, diversion of resources and harm to our business, may be necessary to enforce our IP rights, protect our trade secrets or determine the validity and scope of proprietary rights.

If we are unable to obtain third-party technology licenses needed for our products and platform solutions, our business and operations will be impaired, and our operating results could be adversely affected.

We increasingly rely on technology licensed from third parties for our products and platform solutions. We may not be able to secure or maintain necessary technology licenses from these third parties on commercially reasonable terms or at all. Third parties may also choose to not renew licenses with us, demand unreasonable license fees or cease to offer technologies that we require. The inability to obtain necessary third-party licenses or to secure reasonable license terms at a cost acceptable to us could harm the competitiveness of our products and solutions, result in lost revenue and adversely affect our operating results. For example, we may be forced to forego product features or platform offerings, including features and offerings we believe are critical to our strategy, accept substitute technology of lower quality or performance standards or incur higher costs, or the time-to-market of our products or product features could be delayed. Furthermore, our ability to utilize third-party technology may be disrupted by disputes over IP rights, including claims of IP infringement, which could prevent us from offering or selling the products that utilize the disputed technology and adversely affect our operating results.

Our use of open source software could impose limitations on our ability to commercialize our products.

We incorporate open source software into our products. The terms of many open source software licenses have not been interpreted by the courts, and there is a risk that such licenses could be construed in a manner that could impose unanticipated conditions or restrictions on our ability to sell our products. In such event, we could be required to make our proprietary software generally available to third parties, including competitors, at no cost, to seek licenses from third parties in order to continue offering our products, to re-engineer our products or to discontinue the sale of our products in the event re-engineering cannot be accomplished on a timely basis or at all, any of which could adversely affect our revenue and operating expenses.

Macroeconomic and Industry Risks

Adverse global economic conditions, geopolitical issues and other conditions that impact our increasingly global operations could have a negative effect on our business, results of operations and financial condition and liquidity.

As a global company, our performance is affected by global economic conditions as well as geopolitical issues and other conditions with global reach. In recent years, concerns about the global economic outlook have adversely affected market and business conditions in general. Macroeconomic weakness and uncertainty make it more difficult for us to manage our operations and accurately forecast revenue, gross margin and expenses. Geopolitical issues, such as ongoing conflicts between the United States and China, tariff and trade policy changes, increasing potential of conflict involving countries in Asia that are critical to our supply chain operations, such as Taiwan and China, and the withdrawal of the United Kingdom from the European Union, have resulted in increasing global tensions and create uncertainty for global commerce. In particular, we incurred substantial costs and diversion of resources realigning our supply chain operations to move substantially all of our product manufacturing to locations outside of China as a result of U.S. tariff and trade policy changes. The global impact of the COVID-19 pandemic continues to create shortages in component and supplies and otherwise disrupt and delay our global supply chain operations. Sustained or worsening of global economic conditions, geopolitical issues and other adverse global economic conditions may increase our cost of doing business, materially disrupt our supply chain operations, cause our customers to reduce or delay spending and intensify pricing pressures. Any or all of these factors could negatively affect demand for our products and our business, financial condition and result of operations.

We face intense competition that could reduce our revenue and adversely affect our financial results.

The market for our products is highly competitive, and we expect competition from both established and new companies to increase. Our ability to compete successfully depends on a number of factors, including our ability to successfully develop new products and solutions that anticipate BSP and market requirements and changes in technology and industry standards; BSP acceptance and adoption of our products and solutions; our ability to differentiate our products from our competitors' offerings based on performance, features, cost-effectiveness or other factors; our product capabilities to meet customer network requirements and preferences; and our success in marketing and selling our products and platform solutions.

Many of our current or potential competitors have longer operating histories, greater name recognition, broader product lines, larger customer bases and significantly greater financial, technical, sales, marketing and other resources than we do and are better positioned to acquire and offer complementary products and services. The broadband access equipment market has undergone and continues to undergo consolidation, as participants have merged, made acquisitions or entered into partnerships or other strategic relationships with one another to offer more comprehensive solutions than they individually had offered. Potential customers may also prefer to purchase from their existing suppliers rather than a new supplier, regardless of product performance or features, because the products that we and our competitors offer require a substantial investment of time and funds to qualify and install. The recent demand on network capacity due to shelter-in-place restrictions and shift towards remote workforces may attract new market entrants with competitive or substitutive products, which may lead to increased sales cycles, cause pricing pressure and impact adoption of our platforms due to the broader availability of product offerings. Some of our competitors may offer substantial discounts or rebates to win or retain customers. If we are forced to reduce prices to secure customers, we may be unable to sustain gross margin at desired levels or profitability. Competitive pressures could result in increased pricing pressure, reduced profit margin, increased sales and marketing expenses and failure to increase, or the loss of, market share, any of which could reduce our revenue and adversely affect our financial results.

Our industry is characterized by rapid technological advance, and if we fail to develop new products or enhancements that meet changing BSP requirements, we could experience lower sales.

Our industry is characterized by rapid technological change, changing needs of BSPs, evolving industry standards and frequent introductions of new products and platforms. We invest significant amounts to pursue innovative technologies that we believe will be adopted by BSPs. For example, we have invested and continue to invest resources in our cloud and software platforms. In addition, on an ongoing basis, we expect to reposition our product and service offerings and introduce new offerings as we encounter rapidly changing BSP requirements and increasing competitive pressures. If we cannot increase sales of our new platforms and services, keep pace with rapid technological developments to meet customer needs and compete with evolving standards or if the technologies we choose to invest in fail to meet customer needs or are not adopted by customers in the timeframes that we expect, our financial condition and results of operations would be adversely affected.

Developing our products is complex and involves uncertainties, including pricing risks for key materials, component shortages and limited suppliers. We may experience design, manufacturing, software development quality, support, marketing and other difficulties that could delay or prevent the development, introduction or marketing of new products and enhancements. If we fail to meet our development targets, demand for our products will decline. If we are unable to anticipate and develop new products or enhancements to our existing products on a timely and cost-effective basis, our products may become technologically obsolete more rapidly than anticipated over time, resulting in lower sales which would harm our business. Furthermore, the introduction of new or enhanced products also requires that we manage the transition from older products in accordance with customer requirements. If we fail to maintain compatibility requirements in our customers' networks, demand for our products would decline, which would reduce our revenue opportunities and market share.

Increasingly, we have relied on third-party development partners to meet our development needs to remain competitive. Investment in third-party development services for our product and service platforms reduces our direct control and may result in increased challenges in design, integration and support of the third-party features in our product and service offerings. In addition, these investments may take several years to generate positive returns, if ever. We have engineering services arrangements that include future revenue-share payments on our sale of the developed products and that require us to make minimum payments whether or not we achieve the desired revenue levels. If our actual demand falls short of expectations, we will be obligated to make the minimum payments, and we may be required to write-down the value of the developed products, which could adversely affect our financial results.

Our sales cycles can be long and unpredictable, and our sales efforts require considerable time and expense. As a result, our sales are difficult to predict and may vary substantially, which may cause our operating results to fluctuate significantly.

The timing of our revenue is difficult to predict. Our sales efforts often involve educating BSPs about the use and benefits of our products, platforms and services. BSPs typically undertake a significant evaluation process, which frequently involves not only our products, platforms and services, but also those of our competitors and results in a lengthy sales cycle. Sales cycles for larger customers are relatively longer and require considerably more time and expense. We spend substantial time, effort and money in our sales efforts without any assurance that our efforts will produce sales. In addition, product purchases are frequently subject to budget constraints, multiple approvals and unplanned administrative, processing and other delays. The timing of revenue related to sales of products and services that have installation requirements may be difficult to predict due to interdependencies that may be beyond our control, such as BSP testing and turn-up protocols or other vendors' products, services or installations of equipment upon which our products and services rely. Such delays may result in fluctuations in our quarterly revenue. If sales expected from a specific customer for a particular quarter are not realized in that quarter or at all, we may not achieve our revenue forecasts and our financial results would be adversely affected.

Our business is dependent on the capital spending patterns and decisions of BSPs, and any decrease or delay in capital spending by BSPs, including due to the timing and availability of capital, would reduce our revenue and harm our business.

Demand for our products depends on the magnitude and timing of capital spending by BSPs as they construct, expand, upgrade and maintain their access networks as well as BSPs' adoption of our platforms and cloud-based services. Capital spending is cyclical in our industry, sporadic among individual BSPs and can change on short notice, which gives us little visibility into changes in spending behavior in any particular quarter. Capital spending for network infrastructure projects could be delayed or canceled in response to factors outside our control, such as reduced consumer spending, challenging capital markets or declining liquidity trends. BSP spending is also affected by reductions in budgets, delays in purchasing cycles, access to government funding programs or capital markets, and seasonality and delays in capital allocation decisions. Historically, our customers may spend less or have less deployments in the first quarter due to pending annual budgets or, in certain regions, due to weather conditions that inhibit outside fiber deployment, resulting in weaker demand for our products in the first quarter. Softness in demand in any of our customer markets, including due to macro-economic conditions beyond our control or uncertainties associated with regulatory reforms, has in the past and could in the future lead to unexpected decline or slowdown in customer capital expenditure. Further, BSPs may pursue capital investment in network technologies other than those offered by us or may choose not to adopt our products and platform solutions in their networks. Reductions in capital expenditures by BSPs, particularly our significant customers, would have a material negative impact on our revenue and results of operations and slow our rate of revenue growth. As a consequence, our results for a particular period may be difficult to predict, and our prior results are not necessarily indicative of results in future periods.

Government-sponsored programs and U.S. federal government shutdowns could impact the timing and buying patterns of BSPs, which may cause fluctuations in our operating results.

We sell to BSPs, which include U.S.-based Independent Operating Companies, or IOCs, which have revenue that is particularly dependent upon interstate and intrastate access charges and federal and state subsidies. The Federal Communications Commission, or FCC, and some states may consider changes to such payments and subsidies, and these changes could reduce IOC revenue. Furthermore, many IOCs use or expect to use government-supported loan programs or grants, such as Rural Utility Service loans and grants, to finance capital spending. These government-supported loan programs and grants generally include conditions such as deployment criteria, domestic preference provisions and other requirements that apply to the project and selected equipment as conditions for funding. Changes to the terms or administration of these programs, including uncertainty from government and administrative change, increasing focus on domestic requirements by the U.S. that may require re-assessment of compliance, potential funding limitations that impact our ability to meet program requirements or delays due to U.S. federal government shutdowns could reduce the ability of IOCs to access capital or secure funding these programs to purchase our products and services and thus reduce our revenue opportunities. Many of our customers depend heavily on grants, loans or funds distributed under government stimulus programs such as the FCC's CAF, the CARES Act or the more recent Rural Digital Opportunity Fund. Customers may curtail purchases if they receive less funding than planned, are negatively impacted by federal government shutdowns or changes in government regulations and subsidies, or as funding winds down, any of which could have an adverse effect on our operating results and financial condition.

Government and Regulatory Risks

Increasing data privacy regulations could impact our business and expose us to increased liability.

Government and regulatory authorities in the United States and around the world have implemented and are continuing to implement broader and more stringent laws and regulations concerning data protection. The interpretation and application of these data protection laws and regulations are often uncertain and changing, and it is possible that they may be interpreted and applied in a manner that is inconsistent with our data practices. For example, the General Data Protection Regulation, or GDPR, adopted by the European Union, or EU, imposes specific duties and requirements upon companies that collect, process or control personal data of EU residents. Although we currently do not have material operations or business in the EU, we would incur substantial costs in order to expand our business and operations to the EU. Furthermore, the GDPR imposes significant penalties for noncompliance of up to the greater of €20 million or 4% of a company's worldwide revenue; accordingly, any non-compliance with the GDPR could result in a material adverse effect on our business, financial condition and results of operations. In January 2020, the California Consumer Privacy Act became effective, imposing significant new data privacy rights for consumers and requirements for the handling of consumer personal data. In July 2020, the Court of Justice of the EU invalidated the EU-U.S. Privacy Shield as a valid mechanism for the transfer of personal data from the EU to the United States. Additionally, in November 2020 California adopted the California Privacy Rights Act, which creates further obligations relating to consumer data beginning in January 2022, with enforcement beginning July 2023.Complying with new and changing laws could cause us to incur substantial costs in order to market and sell our cloud-based solutions in the U.S. and internationally, deter customers from adopting our cloud-based solutions or require us to redesign our platform in order to meet customer requirements related to such laws. Regulatory actions or claims involving our practices in the collection, storage, processing, use or disclosure of consumer information or other personal data, even if unfounded, could damage our reputation and adversely affect our operating results. The failure or perceived failure to comply may result in government or civil proceedings or actions against us, or could cause us to lose customers, which could have an adverse effect on our business.

If we fail to comply with evolving industry standards, sales of our products would be adversely affected.

The markets for our products are characterized by a significant number of domestic and international standards which evolve as new technologies are developed and deployed. As we expand into new global markets, we are likely to encounter additional standards. Our products must comply with these standards in order to be widely marketable. In some cases, we are required to obtain certifications or authorizations before our products can be introduced, marketed or sold in new markets or to new customers. For example, our ability to maintain Operations System Modification for Intelligent Network Elements certification for our products will affect our ongoing ability to continue to sell our products to large BSPs. In addition, our ability to expand our international operations may be limited by standards in countries or may require us to redesign our products or develop new products to meet local standards. We may not be able to design our products to comply with local requirements, which would harm our ability to grow our business. Moreover, as we expand our business and operations globally, we must make increasing investments to maintain compliance with evolving standards across a broader global footprint. The costs of complying with evolving standards or failure to obtain timely domestic or foreign authorizations or certification could prevent us from selling our products where these standards or regulations apply, which would result in lower revenue and lost market share.

Our failure or the failure of our manufacturers to comply with environmental and other legal regulations could adversely impact our results of operations.

The manufacture, assembly and testing of our products may require the use and disposal of hazardous materials that are subject to environmental, health and safety regulations, or materials subject to laws restricting the use of conflict minerals. We depend substantially on our third-party manufacturers to comply with these requirements. Any failure by us or our third-party manufacturers to comply with these requirements could result in regulatory penalties, legal claims or disruption of production of our products. In addition, any failure to properly manage the use, transportation, emission, discharge, storage, recycling or disposal of hazardous materials could subject us to increased costs or liabilities. Existing and future environmental regulations and other legal requirements may restrict our use of certain materials to manufacture, assemble and test products. Any of these consequences could adversely impact our results of operations by increasing our expenses and/or requiring us to alter our manufacturing processes.

We are subject to governmental export and import controls that could subject us to liability or impair our ability to compete in additional international markets.

Our products are subject to U.S. export and trade controls and restrictions. International shipments of certain of our products may require export licenses or are subject to additional export requirements. In addition, the import laws of other countries may limit our ability to distribute our products, or our customers' ability to buy and use our products, in those countries. Changes in our products or changes in export and import regulations or duties may create delays in the introduction of our products in international markets, prevent our customers with international operations from deploying our products or, in some cases, prevent the export or import of our products to certain countries altogether. Any change in export or import regulations, duties or related legislation, shift in approach to the enforcement or scope of existing regulations, or change in the countries, persons or technologies targeted by such regulations, could negatively impact our ability to sell, profitably or at all, our products to existing or potential international customers.

Regulatory and physical impacts of climate change and other natural events may affect our customers and our manufacturers, resulting in adverse effects on our operating results.

As emissions of greenhouse gases continue to alter the composition of the atmosphere, affecting large-scale weather patterns and the global climate, any new regulation of greenhouse gas emissions may result in additional costs to our customers and our manufacturers. In addition, the physical impacts of climate change and other natural events, including changes in weather patterns, drought, rising ocean and temperature levels, earthquakes and tsunamis may impact our customers, suppliers and manufacturers, and our operations. These potential physical effects may adversely affect our revenue, costs, production and delivery schedules, and cause harm to our results of operations and financial condition.

Our customers are subject to government regulation, and changes in current or future laws or regulations that negatively impact our customers could harm our business.

The FCC has jurisdiction over our U.S. customers and FCC regulatory policies that create disincentives for investment in access network infrastructure or impact the competitive environment in which our customers operate may harm our business. For example, adoption of regulations that affect providers of broadband Internet access services could impede the penetration of our customers into certain markets or affect the prices they may charge in such markets. Similarly, changes to regulatory tariff requirements or other regulations relating to pricing or terms of carriage on communication networks could slow the development or expansion of network infrastructures, which could adversely affect the sale of our products and services. Many of our customers are subject to FCC rate regulation of interstate telecommunications services and are recipients of CAF incentive payments. The imposition of limits or restrictions on access to these programs could affect the ability of IOCs to access capital, which would in turn reduce our revenue opportunities. In addition, many of our customers are subject to state regulation of intrastate telecommunications services, including rates for such services, and may also receive funding from state universal service funds. Changes in rate regulations or universal service funding rules, either at the U.S. federal or state level, could adversely affect our customers' revenue and capital spending plans. Moreover, various international regulatory bodies have jurisdiction over certain of our non-U.S. customers. Changes in these domestic and international standards, laws and regulations, or judgments in favor of plaintiffs in lawsuits against BSPs based on changed standards, laws and regulations could adversely affect the development of broadband networks and services. This, in turn, could directly or indirectly adversely impact the communications industry in which our customers operate.

Risks Related to Ownership of Our Common Stock

Our stock price may continue to be volatile, and the value of an investment in our common stock may decline.

The trading price of our common stock has been, and is likely to continue to be, volatile, which means that it could decline substantially within a short period of time and could fluctuate widely in response to various factors, some of which are beyond our control. These factors include those discussed above and others such as quarterly variations in our results of operations or those of our competitors; failure to meet any guidance that we have previously provided regarding our anticipated results; changes in earnings estimates or recommendations by securities analysts; failure to meet securities analysts' estimates; announcements by us or our competitors of new products, significant contracts, commercial relationships, acquisitions or capital commitments; developments with respect to IP rights; our ability to develop and market new and enhanced products on a timely basis; our commencement of, or involvement in, litigation and developments relating to such litigation; changes in governmental regulations; and a slowdown in the communications industry or the general economy.

In recent years, the stock market in general, and the market for technology companies in particular, has experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of those companies. Broad market and industry factors may seriously affect the market price of our common stock, regardless of our actual operating performance. Recently, the COVID-19 pandemic has severely impacted U.S. markets, causing dramatic swings in the U.S. stock exchanges that resulted in increased volatility in the trading price of our common stock. Historically, following periods of volatility in the overall market and the market price of a particular company's securities, securities class action litigation has often been instituted against these companies. Such litigation, if instituted against us, could result in substantial costs and a diversion of our management's attention and resources.

If securities or industry analysts do not publish research or reports about our business or if they issue an adverse or misleading opinion regarding our stock, our stock price and trading volume could decline.

The trading market for our common stock is influenced by the research and reports that industry or securities analysts publish about us or our business. If any of the analysts who cover us issue an adverse or misleading opinion regarding our stock, our stock price would likely decline. If several of these analysts cease coverage of our company or fail to publish reports on us regularly, we could lose visibility in the financial markets, which could cause our stock price or trading volume to decline.

Provisions in our charter documents and under Delaware law could discourage a takeover that stockholders may consider favorable and may lead to entrenchment of our management and Board of Directors.

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could have the effect of delaying or preventing changes in control or changes in our management or our Board of Directors. These provisions include: (1) a classified Board of Directors with three-year staggered terms, which may delay the ability of stockholders to change the membership of a majority of our Board of Directors; (2) no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates; (3) the exclusive right of our Board of Directors to elect a director to fill a vacancy created by the expansion of the Board of Directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our Board of Directors; (4) the ability of our Board of Directors to issue shares of preferred stock and to determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquirer; (5) a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders; (6) the requirement that a special meeting of stockholders may be called only by the chairman of the Board of Directors, the chief executive officer or the Board of Directors, which may delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors; and (7) advance notice procedures that stockholders must comply with in order to nominate candidates to our Board of Directors or to propose matters to be acted upon at a stockholders' meeting, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of us. We are also subject to certain anti-takeover provisions under Delaware law. Under Delaware law, a corporation may not, in general, engage in a business combination with any holder of 15% or more of its capital stock unless the holder has held the stock for three years or, among other things, the Board of Directors has approved the transaction.

We may need additional capital in the future to finance our business.

Our working capital needs and cash use have continued to increase to support our business operations and growth, and we may need additional capital if our current plans and assumptions change. Under the BofA Loan Agreement, our available borrowing base is subject to our financial condition. If our financial position deteriorates, our borrowing capacity under the credit facility may be reduced. Failure to maintain certain restrictive covenants and requirements under the BofA Loan Agreement could result in limiting the amount of borrowings that are available to us, increase the cost of borrowings under the credit facility and/or cause us to make immediate payments to reduce borrowings or result in an event of default. If future financings involve the issuance of equity securities, our then-existing stockholders would suffer dilution. If we raise additional debt financing, we may be subject to restrictive covenants that limit our ability to conduct our business. If we are unable to sustain positive operating income and cash flows from operations, our liquidity, results of operations and financial condition may be adversely affected. Furthermore, if we are unable to generate sufficient cash flows to support our operational needs, we may need to seek additional sources of liquidity, including borrowings, to support our working capital needs. In addition, we may choose to seek other sources of liquidity even if we believe we have generated sufficient cash flows to support our operational needs. There is no assurance that any other sources of liquidity may be available to us on acceptable terms or at all. If we are unable to generate sufficient cash flows or obtain other sources of liquidity, we will be forced to limit our development activities, reduce our investment in growth initiatives and institute cost-cutting measures, all of which would adversely impact our business and growth.

Our ability to incur debt could be limited by covenants in our loan and security agreement for our revolving credit facility.

The BofA Loan Agreement includes covenants that place certain restrictions on our ability to, among other things, borrow secured debt or unsecured debt beyond a certain amount, create or suffer to exist any liens, sell or transfer any assets, make distributions, liquidate, dissolve, merge, amalgamate, combine or consolidate, or become a party to certain agreements restricting our ability to incur or repay debt, grant liens, make distributions or modify loan agreements, in each case subject to certain exceptions. Failure to maintain these covenants can limit the amount of borrowings that are available to us, increase the cost of borrowings under the facility and/or require us to make immediate payments to reduce borrowings. The BofA Loan Agreement covenants may also affect our ability to obtain future financing and to pursue attractive business opportunities and our flexibility in planning for, and reacting to, changes in business conditions. These covenants could place us at a disadvantage compared to some of our competitors.

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

We do not currently intend to pay any cash dividends on our common stock for the foreseeable future. We currently intend to invest our future earnings, if any, to fund our growth. Additionally, the terms of our credit facility restrict our ability to pay dividends under certain circumstances. Therefore, our stockholders are not likely to receive any dividends on our common stock for the foreseeable future.

Our failure to adequately address and resolve risks and uncertainties associated with acquisitions could have a material adverse impact on our financial condition and results of operations.

We may in the future acquire businesses, products or technologies to expand our product offerings and capabilities, customer base and business. We have evaluated and expect to continue to evaluate a wide array of potential strategic transactions. Such investments may involve significant risks and uncertainties, including distraction of management from current operations, unanticipated costs, and legal and regulatory challenges, all of which could have a material adverse impact on our financial condition and results of operations. In addition, the anticipated benefit of any acquisition may never materialize or the process of integrating acquired businesses, products or technologies may create unforeseen operating difficulties and expenditures.

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

None.

ITEM 3. Defaults Upon Senior Securities

None.

ITEM 4. Mine Safety Disclosures

Not applicable.

ITEM 5. Other Information

None.

ITEM 6. Exhibits

Exhibit Number	Description
10.1*	Calix, Inc. Non-Employee Director Equity Compensation Policy, as amended February 11, 2021.
31.1	Certification of Chief Executive Officer of Calix, Inc. Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Chief Financial Officer of Calix, Inc. Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of Chief Executive Officer and Chief Financial Officer of Calix, Inc. Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

* Indicates management contract or compensatory plan or arrangement.

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.

		CALIX, INC. (Registrant)
Date: July 27, 2021	By:	/s/ Carl Russo
		Carl Russo **Chief Executive Officer** **(Principal Executive Officer)**
Date: July 27, 2021	By:	/s/ Cory Sindelar
		Cory Sindelar **Chief Financial Officer** **(Principal Financial Officer)**

CALIX, INC.

Non-Employee Director Equity Compensation Policy, as amended February 11, 2021

1. General. This Non-Employee Director Equity Compensation Policy (the "Policy") is adopted by the Board of Directors (the "Board") in accordance with Section 4.6 of the Calix, Inc. Amended and Restated 2019 Equity Incentive Award Plan (as amended from time to time, the "Plan"). Capitalized but undefined terms used herein shall have the meanings provided for in the Plan.

2. Board Authority. Pursuant to Section 4.6 of the Plan, the Board is responsible for adopting a written policy for the grant of Awards under the Plan to Non-Employee Directors, which policy is to specify, with respect to any such Awards, the type of Award(s) to be granted Non-Employee Directors, the number of shares of Common Stock to be subject to Non-Employee Director Awards, the conditions on which such Awards shall be granted, become exercisable and/or payable and expire, and such other terms and conditions as the Board determines in its discretion.

3. Initial Option Grant to Non-Employee Directors. Each person who is initially elected to the Board as a Non-Employee Director shall be granted, automatically and without necessity of any action by the Board or any committee thereof, on the date of such initial election an Option to purchase that number of shares of Common Stock equal to the product obtained by multiplying (a) the result of dividing (i) $175,000 by (ii) the Black Scholes value of an option to purchase one share of Common Stock as of the date of grant, as determined below, by (b) a fraction, the numerator of which is the number of whole days that will have passed from the date of election through the scheduled date of the Company's next annual stockholder meeting and the denominator of which is 365, rounded down to the nearest whole share (an "Initial Director Option Grant"). Members of the Board who are employees of the Company and who subsequently terminate employment with the Company and remain members of the Board shall not receive an Initial Director Option Grant. For the purposes of this Policy, the Black-Scholes value of an Option to purchase a share of Common Stock shall be determined using the per share trading price of the Company's common stock on the date of grant and the volatility, risk-free rate and life expectancy assumptions shall be as set forth in the Company's then-most recent filing with the Securities and Exchange Commission that discloses such assumptions.

4. Subsequent Option Grants to Non-Employee Directors. Each person who is a Non-Employee Director immediately following an annual meeting of stockholders shall be granted, automatically and without necessity of any action by the Board or any committee thereof, on the date of such annual meeting an Option to purchase that number of shares of Common Stock equal to the result of dividing (i) $175,000 by (ii) the Black Scholes value of an option to purchase one share of Common Stock as of the date of grant, as determined in accordance with the last sentence of Section 3 above, and rounded down to the nearest whole share ("Annual Director Option Grant"). Members of the Board who are employees of the Company and who subsequently terminate employment with the Company and remain on the Board, to the extent that they are otherwise eligible, shall receive, after termination of employment with the Company, Annual Director Option Grants under this Section 4.

5. Terms of Options Granted to Non-Employee Directors. Each Option granted under this Policy shall have an exercise price per share equal to the Fair Market Value of a share of Common Stock on the date of grant. Each Option granted under this Policy shall vest and become exercisable with respect to 100% of the shares of Common Stock underlying the Option on the earlier of (i) the one-year anniversary of the date of grant or (ii) the day immediately preceding the date of the annual meeting of stockholders that occurs in the year following the year of grant. The Stock Option Agreement evidencing each grant of Initial Director Option Grants and Annual Director Option Grants shall contain such other terms, provisions and conditions not inconsistent with the Plan as may be determined by the Administrator in its sole discretion.

6. Effect of Acquisition. Upon a Change in Control of the Company, all Awards and all other stock options, restricted stock units and other equity awards with respect to the Common Stock that are held by a Non-Employee Director shall become fully vested and/or exercisable.

7. Effect of Other Plan Provisions. The other provisions of the Plan shall apply to the Awards granted automatically pursuant to this Policy, except to the extent such other provisions are inconsistent with this Policy.

8. Incorporation of the Plan. All applicable terms of the Plan apply to this Policy as if fully set forth herein, and all grants of Awards hereby are subject in all respect to the terms of such Plan.

9. Written Grant Agreement. The grant of any Award under this Policy shall be made solely by and subject to the terms set forth in a written agreement in a form to be approved by the Board and duly executed by an executive officer of the Company.

10. Policy Subject to Amendment, Modification and Termination. This Policy may be amended, modified or terminated by the Board in the future at its sole discretion. No Non-Employee Director shall have any rights hereunder unless and until an Award is actually granted. Without limiting the generality of the foregoing, the Board hereby expressly reserves the authority to terminate this Policy during any year up and until the election of directors at a given annual meeting of stockholders.

11. Effectiveness. This Policy, as amended and restated herein, shall become effective as of February 11, 2021.

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002

I, Carl Russo, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Calix, Inc. for the quarter ended July 3, 2021;

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: July 27, 2021

/s/ Carl Russo
Carl Russo
Chief Executive Officer

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002

I, Cory Sindelar, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Calix, Inc. for the quarter ended July 3, 2021;

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: July 27, 2021

/s/ Cory Sindelar
Cory Sindelar
Chief Financial Officer

Exhibit 32.1

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

I, Carl Russo, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report of Calix, Inc. (the "Company") on Form 10-Q for the fiscal quarter ended July 3, 2021 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Quarterly Report on Form 10-Q fairly presents in all material respects the financial condition and results of operations of the Company.

Date: July 27, 2021

/s/ Carl Russo
Carl Russo
Chief Executive Officer

I, Cory Sindelar, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report of Calix, Inc. (the "Company") on Form 10-Q for the fiscal quarter ended July 3, 2021 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Quarterly Report on Form 10-Q fairly presents in all material respects the financial condition and results of operations of the Company.

Date: July 27, 2021

/s/ Cory Sindelar
Cory Sindelar
Chief Financial Officer

This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Calix, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.