

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

**FORM 10-Q**

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

For the quarterly period ended **June 30, 2020**

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

Commission File Number: **001-37806**



**TWILIO INC.**

(Exact name of registrant as specified in its charter)

**Delaware**

(State or other jurisdiction of incorporation or organization)

**26-2574840**

(I.R.S. Employer Identification Number)

**101 Spear Street, First Floor  
San Francisco, California 94105**  
(Address of principal executive offices) (Zip Code)  
**(415) 390-2337**  
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Class A Common Stock, par value \$0.001 per share	TWLO	The New York Stock Exchange

As of July 27, 2020, 132,340,556 shares of the registrant's Class A common stock and 10,793,764 shares of registrant's Class B common stock were outstanding.

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

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

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

TWILIO INC.  
Quarterly Report on Form 10-Q  
For the Three Months Ended June 30, 2020  
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### Special Note Regarding Forward-Looking Statements

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

- the impact of the COVID-19 pandemic on the global economy, our customers, employees and business;
- our future financial performance, including our revenue, cost of revenue, gross margin and operating expenses, ability to generate positive cash flow and ability to achieve and sustain profitability;
- anticipated technology trends, such as the use of and demand for cloud communications;
- our ability to continue to build and maintain credibility with the global software developer community;
- our ability to attract and retain customers to use our products;
- the evolution of technology affecting our products and markets;
- our ability to introduce new products and enhance existing products;
- our ability to comply with modified or new industry standards, laws and regulations applying to our business, including the General Data Protection Regulation ("GDPR"), the California Consumer Privacy Act of 2018 and other privacy regulations that may be implemented in the future, and Signature-based Handling of Asserted Information Using toKENs ("SHAKEN") and Secure Telephone Identity Revisited ("STIR") standards (together, "SHAKEN/STIR") and other robocalling prevention and anti-spam standards and increased costs associated with such compliance;
- our ability to optimize our network service provider coverage and connectivity;
- our ability to manage changes in network service provider fees that we pay in connection with the delivery of communications on our platform;
- our ability to work closely with email inbox service providers to maintain deliverability rates;
- our ability to pass on our savings associated with our platform optimization efforts to our customers;
- the impact and expected results from changes in our relationship with our larger customers;
- our ability to attract and retain enterprises and international organizations as customers for our products;
- our ability to form and expand partnerships with technology partners and consulting partners;
- our ability to successfully enter into new markets and manage our international expansion;
- the attraction and retention of qualified employees and key personnel;
- our ability to effectively manage our growth and future expenses and maintain our corporate culture;
- our ability to compete effectively in an intensely competitive market;
- the sufficiency of our cash and cash equivalents to meet our liquidity needs;

- our anticipated investments in sales and marketing, research and development and additional systems and processes to support our growth;
- our ability to maintain, protect and enhance our intellectual property;
- our ability to successfully defend litigation brought against us;
- our ability to service the interest on our convertible notes and repay such notes, to the extent required;
- our customers' and other platform users' violation of our policies or other misuse of our platform;
- our expectations about the impact of natural disasters and public health epidemics, such as the coronavirus on our business, results of operations, financial condition and on our customers, employees, vendors and partners; and
- our ability to successfully integrate and realize the benefits of our past or future strategic acquisitions or investments.

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

You should not rely upon forward-looking statements as predictions of future events. We have based the forward-looking statements contained in this Quarterly Report on Form 10-Q primarily on our current expectations and projections about future events and trends that we believe may affect our business, financial condition, results of operations and prospects. The outcome of the events described in these forward-looking statements is subject to risks, uncertainties and other factors described in Part II, Item 1A, "Risk Factors" and elsewhere in this Quarterly Report on Form 10-Q. Moreover, we operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this Quarterly Report on Form 10-Q. We cannot assure you that the results, events and circumstances reflected in the forward-looking statements will be achieved or occur, and actual results, events or circumstances could differ materially from those described in the forward-looking statements.

The forward-looking statements made in this Quarterly Report on Form 10-Q relate only to events as of the date on which the statements are made. We undertake no obligation to update any forward-looking statements made in this Quarterly Report on Form 10-Q to reflect events or circumstances after the date of this Quarterly Report on Form 10-Q or to reflect new information or the occurrence of unanticipated events, except as required by law. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

PART I - FINANCIAL INFORMATION

Item 1. Financial Statements

TWILIO INC.  
Condensed Consolidated Balance Sheets  
(Unaudited)

	As of June 30, 2020	As of December 31, 2019
(In thousands)		
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 475,700	\$ 253,660
Short-term marketable securities	1,427,619	1,599,033
Accounts receivable, net	194,563	154,067
Prepaid expenses and other current assets	62,800	54,571
Total current assets	2,160,682	2,061,331
Restricted cash	—	75
Property and equipment, net	161,413	141,256
Operating right-of-use asset	196,647	156,741
Intangible assets, net	424,739	460,849
Goodwill	2,291,616	2,296,784
Other long-term assets	55,472	33,480
Total assets	\$ 5,290,569	\$ 5,150,516
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Accounts payable	\$ 27,531	\$ 39,099
Accrued expenses and other current liabilities	197,303	147,681
Deferred revenue and customer deposits	29,111	26,362
Operating lease liability, current	35,287	27,156
Finance lease liability, current	7,134	6,924
Total current liabilities	296,366	247,222
Operating lease liability, noncurrent	172,408	139,200
Finance lease liability, noncurrent	10,116	8,746
Convertible senior notes, net	470,545	458,190
Other long-term liabilities	19,544	17,747
Total liabilities	968,979	871,105
Commitments and contingencies (Note 11)		
Stockholders' equity:		
Preferred stock	—	—
Class A and Class B common stock	142	138
Additional paid-in capital	5,181,368	4,952,999
Accumulated other comprehensive income	13,606	5,086
Accumulated deficit	(873,526)	(678,812)
Total stockholders' equity	4,321,590	4,279,411
Total liabilities and stockholders' equity	\$ 5,290,569	\$ 5,150,516

See accompanying notes to condensed consolidated financial statements.

**TWILIO INC.**  
**Condensed Consolidated Statements of Operations**  
**(Unaudited)**

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
	(In thousands, except share and per share amounts)			
Revenue	\$ 400,849	\$ 275,039	\$ 765,717	\$ 508,178
Cost of revenue	191,718	125,024	363,051	232,113
Gross profit	209,131	150,015	402,666	276,065
Operating expenses:				
Research and development	120,701	98,783	235,040	176,638
Sales and marketing	129,823	90,421	246,545	162,028
General and administrative	61,251	54,543	116,421	118,719
Total operating expenses	311,775	243,747	598,006	457,385
Loss from operations	(102,644)	(93,732)	(195,340)	(181,320)
Other income (expenses), net	3,015	(880)	1,897	(1,516)
Loss before (provision) benefit for income taxes	(99,629)	(94,612)	(193,443)	(182,836)
(Provision) benefit for income taxes	(294)	2,033	(1,271)	53,754
Net loss attributable to common stockholders	\$ (99,923)	\$ (92,579)	\$ (194,714)	\$ (129,082)
Net loss per share attributable to common stockholders, basic and diluted	\$ (0.71)	\$ (0.72)	\$ (1.39)	\$ (1.05)
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted	141,618,541	129,310,641	140,512,351	122,985,716

See accompanying notes to condensed consolidated financial statements.

**TWILIO INC.**  
**Condensed Consolidated Statements of Comprehensive Loss**  
**(Unaudited)**

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
	(In thousands)			
Net loss	\$ (99,923)	\$ (92,579)	\$ (194,714)	\$ (129,082)
Other comprehensive income:				
Net unrealized gain on marketable securities, net of tax	17,895	980	8,520	2,021
Comprehensive loss attributable to common stockholders	\$ (82,028)	\$ (91,599)	\$ (186,194)	\$ (127,061)

See accompanying notes to condensed consolidated financial statements.

**TWILIO INC.**  
**Condensed Consolidated Statements of Stockholders' Equity**  
**(Unaudited)**

	Common Stock Class A		Common Stock Class B		Additional Paid In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount				
(In thousands, except share amounts)								
<b>Balance as of December 31, 2019</b>	<b>126,882,172</b>	<b>\$ 124</b>	<b>11,530,627</b>	<b>\$ 14</b>	<b>\$ 4,952,999</b>	<b>\$ 5,086</b>	<b>\$ (678,812)</b>	<b>\$ 4,279,411</b>
Net loss	—	—	—	—	—	—	(94,791)	(94,791)
Exercises of stock options	243,029	—	426,001	—	8,231	—	—	8,231
Vesting of restricted stock units	849,763	1	23,107	—	—	—	—	1
Value of equity awards withheld for tax liability	(8,726)	—	(4,692)	—	(1,674)	—	—	(1,674)
Conversion of shares of Class B common stock into shares of Class A	618,103	1	(618,103)	(1)	—	—	—	—
Donated common stock	22,102	—	—	—	2,701	—	—	2,701
Net unrealized loss on available-for-sale securities	—	—	—	—	—	(9,375)	—	(9,375)
Stock-based compensation	—	—	—	—	72,021	—	—	72,021
<b>Balance as of March 31, 2020</b>	<b>128,606,443</b>	<b>\$ 126</b>	<b>11,356,940</b>	<b>\$ 13</b>	<b>\$ 5,034,278</b>	<b>\$ (4,289)</b>	<b>\$ (773,603)</b>	<b>\$ 4,256,525</b>
Net loss	—	—	—	—	—	—	(99,923)	(99,923)
Exercises of stock options	1,590,891	2	459,010	—	45,230	—	—	45,232
Vesting of restricted stock units	807,270	1	4,212	—	—	—	—	1
Value of equity awards withheld for tax liability	(6,018)	—	—	—	(1,144)	—	—	(1,144)
Conversion of shares of Class B common stock into shares of Class A	983,005	1	(983,005)	(1)	—	—	—	—
Shares issued under ESPP	190,642	—	—	—	16,473	—	—	16,473
Donated common stock	22,102	—	—	—	3,972	—	—	3,972
Net unrealized gain on available-for-sale securities	—	—	—	—	—	17,895	—	17,895
Stock-based compensation	—	—	—	—	82,559	—	—	82,559
<b>Balance as of June 30, 2020</b>	<b>132,194,335</b>	<b>\$ 130</b>	<b>10,837,157</b>	<b>\$ 12</b>	<b>\$ 5,181,368</b>	<b>\$ 13,606</b>	<b>\$ (873,526)</b>	<b>\$ 4,321,590</b>

See accompanying notes to condensed consolidated financial statements.



**TWILIO INC.**  
**Condensed Consolidated Statements of Stockholders' Equity, continued**  
**(Unaudited)**

	Common Stock Class A		Common Stock Class B		Additional Paid In Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount				
	(In thousands, except share amounts)							
<b>Balance as of December 31, 2018</b>	<b>80,769,763</b>	<b>\$ 80</b>	<b>19,310,465</b>	<b>\$ 20</b>	<b>\$ 808,527</b>	<b>\$ 1,282</b>	<b>\$ (371,674)</b>	<b>\$ 438,235</b>
Net loss	—	—	—	—	—	—	(36,503)	(36,503)
Exercises of stock options	748,679	1	1,023,984	1	15,326	—	—	15,328
Vesting of early exercised stock options	—	—	—	—	9	—	—	9
Vesting of restricted stock units	641,406	—	39,360	—	—	—	—	—
Value of equity awards withheld for tax liability	(5,860)	—	(4,431)	—	(1,062)	—	—	(1,062)
Conversion of shares of Class B common stock into shares of Class A	4,339,519	4	(4,339,519)	(4)	—	—	—	—
Shares issued in acquisition	23,555,081	24	—	—	2,658,874	—	—	2,658,898
Equity awards assumed in acquisition	—	—	—	—	191,620	—	—	191,620
Net unrealized gain on available-for-sale securities	—	—	—	—	—	1,041	—	1,041
Stock-based compensation	—	—	—	—	59,947	—	—	59,947
<b>Balance as of March 31, 2019</b>	<b>110,048,588</b>	<b>\$ 109</b>	<b>16,029,859</b>	<b>\$ 17</b>	<b>\$ 3,733,241</b>	<b>\$ 2,323</b>	<b>\$ (408,177)</b>	<b>\$ 3,327,513</b>
Net loss	—	—	—	—	—	—	(92,579)	(92,579)
Issuance of common stock in connection with a public offering, net of underwriter discounts	8,064,515	8	—	—	979,992	—	—	980,000
Costs related to the public offering	—	—	—	—	(953)	—	—	(953)
Exercises of stock options	313,924	—	503,797	1	9,926	—	—	9,927
Vesting of restricted stock units	675,028	1	29,576	—	—	—	—	1
Value of equity awards withheld for tax liability	(5,934)	—	(5,888)	—	(1,518)	—	—	(1,518)
Conversion of shares of Class B common stock into shares of Class A	2,172,598	2	(2,172,598)	(2)	—	—	—	—
Shares issued under ESPP	108,895	—	—	—	8,254	—	—	8,254
Equity awards assumed in acquisition (measurement period adjustment)	—	—	—	—	(7,126)	—	—	(7,126)
Net unrealized gain on available-for-sale securities	—	—	—	—	—	980	—	980
Stock-based compensation	—	—	—	—	72,361	—	—	72,361
<b>Balance as of June 30 2019</b>	<b>121,377,614</b>	<b>\$ 120</b>	<b>14,384,746</b>	<b>\$ 16</b>	<b>\$ 4,794,177</b>	<b>\$ 3,303</b>	<b>\$ (500,756)</b>	<b>\$ 4,296,860</b>

See accompanying notes to condensed consolidated financial statements.

**TWILIO INC.**  
**Condensed Consolidated Statements of Cash Flows**  
**(Unaudited)**

	Six Months Ended June 30,	
	2020	2019
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>	(In thousands)	
Net loss	\$ (194,714)	\$ (129,082)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:		
Depreciation and amortization	64,772	49,610
Non-cash reduction to the right-of-use asset	17,804	10,707
Amortization of debt discount and issuance costs	12,356	11,682
Stock-based compensation	148,412	129,064
Tax benefit related to release of valuation allowance	(357)	(53,502)
Allowance for credit losses	7,115	697
Value of donated common stock	6,673	—
Other adjustments	6,857	(1,286)
Changes in operating assets and liabilities:		
Accounts receivable	(47,766)	(22,523)
Prepaid expenses and other current assets	(12,001)	(15,688)
Other long-term assets	(19,774)	(5,969)
Accounts payable	(11,523)	8,306
Accrued expenses and other current liabilities	47,435	13,976
Deferred revenue and customer deposits	2,994	1,927
Operating lease liability	(16,340)	(9,367)
Long-term liabilities	1,968	(2,371)
Net cash provided by (used in) operating activities	<u>13,911</u>	<u>(13,819)</u>
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>		
Acquisitions, net of cash acquired, and other related payments	(2,725)	146,957
Purchases of marketable securities and other investments	(443,816)	(1,377,072)
Proceeds from sales and maturities of marketable securities	621,754	286,653
Capitalized software development costs	(17,651)	(10,520)
Purchases of long-lived assets	(12,797)	(7,882)
Net cash provided by (used in) investing activities	<u>144,765</u>	<u>(961,864)</u>
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>		
Proceeds from a public offering, net of underwriting discount	—	980,000
Payments of costs related to public offerings	—	(347)
Principal payments on finance leases and notes payable	(3,829)	(3,460)
Proceeds from exercises of stock options and shares issued under ESPP	69,936	33,509
Value of equity awards withheld for tax liabilities	(2,818)	(2,580)
Net cash provided by financing activities	<u>63,289</u>	<u>1,007,122</u>
<b>NET INCREASE IN CASH, CASH EQUIVALENTS AND RESTRICTED CASH</b>	<u>221,965</u>	<u>31,439</u>
<b>CASH, CASH EQUIVALENTS AND RESTRICTED CASH—Beginning of period</b>	<u>253,735</u>	<u>505,334</u>
<b>CASH, CASH EQUIVALENTS AND RESTRICTED CASH—End of period</b>	<u>\$ 475,700</u>	<u>\$ 536,773</u>
Cash paid for income taxes, net	<u>\$ 1,022</u>	<u>\$ 48</u>
<b>NON-CASH INVESTING AND FINANCING ACTIVITIES:</b>		
Purchases of property, equipment and intangible assets, accrued but not paid	<u>\$ 4,545</u>	<u>\$ 1,831</u>
Purchases of property and equipment through finance leases	<u>\$ 5,366</u>	<u>\$ 13,616</u>
Value of common stock issued and stock awards assumed in acquisition	<u>\$ —</u>	<u>\$ 2,843,392</u>
Stock-based compensation capitalized in software development costs	<u>\$ 7,015</u>	<u>\$ 3,244</u>

See accompanying notes to condensed consolidated financial statements.

**TWILIO INC.**  
**Notes to Consolidated Financial Statements**  
**(Unaudited)**

**1. Organization and Description of Business**

Twilio Inc. (the “Company”) was incorporated in the state of Delaware on March 13, 2008. The Company is the leader in the Cloud Communications Platform category and enables developers to build, scale and operate real-time communications within their software applications via simple-to-use Application Programming Interfaces (“API”). The power, flexibility, and reliability offered by the Company’s software building blocks empower entities of virtually every shape and size to build world-class engagement into their customer experience.

The Company’s headquarters are located in San Francisco, California, and the Company has subsidiaries in Australia, Bermuda, Brazil, Colombia, Czech Republic, Estonia, France, Germany, Hong Kong, India, Ireland, Japan, the Netherlands, Singapore, Spain, Sweden, the United Kingdom and the United States.

**2. Summary of Significant Accounting Policies**

**(a) Basis of Presentation**

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States of America (“U.S. GAAP”) and applicable rules and regulations of the Securities and Exchange Commission (“SEC”) regarding interim financial reporting. Certain information and note disclosures normally included in the financial statements prepared in accordance with U.S. GAAP have been condensed or omitted pursuant to such rules and regulations. Therefore, these condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and notes included in the Company’s Annual Report on Form 10-K filed with the SEC on March 2, 2020 (“Annual Report”).

The condensed consolidated balance sheet as of December 31, 2019, included herein, was derived from the audited financial statements as of that date, but may not include all disclosures including certain notes required by U.S. GAAP on an annual reporting basis.

In the opinion of management, the accompanying unaudited condensed consolidated financial statements reflect all normal recurring adjustments necessary to present fairly the financial position, results of operations, comprehensive loss, stockholders’ equity and cash flows for the interim periods, but are not necessarily indicative of the results of operations to be anticipated for the full year 2020 or any future period.

**(b) Principles of Consolidation**

The condensed consolidated financial statements include the Company and its wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated.

**(c) Use of Estimates**

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates are used for, but not limited to, revenue allowances and sales credit reserves; recoverability of long-lived and intangible assets; capitalization and useful life of the Company’s capitalized internal-use software development costs; fair value of acquired intangible assets and goodwill; accruals and contingencies. Estimates are based on historical experience and on various assumptions that the Company believes are reasonable under current circumstances. However, future events are subject to change and best estimates and judgments may require further adjustments, therefore, actual results could differ materially from those estimates. Management periodically evaluates such estimates and they are adjusted prospectively based upon such periodic evaluation.

**(d) Concentration of Credit Risk**

Financial instruments that potentially expose the Company to a concentration of credit risk consist primarily of cash, cash equivalents, marketable securities and accounts receivable. The Company maintains cash, cash equivalents and marketable securities with financial institutions that management believes are financially sound and have minimal credit risk exposure although the balances will exceed insured limits.

The Company sells its services to a wide variety of customers. If the financial condition or results of operations of any significant customers deteriorates substantially, operating results could be adversely affected. To reduce credit risk, management performs credit evaluations of the financial condition of significant customers. The Company does not require collateral from its credit customers and maintains reserves for estimated credit losses on customer accounts when considered necessary. Actual credit losses may differ from the Company's estimates. During the three and six months ended June 30, 2020 and 2019, no customer organization accounted for more than 10% of the Company's total revenue.

As of June 30, 2020, and December 31, 2019, no customer organization represented more than 10% of the Company's gross accounts receivable.

**(e) Significant Accounting Policies**

There have been no changes to the Company's significant accounting policies as described in its Annual Report.

**(f) Accounting Guidance Adopted in the Quarter**

In December 2019, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2019-12, "Simplifying the Accounting for Income Taxes," which simplifies the accounting for income taxes by removing certain exceptions to the general principles for income taxes. The standard is effective for interim and annual periods beginning after December 15, 2020, with early adoption permitted. The Company elected to early adopt this guidance effective April 1, 2020. The adoption of this guidance did not have a material impact on the Company's consolidated financial statements.

**3. Fair Value Measurements**

*Financial Assets*

The following tables provide the financial assets measured at fair value on a recurring basis:

	Amortized Cost or Carrying Value	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value Hierarchy as of June 30, 2020			Aggregate Fair Value
				Level 1	Level 2	Level 3	
(In thousands)							
<b>Financial Assets:</b>							
Cash and cash equivalents:							
Money market funds	\$ 362,357	\$ —	\$ —	\$ 362,357	\$ —	\$ —	\$ 362,357
Commercial paper	7,499	—	—	—	7,499	—	7,499
Total included in cash and cash equivalents	369,856	—	—	362,357	7,499	—	369,856
Marketable securities:							
U.S. Treasury securities	169,738	1,111	—	170,849	—	—	170,849
Corporate debt securities and commercial paper	1,244,662	12,490	(382)	13,000	1,243,770	—	1,256,770
Total marketable securities	1,414,400	13,601	(382)	183,849	1,243,770	—	1,427,619
Strategic investments	7,718	—	—	—	—	7,718	7,718
Total financial assets	\$ 1,791,974	\$ 13,601	\$ (382)	\$ 546,206	\$ 1,251,269	\$ 7,718	\$ 1,805,193

	Amortized Cost or Carrying Value	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value Hierarchy as of December 31, 2019			Aggregate Fair Value
				Level 1	Level 2	Level 3	
(In thousands)							
<b>Financial Assets:</b>							
Cash and cash equivalents:							
Money market funds	\$ 153,252	\$ —	\$ —	\$ 153,252	\$ —	\$ —	\$ 153,252
Reverse repurchase agreements	35,800	—	—	—	35,800	—	35,800
Total included in cash and cash equivalents	189,052	—	—	153,252	35,800	—	189,052
Marketable securities:							
U.S. Treasury securities	215,847	241	(3)	216,085	—	—	216,085
Corporate debt securities and commercial paper	1,378,487	4,516	(55)	5,000	1,377,948	—	1,382,948
Total marketable securities	1,594,334	4,757	(58)	221,085	1,377,948	—	1,599,033
Strategic investments	5,500	—	—	—	—	5,500	5,500
Total financial assets	\$ 1,788,886	\$ 4,757	\$ (58)	\$ 374,337	\$ 1,413,748	\$ 5,500	\$ 1,793,585

The Company's primary objective when investing excess cash is preservation of capital, hence the Company's marketable securities consist primarily of US Treasury securities, high credit quality corporate debt securities and commercial paper. As the Company views its marketable securities as available to support its current operations, it has classified all available for sale securities as short-term. As of June 30, 2020, for fixed income securities that were in unrealized loss positions, the Company has determined that (i) it does not have the intent to sell any of these investments, and (ii) it is not more likely than not that it will be required to sell any of these investments before recovery of the entire amortized cost basis. In addition, as of June 30, 2020, the Company anticipates that it will recover the entire amortized cost basis of such fixed income securities before maturity.

The Company regularly reviews the changes to the rating of its debt securities by rating agencies as well as reasonably monitors the surrounding economic conditions to assess the risk of expected credit losses. As of June 30, 2020, the risk of expected credit losses was not significant.

Interest earned on marketable securities was \$7.8 million and \$16.6 million in the three and six months ended June 30, 2020, respectively, and \$2.6 million and \$4.1 million in the three and six months ended June 30, 2019, respectively. The interest is recorded as other income (expenses), net, in the accompanying condensed consolidated statements of operations.

The following table summarizes the contractual maturities of marketable securities:

	As of June 30, 2020		As of December 31, 2019	
	Amortized Cost	Aggregate Fair Value	Amortized Cost	Aggregate Fair Value
(In thousands)				
<b>Financial Assets:</b>				
Less than one year	\$ 827,075	\$ 831,425	\$ 859,996	\$ 861,181
One to three years	587,325	596,194	734,338	737,852
Total	\$ 1,414,400	\$ 1,427,619	\$ 1,594,334	\$ 1,599,033

The Company holds strategic investments with a fair value of \$7.7 million in debt and equity securities of privately held companies in which the Company does not have a controlling interest or significant influence. These securities are recorded as other long-term assets in the accompanying condensed consolidated balance sheets. The Company classifies its strategic investments as Level 3 within the fair value hierarchy based on the nature of the fair value inputs and judgment involved in the valuation process.

#### Financial Liabilities

As of June 30, 2020, and December 31, 2019, the fair value of the 0.25% convertible senior notes due 2023 (the "Notes"), as further described in Note 8, was approximately \$1,718.2 million and \$841.3 million, respectively. The fair value of the Notes is determined based on the closing price on the last trading day of the reporting period and is classified as a Level 2 security within the fair value hierarchy.

#### 4. Property and Equipment

Property and equipment consisted of the following:

	As of June 30, 2020	As of December 31, 2019
	(In thousands)	
Capitalized internal-use software development costs	\$ 122,673	\$ 100,155
Data center equipment <sup>(1)</sup>	27,473	22,009
Leasehold improvements	65,846	55,886
Office equipment	29,553	25,083
Furniture and fixtures <sup>(1)</sup>	10,519	10,095
Software	9,909	9,176
Total property and equipment	265,973	222,404
Less: accumulated depreciation and amortization	(104,560)	(81,148)
Total property and equipment, net	\$ 161,413	\$ 141,256

<sup>(1)</sup> Data center equipment and furniture and fixtures contain assets under finance leases. See Note 5 for further detail.

Depreciation and amortization expense was \$11.9 million and \$23.9 million for the three and six months ended June 30, 2020, respectively, and \$9.1 million and \$16.7 million for the three and six months ended June 30, 2019, respectively.

The Company capitalized \$12.6 million and \$24.6 million in internal-use software development costs in the three and six months ended June 30, 2020, respectively, and \$6.7 million and \$13.7 million in the three and six months ended June 30, 2019, respectively. Of this amount, stock-based compensation was \$3.6 million and \$7.0 million in the three and six months ended June 30, 2020, respectively, and \$1.6 million and \$3.2 million in the three and six months ended June 30, 2019, respectively. Amortization of capitalized software development costs was \$4.4 million and \$9.0 million in the three and six months ended June 30, 2020, respectively, and \$4.3 million and \$8.1 million in the three and six months ended June 30, 2019, respectively.

#### 5. Right-of-Use Asset and Lease Liabilities

The Company determines if an arrangement is a lease at inception. The Company presents the operating leases in long-term assets and current and long-term liabilities. Finance lease assets are included in property and equipment, net, and finance lease liabilities are presented in current and long-term liabilities in the accompanying condensed consolidated balance sheets.

Right-of-use ("ROU") assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. As the Company's leases do not generally provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments. The Company's lease agreements may have lease and non-lease components, which the Company accounts for as a single lease component. When estimating the lease term, the Company includes options to extend or terminate the lease when it is reasonably certain such options will be exercised. Lease expense for lease payments is recognized on a straight-line basis over the lease term and variable payments are recognized in the period they are incurred. The Company's lease agreements do not contain any residual value guarantees. Leases with an initial term of 12 months or less are not recorded on the balance sheet.

The Company has entered into various operating lease agreements for data centers and office space, and various financing leases agreements for data center and office equipment and furniture.

As of June 30, 2020, the Company had 22 leased properties with remaining lease terms from less than one year to nine years, some of which include options to extend the leases for up to 5.0 years.

The components of the lease expense recorded in the accompanying condensed consolidated statements of operations were as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
	(In thousands)			
Operating lease cost	\$ 12,497	\$ 8,273	\$ 22,921	\$ 15,446
Finance lease cost:				
Amortization of assets	1,830	1,526	3,734	2,689
Interest on lease liabilities	194	189	392	337
Short-term lease cost	1,091	1,905	2,503	3,340
Variable lease cost	1,884	1,080	3,180	1,567
<b>Total net lease cost</b>	<b>\$ 17,496</b>	<b>\$ 12,973</b>	<b>\$ 32,730</b>	<b>\$ 23,379</b>

Supplemental balance sheet information related to leases was as follows:

Leases	Classification	As of	As of
		June 30, 2020	December 31, 2019
		(In thousands)	
<b>Assets:</b>			
Operating lease assets	Operating right-of-use asset, net of accumulated amortization <sup>(1)</sup>	\$ 196,647	\$ 156,741
Finance lease assets	Property and equipment, net of accumulated depreciation <sup>(2)</sup>	16,333	14,770
<b>Total leased assets</b>		<b>\$ 212,980</b>	<b>\$ 171,511</b>
<b>Liabilities:</b>			
Current			
Operating	Operating lease liability, current	\$ 35,287	\$ 27,156
Finance	Financing lease liability, current	7,134	6,924
Noncurrent			
Operating	Operating lease liability, noncurrent	172,408	139,200
Finance	Finance lease liability, noncurrent	10,116	8,746
<b>Total lease liabilities</b>		<b>\$ 224,945</b>	<b>\$ 182,026</b>

<sup>(1)</sup> Operating lease assets are recorded net of accumulated amortization of \$41.0 million and \$23.2 million as of June 30, 2020 and December 31, 2019, respectively.

<sup>(2)</sup> Finance lease assets are recorded net of accumulated depreciation of \$9.7 million and \$6.0 million as of June 30, 2020 and December 31, 2019, respectively.

Supplemental cash flow and other information related to leases was as follows:

	<b>Six Months Ended June 30,</b>	
	<b>2020</b>	<b>2019</b>
(In thousands)		
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows used in operating leases	\$ 22,199	\$ 12,145
Operating cash flows used in finance leases (interest)	\$ 392	\$ 337
Financing cash flows used in finance leases	\$ 3,718	\$ 2,463
Weighted average remaining lease term (in years):		
Operating leases	5.8	6.8
Finance leases	3.2	3.1
Weighted average discount rate:		
Operating leases	5.4 %	5.8 %
Finance leases	4.8 %	5.2 %

Maturities of lease liabilities were as follows:

	<b>As of June 30, 2020</b>	
	<b>Operating Leases</b>	<b>Finance Leases</b>
(In thousands)		
<u>Year ended December 31,</u>		
2020 (remaining six months)	\$ 21,421	\$ 4,267
2021	43,868	6,000
2022	44,978	3,677
2023	39,553	2,930
2024	33,544	957
Thereafter	59,893	833
Total lease payments	243,257	18,664
Less: imputed interest	(35,562)	(1,414)
Total lease obligations	207,695	17,250
Less: current obligations	(35,287)	(7,134)
Long-term lease obligations	\$ 172,408	\$ 10,116

As of June 30, 2020, the Company had no additional operating or finance leases with future commencement dates.



## 6. Intangible Assets

Intangible assets consisted of the following:

	As of June 30, 2020		
	Gross	Accumulated Amortization	Net
Amortizable intangible assets:	(In thousands)		
Developed technology	\$ 334,599	\$ (79,593)	\$ 255,006
Customer relationships	185,594	(40,214)	145,380
Supplier relationships	4,356	(2,343)	2,013
Trade names	20,060	(5,727)	14,333
Patent	3,104	(312)	2,792
Total amortizable intangible assets	547,713	(128,189)	419,524
Non-amortizable intangible assets:			
Telecommunication licenses	4,920	—	4,920
Trademarks and other	295	—	295
Total	\$ 552,928	\$ (128,189)	\$ 424,739

	As of December 31, 2019		
	Gross	Accumulated Amortization	Net
Amortizable intangible assets:	(In thousands)		
Developed technology	\$ 333,980	\$ (55,390)	\$ 278,590
Customer relationships	182,339	(26,347)	155,992
Supplier relationships	4,356	(1,532)	2,824
Trade name	20,060	(3,727)	16,333
Patent	2,707	(262)	2,445
Total amortizable intangible assets	543,442	(87,258)	456,184
Non-amortizable intangible assets:			
Telecommunication licenses	4,370	—	4,370
Trademarks and other	295	—	295
Total	\$ 548,107	\$ (87,258)	\$ 460,849

Amortization expense was \$20.6 million and \$40.9 million for the three and six months ended June 30, 2020, respectively, and \$19.3 million and \$32.9 million for the three and six months ended June 30, 2019, respectively.

Total estimated future amortization expense is as follows:

	<b>As of June 30, 2020</b>
<u>Year Ended December 31,</u>	<u>(In thousands)</u>
2020 (remaining six months)	\$ 40,376
2021	80,488
2022	77,872
2023	74,590
2024	69,311
Thereafter	76,887
Total	<u>\$ 419,524</u>

## 7. Accrued Expenses and Other Liabilities

Accrued expenses and other current liabilities consisted of the following:

	<b>As of June 30, 2020</b>	<b>As of December 31, 2019</b>
	<u>(In thousands)</u>	
Accrued payroll and related	\$ 30,766	\$ 20,462
Accrued bonus and commission	23,083	12,898
Accrued cost of revenue	62,510	47,563
Sales and other taxes payable	41,161	33,430
ESPP contributions	4,195	4,023
Accrued other expense	35,588	29,305
Total accrued expenses and other current liabilities	<u>\$ 197,303</u>	<u>\$ 147,681</u>

Other long-term liabilities consisted of the following:

	<b>As of June 30, 2020</b>	<b>As of December 31, 2019</b>
	<u>(In thousands)</u>	
Deferred tax liability	\$ 6,622	\$ 7,535
Accrued other expenses	12,922	10,212
Total other long-term liabilities	<u>\$ 19,544</u>	<u>\$ 17,747</u>

## 8. Notes Payable

### *Convertible Senior Notes and Capped Call Transactions*

In May 2018, the Company issued \$550.0 million aggregate principal amount of 0.25% convertible senior notes due 2023 in a private placement, including \$75.0 million aggregate principal amount of such Notes pursuant to the exercise in full of the over-allotment options of the initial purchasers (collectively, the “Notes”). The interest on the Notes is payable semi-annually in arrears on June 1 and December 1 of each year, beginning on December 1, 2018.

The Notes may bear special interest under specified circumstances relating to the Company’s failure to comply with its reporting obligations under the indenture relating to the issuance of Notes (the “indenture”) or if the Notes are not freely

tradeable as required by the indenture. The Notes will mature on June 1, 2023, unless earlier repurchased or redeemed by the Company or converted pursuant to their terms. The total net proceeds from the debt offering, after deducting initial purchaser discounts and debt issuance costs paid by us were \$537.0 million.

Each \$1,000 principal amount of the Notes is initially convertible into 14.104 shares of the Company's Class A common stock par value \$0.001, which is equivalent to an initial conversion price of approximately \$70.90 per share. The conversion rate is subject to adjustment upon the occurrence of certain specified events but will not be adjusted for any accrued and unpaid special interest. In addition, upon the occurrence of a make-whole fundamental change, as defined in the indenture, the Company will, in certain circumstances, increase the conversion rate by a number of additional shares for a holder that elects to convert its Notes in connection with such make-whole fundamental change or during the relevant redemption period.

Prior to the close of business on the business day immediately preceding March 1, 2023, the Notes may be convertible at the option of the holders only under the following circumstances:

- (1) during any calendar quarter commencing after September 30, 2018, and only during such calendar quarter, if the last reported sale price of the Class A common stock for at least 20 trading days (whether or not consecutive) in a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is more than or equal to 130% of the conversion price on each applicable trading day;
- (2) during the five business days period after any five consecutive trading day period in which, for each trading day of that period, the trading price per \$1,000 principal amount of Notes for such trading day was less than 98% of the product of the last reported sale price of the Class A common stock and the conversion rate on each such trading day;
- (3) upon the Company's notice that it is redeeming any or all of the Notes; or
- (4) upon the occurrence of specified corporate events.

On or after March 1, 2023, until the close of business on the second scheduled trading day immediately preceding the maturity date, holders of the Notes may, at their option, convert all or a portion of their Notes regardless of the foregoing conditions.

Upon conversion, the Company will pay or deliver, as the case may be, cash, shares of Class A common stock, or a combination of cash and shares of Class A common stock, at the Company's election. It is the Company's current intent to settle the principal amount of the Notes with cash.

During the three months ended June 30, 2020, the conditional conversion feature of the Notes was triggered as the last reported sale price of the Company's Class A common stock was more than or equal to 130% of the conversion price for at least 20 trading days (whether or not consecutive) in the period of 30 consecutive trading days ending on June 30, 2020 (the last trading day of the calendar quarter), and therefore the Notes are currently convertible, in whole or in part, at the option of the holders between July 1, 2020 through September 30, 2020. Whether the Notes will be convertible following such period will depend on the continued satisfaction of this condition or another conversion condition in the future. The Company continues to classify the Notes as a long-term liability in its condensed consolidated balance sheet as of June 30, 2020, based on contractual settlement provisions. The Company may redeem the Notes, in whole or in part, at its option, on or after June 1, 2021 but before the 35th scheduled trading day before the maturity date, at a cash redemption price equal to 100% of the principal amount of the Notes to be redeemed, plus accrued and unpaid interest, if any, if the last reported sale price of the Class A common stock has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading days ending on, and including, the trading day immediately before the date the redemption notices were sent; and the trading day immediately before such notices were sent.

No sinking fund is provided for the Notes. Upon the occurrence of a fundamental change (as defined in the indenture) prior to the maturity date, holders may require the Company to repurchase all or a portion of the Notes for cash at a price equal to 100% of the principal amount of the Notes to be repurchased, plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

The Notes are senior unsecured obligations and will rank senior in right of payment to any of the Company's indebtedness that is expressly subordinated in right of payment to the Notes; equal in right of payment with the Company's existing and future liabilities that are not so subordinated; effectively subordinated to any of the Company's secured

indebtedness to the extent of the value of the assets securing such indebtedness; and structurally junior to all indebtedness and other liabilities (including trade payables) of current or future subsidiaries of the Company.

The foregoing description is qualified in its entirety by reference to the text of the indenture and the form of 0.25% convertible senior notes due 2023, which were filed as exhibits to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018 and are incorporated herein by reference.

In accounting for the issuance of the Notes, the Company separated the Notes into liability and equity components. The carrying amount of the liability component was calculated by measuring the fair value of a similar debt instrument that does not have an associated convertible feature. The carrying amount of the equity component representing the conversion option was \$119.4 million and was determined by deducting the fair value of the liability component from the par value of the Notes. The equity component is not remeasured as long as it continues to meet the conditions for equity classification. The excess of the principal amount of the liability component over its carrying amount, or the debt discount, is amortized to interest expense at an annual effective interest rate of 5.7% over the contractual terms of the Notes.

In accounting for the transaction costs related to the Notes, the Company allocated the total amount incurred to the liability and equity components of the Notes based on the proportion of the proceeds allocated to the debt and equity components. Issuance costs attributable to the liability component were approximately \$10.2 million, were recorded as an additional debt discount and are amortized to interest expense using the effective interest method over the contractual terms of the Notes. Issuance costs attributable to the equity component were netted with the equity component in stockholders' equity.

The net carrying amount of the liability component of the Notes was as follows:

	<b>As of June 30, 2020</b>	<b>As of December 31, 2019</b>
	(In thousands)	
Principal	\$ 549,998	\$ 549,999
Unamortized discount	(73,260)	(84,647)
Unamortized issuance costs	(6,193)	(7,162)
Net carrying amount	<u>\$ 470,545</u>	<u>\$ 458,190</u>

The net carrying amount of the equity component of the Notes was as follows:

	<b>As of June 30, 2020</b>	<b>As of December 31, 2019</b>
	(In thousands)	
Proceeds allocated to the conversion options (debt discount)	\$ 119,435	\$ 119,435
Issuance costs	(2,819)	(2,819)
Net carrying amount	<u>\$ 116,616</u>	<u>\$ 116,616</u>

The following table sets forth the interest expense recognized related to the Notes:

	<b>Three Months Ended June 30,</b>		<b>Six Months Ended June 30,</b>	
	<b>2020</b>	<b>2019</b>	<b>2020</b>	<b>2019</b>
	(In thousands)			
Contractual interest expense	\$ 344	\$ 344	\$ 688	\$ 688
Amortization of debt issuance costs	484	458	968	916
Amortization of debt discount	5,694	5,383	11,388	10,766
Total interest expense related to the Notes	<u>\$ 6,522</u>	<u>\$ 6,185</u>	<u>\$ 13,044</u>	<u>\$ 12,370</u>

In connection with the offering of the Notes, the Company entered into privately negotiated capped call transactions with certain counterparties (the “capped calls”). The capped calls each have an initial strike price of approximately \$70.90 per share, subject to certain adjustments, which corresponds to the initial conversion price of the Notes. The capped calls have initial cap prices of \$105.04 per share, subject to certain adjustments. The capped calls cover, subject to anti-dilution adjustments, approximately 7,757,158 shares of Class A common stock. The capped calls are generally intended to reduce or offset the potential dilution to the Class A common stock upon any conversion of the Notes with such reduction or offset, as the case may be, subject to a cap based on the cap price. The capped calls expire on the earlier of (i) the last day on which any convertible securities remain outstanding and (ii) June 1, 2023, subject to earlier exercise. The capped calls are subject to either adjustment or termination upon the occurrence of specified extraordinary events affecting the Company, including a merger event, a tender offer, and a nationalization, insolvency or delisting involving the Company. In addition, the capped calls are subject to certain specified additional disruption events that may give rise to a termination of the capped calls, including changes in law, insolvency filings, and hedging disruptions. The capped call transactions are recorded in stockholders’ equity and are not accounted for as derivatives. The net cost of \$58.5 million incurred to purchase the capped call transactions was recorded as a reduction to additional paid-in capital in the accompanying condensed consolidated balance sheet.

## 9. Supplemental Balance Sheet Information

A roll-forward of the Company’s reserves is as follows:

### (a) Allowance for doubtful accounts:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
	(In thousands)			
Balance, beginning of period	\$ 9,085	\$ 4,281	\$ 6,287	\$ 4,945
Additions	2,899	685	7,160	440
Write-offs	(1,736)	(193)	(3,199)	(612)
Balance, end of period	\$ 10,248	\$ 4,773	\$ 10,248	\$ 4,773
Percentage of revenue	3 %	2 %	1 %	1 %

### (b) Customer credit reserve:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
	(In thousands)			
Balance, beginning of period	\$ 9,687	\$ 2,831	\$ 6,784	\$ 3,015
Additions	13,376	2,862	21,550	5,543
Deductions against reserve	(11,532)	(2,617)	(16,803)	(5,482)
Balance, end of period	\$ 11,531	\$ 3,076	\$ 11,531	\$ 3,076
Percentage of revenue	3 %	1 %	2 %	1 %

## 10. Revenue by Geographic Area

Revenue by geographic area is based on the IP address or the mailing address at the time of registration. The following table sets forth revenue by geographic area:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Revenue by geographic area:	(In thousands)			
United States	\$ 292,115	\$ 194,998	\$ 553,928	\$ 361,551
International	108,734	80,041	211,789	146,627
Total	\$ 400,849	\$ 275,039	\$ 765,717	\$ 508,178
Percentage of revenue by geographic area:				
United States	73 %	71 %	72 %	71 %
International	27 %	29 %	28 %	29 %

Long-lived assets outside the United States were not significant.

## 11. Commitments and Contingencies

### (a) Lease and Other Commitments

The Company entered into various non-cancelable operating lease agreements for its facilities with remaining lease terms from less than one year to slightly over nine years. See Note 5 to these unaudited condensed consolidated financial statements for additional detail on the Company's operating and finance lease commitments.

In the three and six months ended June 30, 2020, the Company entered into several non-cancelable vendor agreements with terms up to two years for a total purchase commitment of \$6.1 million and \$22.9 million, respectively.

### (b) Legal Matters

On April 30, 2015 and March 28, 2016, Telesign Corporation ("Telesign") filed lawsuits (which were subsequently consolidated) against the Company in the United States District Court, Central District of California ("Telesign I/II"). Telesign alleges in Telesign I/II that the Company is infringing four U.S. patents that it holds: U.S. Patent No. 7,945,034 ("034"), U.S. Patent No. 8,462,920 ("920"), U.S. Patent No. 8,687,038 ("038") and U.S. Patent No. 9,300,792 ("792"). The consolidated Telesign I/II actions were transferred to the United States District Court, Northern District of California. The patent infringement allegations in the lawsuit related to the Company's two-factor authentication use case, *Authy*, and an API tool to find information about a phone number. Telesign sought, among other things, to enjoin the Company from allegedly infringing the patents, along with damages for lost profits and damages based on a reasonable royalty.

On March 8, 2017, in response to a petition by the Company, the U.S. Patent and Trademark Officer ("PTO") issued an order instituting an *inter partes* review for the '792 patent. On March 6, 2018, the PTO found all claims challenged by the Company in the *inter partes* review unpatentable. Telesign did not appeal the PTO's decision and it is final. On October 19, 2018, the district court granted the Company's motion that all remaining asserted claims of the asserted patents are invalid under 35 U.S.C. § 101 and entered judgment in the Company's favor. On November 8, 2018, Telesign appealed the judgment to the United States Court of Appeals for the Federal Circuit. On January 9, 2020, the Federal Circuit Court affirmed the district court's judgment. The deadline for Telesign to seek rehearing or further appeal passed on June 8, 2020, and the judgment is now final.

On December 1, 2016, the Company filed a patent infringement lawsuit against Telesign in the United States District Court, Northern District of California ("Telesign III"), alleging infringement of United States Patent No. 8,306,021 ("021"), United States Patent No. 8,837,465 ("465"), United States Patent No. 8,755,376 ("376"), United States Patent No. 8,736,051 ("051"), United States Patent No. 8,737,962 ("962"), United States Patent No. 9,270,833 ("833"), and United States Patent No. 9,226,217 ("217"). Telesign filed a motion to dismiss the complaint on January 25, 2017. In two orders, issued on

March 31, 2017 and April 17, 2017, the court granted Telesign's motion to dismiss with respect to the '962, '833, '051 and '217 patents, but denied Telesign's motion to dismiss as to the '021, '465 and '376 patents. On August 23, 2017, Telesign petitioned the U.S. Patent and Trademark Office ("U.S. PTO") for *inter partes* review of the '021, '465, and '376 patents. On March 9, 2018, the PTO denied Telesign's petition for *inter partes* review of the '021 patent and granted Telesign's petitions for *inter partes* review of the '465 and '376 patents. On March 6, 2019, the PTO found all claims challenged by Telesign in the *inter partes* review unpatentable. The Company appealed the decisions to the United States Court of Appeals for the Federal Circuit who, on June 10, 2020, affirmed the PTAB rulings. Telesign III has been stayed pending resolution of the *inter partes* reviews (and appeals from them) of the '465 and '376 patents. If the Company does not appeal further, the case will be remanded to the district court and will proceed on the '021 patent. The Company is seeking a judgment of infringement, a judgment of willful infringement, monetary and injunctive relief, enhanced damages, and an award of costs and expenses against Telesign.

In addition to the litigation discussed above, from time to time, the Company may be subject to legal actions and claims in the ordinary course of business. The Company has received, and may in the future continue to receive, claims from third parties asserting, among other things, infringement of their intellectual property rights. Future litigation may be necessary to defend the Company, its partners and its customers by determining the scope, enforceability and validity of third-party proprietary rights, or to establish our proprietary rights. The results of any current or future litigation cannot be predicted with certainty, and regardless of the outcome, litigation can have an adverse impact on the Company because of defense and settlement costs, diversion of management resources, and other factors.

Legal fees and other costs related to litigation and other legal proceedings are expensed as incurred and are included in general and administrative expenses in the accompanying condensed consolidated statements of operations.

### **(c) Indemnification Agreements**

The Company has signed indemnification agreements with all of its board members and executive officers. The agreements indemnify the board members and executive officers from claims and expenses on actions brought against the individuals separately or jointly with the Company for certain indemnifiable events. Indemnifiable events generally mean any event or occurrence related to the fact that the board member or the executive officer was or is acting in his or her capacity as a board member or an executive officer for the Company or was or is acting or representing the interests of the Company.

In the ordinary course of business and in connection with our financing and business combinations transactions, the Company enters into contractual arrangements under which it agrees to provide indemnification of varying scope and terms to business partners, customers and other parties with respect to certain matters, including, but not limited to, losses arising out of the breach of such agreements, intellectual property infringement claims made by third parties and other liabilities relating to or arising from the Company's various products, or its acts or omissions. In these circumstances, payment may be conditional on the other party making a claim pursuant to the procedures specified in the particular contract. Further, the Company's obligations under these agreements may be limited in terms of time and/or amount, and in some instances, the Company may have recourse against third parties for certain payments. The terms of such obligations may vary.

As of June 30, 2020 and December 31, 2019, no amounts were accrued related to any outstanding indemnification agreements.

### **(d) Other Taxes**

The Company conducts operations in many tax jurisdictions within and outside the United States. In many of these jurisdictions, non-income-based taxes, such as sales, use, telecommunications and other local taxes are assessed on the Company's operations. Prior to March 2017, the Company had not billed nor collected these taxes from its customers and, in accordance with U.S. GAAP, recorded a provision for its tax exposure in these jurisdictions when it was both probable that a liability had been incurred and the amount of the exposure could be reasonably estimated. These estimates included several key assumptions including, but not limited to, the taxability of the Company's services, the jurisdictions in which its management believes it had nexus, and the sourcing of revenues to those jurisdictions. Starting in March 2017, the Company began collecting these taxes from customers in certain jurisdictions and since then has expanded to collect taxes in most jurisdictions where the Company operates. The Company is also in discussions with certain jurisdictions regarding its prior sales and other taxes, if any, that the Company may owe. In the event any of these jurisdictions disagree with management's assumptions and analysis, the assessment of the Company's tax exposure could differ materially from management's current estimates. For example, one jurisdiction has assessed the Company for \$38.8 million in taxes, including interest and penalties, which exceeded the \$11.5 million the Company had accrued as of June 30, 2020. The Company believes this assessment is overstated and has disputed it, paid the full amount as required by law, and is seeking a refund. The payment made in excess of the accrued amount

will be reflected as a deposit in the Company's balance sheet in the future periods. If the jurisdiction denies the Company's refund claim, the Company will challenge the jurisdiction's denial in court. However, litigation is uncertain and a ruling against the Company may adversely affect its financial position and results of operation.

As of June 30, 2020 and December 31, 2019, the liability recorded for these taxes was \$28.1 million and \$27.0 million, respectively.

## 12. Stockholders' Equity

### *Preferred Stock*

As of June 30, 2020 and December 31, 2019, the Company had authorized 100,000,000 shares of preferred stock, par value \$0.001, of which no shares were issued and outstanding.

### *Common Stock*

As of June 30, 2020 and December 31, 2019, the Company had authorized 1,000,000,000 shares of Class A common stock and 100,000,000 shares of Class B common stock, each par value \$0.001 per share. As of June 30, 2020, 132,194,335 shares of Class A common stock and 10,837,157 shares of Class B common stock were issued and outstanding. As of December 31, 2019, 126,882,172 shares of Class A common stock and 11,530,627 shares of Class B common stock were issued and outstanding.

The Company had reserved shares of common stock for issuance as follows:

	<b>As of June 30, 2020</b>	<b>As of December 31, 2019</b>
Stock options issued and outstanding	5,357,728	7,705,848
Nonvested restricted stock units issued and outstanding	8,791,928	8,490,517
Class A common stock reserved for Twilio.org	751,469	795,673
Stock-based awards available for grant under 2016 Plan	19,440,819	14,957,734
Stock-based awards available for grant under 2016 ESPP	5,042,439	3,848,953
Class A common stock reserved for the convertible senior notes	10,472,165	10,472,165
<b>Total</b>	<b>49,856,548</b>	<b>46,270,890</b>

## 13. Stock-Based Compensation

### *2008 Stock Option Plan*

The Company maintained a stock plan, the 2008 Stock Option Plan, as amended and restated (the "2008 Plan"), which allowed the Company to grant incentive ("ISO"), non-statutory ("NSO") stock options and restricted stock units ("RSU") to its employees, directors and consultants to participate in the Company's future performance through stock-based awards at the discretion of the board of directors. Under the 2008 Plan, options to purchase the Company's common stock could not be granted at a price less than fair value in the case of ISOs and NSOs. Fair value was determined by the board of directors, in good faith, with input from valuation consultants. On June 22, 2016, the plan was terminated in connection with the Company's IPO. Accordingly, no shares are available for future issuance under the 2008 Plan. The 2008 Plan continues to govern outstanding equity awards granted thereunder. The Company's right of first refusal for outstanding equity awards granted under the 2008 Plan terminated upon completion of the IPO. Options granted include provisions for early exercisability.

### *2016 Stock Option Plan*

The Company's 2016 Stock Option and Incentive Plan (the "2016 Plan") became effective on June 21, 2016. The 2016 Plan provides for the grant of ISOs, NSOs, restricted stock, RSUs, stock appreciation rights, unrestricted stock awards, performance share awards, dividend equivalent rights and cash-based awards to employees, directors and consultants of the



Company. A total of 11,500,000 shares of the Company's Class A common stock were initially reserved for issuance under the 2016 Plan. These available shares automatically increase each January 1, beginning on January 1, 2017, by 5% of the number of shares of the Company's Class A and Class B common stock outstanding on the immediately preceding December 31, or such lesser number of shares as determined by the Company's compensation committee. On January 1, 2020 and 2019, the shares available for grant under the 2016 Plan were automatically increased by 6,920,640 and 5,004,011 shares, respectively.

Under the 2016 Plan, the stock options are granted at a price per share not less than 100% of the fair market value per share of the underlying common stock on the date of grant. Under both plans, stock options generally expire 10 years from the date of grant and vest over periods determined by the board of directors. The vesting period for new-hire options and restricted stock units is generally a four year term from the date of grant, at a rate of 25% after one year, then monthly or quarterly, respectively, on a straight-line basis thereafter. In July 2017, the Company began granting restricted stock units to existing employees that vest in equal quarterly installments over a four year service period.

#### ***SendGrid Equity Awards Assumed in Acquisition***

In connection with its acquisition of SendGrid, Inc. ("SendGrid"), the Company assumed all stock options and restricted stock units issued under SendGrid's 2009, 2012 or 2017 Stock Incentive Plans that were outstanding on the date of acquisition. The assumed equity awards will continue to be outstanding and will be governed by the provisions of their respective plans. Additionally, the Company assumed shares of SendGrid common stock that were reserved and available for issuance under SendGrid's 2017 Equity Incentive Plan, on an as converted basis. These shares can be utilized for future equity grants under the Company's 2016 Plan, to the extent permitted by New York Stock Exchange rules.

#### ***2016 Employee Stock Purchase Plan***

The Company's Employee Stock Purchase Plan ("2016 ESPP"), as amended, initially became effective on June 21, 2016. A total of 2,400,000 shares of the Company's Class A common stock were initially reserved for issuance under the 2016 ESPP. These available shares automatically increase each January 1, beginning on January 1, 2017, by the lesser of 1,800,000 shares of the common stock, 1% of the number of shares of the Company's Class A and Class B common stock outstanding on the immediately preceding December 31 or such lesser number of shares as determined by the Company's compensation committee. On January 1, 2020 and 2019, the shares available for grant under the 2016 ESPP were automatically increased by 1,384,128 and 1,000,802 shares, respectively.

The 2016 ESPP allows eligible employees to purchase shares of the Company's Class A common stock at a discount of up to 15% through payroll deductions of their eligible compensation, subject to any plan limitations. The 2016 ESPP provides for separate six-month offering periods beginning in May and November of each fiscal year.

On each purchase date, eligible employees purchase the Company's stock at a price per share equal to 85% of the lesser of (i) the fair market value of the Company's Class A common stock on the offering date or (ii) the fair market value of the Company's Class A common stock on the purchase date.

In the three months ended June 30, 2020 and 2019, 190,642 and 108,895 shares of Class A common stock were purchased under the 2016 ESPP, respectively, and 103,132 shares are expected to be purchased in the fourth quarter of 2020. As of June 30, 2020, total unrecognized compensation cost related to the 2016 ESPP was \$5.0 million, which will be amortized over a weighted-average period of 0.4 years.

## Stock Options

Stock option activity under the Company's 2008 Plan and 2016 Plan as well as respective Stock Incentive Plans assumed in the SendGrid acquisition was as follows:

	Number of options outstanding	Weighted-average exercise price (Per share)	Weighted-average remaining contractual term (In years)	Aggregate intrinsic value (In thousands)
Outstanding options as of December 31, 2019	7,150,848	\$ 28.79	6.47	\$ 511,971
Granted	599,909	127.74		
Exercised	(2,718,931)	19.67		
Forfeited and canceled	(229,098)	73.02		
Outstanding options as of June 30, 2020	4,802,728	\$ 44.20	6.87	\$ 841,534
Options vested and exercisable as of June 30, 2020	2,821,212	\$ 17.47	5.68	\$ 569,740

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
	(In thousands, except per share amounts)			
Aggregate intrinsic value of stock options exercised <sup>(1)</sup>	\$ 338,031	\$ 100,808	\$ 406,390	\$ 287,824
Total estimated grant date fair value of options vested	\$ 17,684	\$ 19,507	\$ 41,020	\$ 42,503
Weighted-average grant date fair value per share of options granted	\$ 93.37	\$ 63.42	\$ 64.06	\$ 58.16

<sup>(1)</sup> Aggregate intrinsic value represents the difference between the fair value of the Company's Class A common stock as reported on the New York Stock Exchange and the exercise price of outstanding "in-the-money" options.

On February 28, 2017, the Company granted a total of 555,000 shares of performance-based stock options in three distinct awards to an employee with grant date fair values of \$13.48, \$10.26 and \$8.41 per share for a total grant value of \$5.9 million. The first half of each award vests upon satisfaction of a performance condition and the remainder vests thereafter in equal monthly installments over a two year period. All performance conditions have been met. The stock options are amortized over a derived service period, as adjusted, of 3.1 years, 3.9 years and 4.4 years, respectively. The stock options value and the derived service period were estimated using the Monte-Carlo simulation model. The following table summarizes the details of the performance options:

	Number of options outstanding	Weighted-average exercise price (Per share)	Weighted-average remaining contractual term (In years)	Aggregate intrinsic value (In thousands)
Outstanding options as of December 31, 2019	555,000	\$ 31.72	4.16	\$ 36,941
Granted	—	—		
Exercised	—	—		
Forfeited and canceled	—	—		
Outstanding options as of June 30, 2020	555,000	\$ 31.72	3.66	\$ 104,174
Options vested and exercisable as of June 30, 2020	485,625	\$ 31.72	3.66	\$ 91,152

As of June 30, 2020, total unrecognized compensation cost related to nonvested stock options was \$89.0 million, which will be amortized on a ratable basis over a weighted-average period of 2.1 years.

### Restricted Stock Units

	Number of awards outstanding	Weighted- average grant date fair value (Per share)	Aggregate intrinsic value (In thousands)
Nonvested RSUs as of December 31, 2019	8,490,517	\$ 74.21	\$ 830,167
Granted	2,513,586	166.49	
Vested	(1,684,352)	65.75	
Forfeited and canceled	(527,823)	83.58	
Nonvested RSUs as of June 30, 2020	8,791,928	\$ 103.08	\$ 1,923,190

As of June 30, 2020, total unrecognized compensation cost related to nonvested RSUs was \$831.4 million, which will be amortized over a weighted-average period of 2.7 years.

### Valuation Assumptions

The fair value of employee stock options was estimated on the date of grant using the following assumptions in the Black-Scholes option pricing model:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
<b>Employee Stock Options:</b>				
Fair value of common stock	\$108.4 - \$191.9	\$128.0	\$108.4 - \$191.9	\$111.3 - \$130.7
Expected term (in years)	6.08	6.08	6.08	0.33 - 6.08
Expected volatility	54.7% - 56.0%	49.2%	51.9% - 56.0%	48.3% - 66.5%
Risk-free interest rate	0.4%	2.4%	0.4% - 1.4%	2.4% - 2.5%
Dividend rate	—%	—%	—%	—%

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
<b>Employee Stock Purchase Plan:</b>				
Expected term (in years)	0.50	0.50	0.50	0.50
Expected volatility	72.1%	50.3%	72.1%	50.3%
Risk-free interest rate	0.2%	2.4%	0.2%	2.4%
Dividend rate	—%	—%	—%	—%

The following assumptions were used in the Monte Carlo simulation model to estimate the grant date fair value and the derived service period of the performance options:

Asset volatility	40%
Equity volatility	45%
Discount rate	14%
Stock price at grant date	\$31.7

### **Stock-Based Compensation Expense**

The Company recorded the total stock-based compensation expense as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
	(In thousands)			
Cost of revenue	\$ 2,143	\$ 1,623	\$ 3,980	\$ 3,432
Research and development	39,841	33,701	73,050	59,040
Sales and marketing	23,086	14,564	43,029	26,313
General and administrative	14,317	20,852	28,353	40,279
Total	\$ 79,387	\$ 70,740	\$ 148,412	\$ 129,064

### **14. Net Loss Per Share Attributable to Common Stockholders**

Basic and diluted net loss per common share is presented in conformity with the two-class method required for participating securities.

Class A and Class B common stock are the only outstanding equity in the Company. The rights of the holders of Class A and Class B common stock are identical, except with respect to voting and conversion. Each share of Class A common stock is entitled to one vote per share and each share of Class B common stock is entitled to 10 votes per share. Shares of Class B common stock may be converted into Class A common stock at any time at the option of the stockholder and are automatically converted into Class A common stock upon sale or transfer, subject to certain limited exceptions.

Basic net loss per share attributable to common stockholders is computed using the weighted-average number of common shares outstanding during the period. Diluted net loss per share attributable to common stockholders is computed using the weighted-average number of common shares and, if dilutive, potential common shares outstanding during the period. The dilutive effect of these potential common shares is reflected in diluted earnings per share by application of the treasury stock method.

The following table sets forth the calculation of basic and diluted net loss per share attributable to common stockholders during the periods presented:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Net loss attributable to common stockholders (in thousands)	\$ (99,923)	\$ (92,579)	\$ (194,714)	\$ (129,082)
Weighted-average shares used to compute net loss per share attributable to common stockholders, basic and diluted	141,618,541	129,310,641	140,512,351	122,985,716
Net loss per share attributable to common stockholders, basic and diluted	\$ (0.71)	\$ (0.72)	\$ (1.39)	\$ (1.05)

The following outstanding shares of common stock equivalents were excluded from the calculation of the diluted net loss per share attributable to common stockholders because their effect would have been anti-dilutive:

	As of June 30,	
	2020	2019
Stock options issued and outstanding	5,357,728	9,125,950
Nonvested restricted stock units issued and outstanding	8,791,928	8,926,529
Class A common stock reserved for Twilio.org	751,469	776,334
Class A common stock committed under 2016 ESPP	103,132	101,885
Conversion spread <sup>(1)</sup>	4,331,844	3,626,721
Total	19,336,101	22,557,419

<sup>(1)</sup> Since the Company expects to settle the principal amount of its outstanding convertible senior notes in cash and any excess in shares of the Company's Class A common stock, the Company uses the treasury stock method for calculating any potential dilutive effect of the conversion spread on diluted net income per share, if applicable. The conversion spread will have a dilutive impact on diluted net income per share of Class A common stock when the average market price of the Company's Class A common stock for a given period exceeds the conversion price of \$70.90 per share for the Notes. The conversion spread is calculated using the average market price of Class A common stock during the period, consistent with the treasury stock method.

## 15. Income Taxes

The Company recorded an income tax provision of \$0.3 million and \$1.3 million for the three and six months ended June 30, 2020, respectively, and an income tax benefit of \$2.0 million and \$53.8 million for the three and six months ended June 30, 2019, respectively. The Company continues to maintain a valuation allowance for its U.S. federal and state net deferred tax assets.

The provision for income taxes recorded in the three and six months ended June 30, 2020, consists primarily of income taxes and withholding taxes in foreign jurisdictions in which the Company conducts business. The Company's U.S. operations have been in a loss position and the Company maintains a full valuation allowance against its U.S. deferred tax assets.

The tax benefit for the three and six months ended June 30, 2019, was primarily related to a partial release of valuation allowance, of which \$49.2 million was directly related to the day one impact from the acquisition of SendGrid. In connection with the SendGrid acquisition, the Company recorded a net deferred tax liability which provides an additional source of taxable income to support the realization of the pre-existing deferred tax assets. As a result, during the three and six months ended June 30, 2019, the Company released a total of \$1.1 million and \$52.7 million, respectively, of its U.S. valuation allowance.

On March 27, 2020, the Coronavirus Aid, Relief and Economic Security ("CARES") Act was enacted and signed into U.S. law to provide economic relief to individuals and businesses facing economic hardship as a result of the COVID-19 pandemic. Changes in tax laws or rates are accounted for in the period of enactment. The income tax provisions of the CARES Act do not have a significant impact on the Company's current taxes, deferred taxes or uncertain tax positions.

On June 7, 2019, a three-judge panel from the U.S. Court of Appeals for the Ninth Circuit overturned the U.S. Tax Court's decision in *Altera Corp. v. Commissioner* and upheld the portion of the Treasury regulations under Section 482 of the Internal Revenue Code that requires related parties in a cost-sharing arrangement to share expenses related to share-based compensation. As a result of this decision, the Company's gross unrecognized tax benefits increased to reflect the impact of including share-based compensation in cost-sharing arrangements. Recognizing the gross unrecognized tax benefits would not affect the Company's effective tax rate as their recognition would be offset by the reversal of the related deferred tax assets, which are subject to a full valuation allowance. On July 22, 2019, the taxpayer in the case filed a petition for a rehearing before the full Ninth Circuit and the request was denied on November 12, 2019. On February 10, 2020, the taxpayer in the case filed a petition to appeal the decision to the Supreme Court and on June 22, 2020 the Supreme Court denied the petition. There is no impact on the Company's effective tax rate for the three and six months ended June 30, 2020 due to the full valuation allowance against its deferred tax assets. The Company will continue to monitor future developments.

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

*The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our condensed consolidated financial statements and related notes appearing elsewhere in this Quarterly Report on Form 10-Q. In addition to historical financial information, the following discussion contains forward-looking statements that are based upon current plans, expectations and beliefs that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth under Part II, Item 1A, "Risk Factors" in this Quarterly Report on Form 10-Q.*

### **Overview**

We are the leader in the Cloud Communications Platform category. We enable developers to build, scale and operate real-time communications within their software applications via our simple-to-use Application Programming Interfaces ("APIs"). The power, flexibility, and reliability offered by our software building blocks empowers companies of virtually every shape and size to build world-class engagement into their customer experience.

We offer a Customer Engagement Platform with software designed to address specific use cases like account security and contact centers and a set of APIs that handles the higher level communication logic needed for nearly every type of customer engagement. These APIs are focused on the business challenges that a developer is looking to address, allowing our customers to more quickly and easily build better ways to engage with their customers throughout their journey. We also offer a set of APIs that enables developers to embed voice, messaging, video and email capabilities into their applications and are designed to support almost all the fundamental ways humans communicate, unlocking innovators to address just about any communication market. The Super Network is our software layer that allows our customers' software to communicate with connected devices globally. It interconnects with communications networks and inbox service providers around the world and continually analyzes data to optimize the quality and cost of communications that flow through our platform. The Super Network also contains a set of APIs that gives our customers access to more foundational components of our platform, like phone numbers.

Our customers' applications are able to reach users via voice, messaging, video and email in nearly every country in the world by utilizing our platform. We support our global business through over 25 cloud data centers across more than seven regions around the world and have developed contractual relationships with network service providers globally.

Our business model is primarily focused on reaching and serving the needs of software developers, who we believe are becoming increasingly influential in technology decisions in a wide variety of companies. We call this approach our Business Model for Innovators, which empowers developers by reducing friction and upfront costs, encouraging experimentation, and enabling developers to grow as customers as their ideas succeed. We established and maintain our leadership position by engaging directly with, and cultivating, our developer community, which has led to the rapid adoption of our platform. We reach developers through community events and conferences, including our SIGNAL customer and developer conferences, to demonstrate how every developer can create differentiated applications incorporating communications using our products.

Once developers are introduced to our platform, we provide them with a low friction trial experience. By accessing our easy-to-adopt APIs, extensive self-service documentation and customer support team, developers build our products into their applications and then test such applications through free trial periods that we provide. Once they have decided to use our products beyond the initial free trial period, customers provide their credit card information and only pay for the actual usage of our products. Historically, we have acquired the substantial majority of our customers through this self-service model. As customers expand their usage of our platform, our relationships with them often evolve to include business leaders within their organizations. Once our customers reach a certain spending level with us, we support them with account executives or customer success advocates within our sales organization to ensure their satisfaction and expand their usage of our products.

We also supplement our self-service model with a sales effort aimed at engaging larger potential customers, strategic leads and existing customers through a direct sales approach. To help increase awareness of our products in the enterprise, we have expanded our marketing efforts through programs like our Twilio Engage roadshow where we seek to bring business leaders and developers together to discuss the future of customer engagement. We have developed products to support this effort as well, like the Twilio Enterprise Plan, which provides capabilities for advanced security, access management and granular administration. Our sales organization targets technical leaders and business leaders who are seeking to leverage software to drive competitive differentiation. As we educate these leaders on the benefits of developing applications incorporating our products to differentiate their business, they often consult with their developers regarding implementation. We believe that developers are often advocates for our products as a result of our developer-focused approach. Our sales organization includes sales development, inside sales, field sales and sales engineering personnel.

When potential customers do not have the available developer resources to build their own applications, we refer them to either our technology partners who embed our products in the solutions that they sell to other businesses (such as contact centers and sales force and marketing automation) or our consulting partners who provide consulting and development services for organizations that have limited software development expertise to build our platform into their software applications.

We generate the substantial majority of our revenue from customers based on their usage of our software products that they have incorporated into their applications. Our Flex contact center platform is generally offered on a per user, per month basis or on a usage basis per agent hour. In addition, our email API is offered on a monthly subscription basis and our Marketing Campaigns product is priced based on the number of email contacts stored on our platform and the number of monthly emails sent to those contacts through our Email API. Also, customers using our Programmable Messaging or Programmable Voice APIs typically purchase one or more telephone numbers from us, for which we charge a monthly flat fee per number. Some customers also choose to purchase various levels of premium customer support for a monthly fee. Customers that register in our self-service model typically pay upfront via credit card and draw down their balance as they purchase or use our products. Most of our customers draw down their balance in the same month they pay up front or are charged on a monthly subscription basis for our email-related products. As a result, our deferred revenue and customer deposits liability at any particular time is not a meaningful indicator of future revenue. As our customers' usage grows, some of our customers enter into contracts and are invoiced monthly in arrears. Many of these customer contracts have terms of 12 months and typically include some level of minimum revenue commitment. Most customers with minimum revenue commitment contracts generate a significant amount of revenue in excess of their minimum revenue commitment in any period. Historically, the aggregate minimum commitment revenue from customers with whom we have contracts has constituted a minority of our revenue in any period, and we expect this to continue in the future.

Our developer-focused products are delivered to customers and users through our Super Network, which uses software to optimize communications on our platform. We interconnect with communications networks and inbox service providers globally to deliver our products, and therefore we have arrangements with network service providers in many regions in the world. Historically, a substantial majority of our cost of revenue has been network service provider fees. We continue to optimize our network service provider coverage and connectivity through continuous improvements in routing and sourcing in order to lower the usage expenses we incur for network service provider fees. As we benefit from our platform optimization efforts, we sometimes pass these savings on to customers in the form of lower usage prices on our products in an effort to drive increased usage and expand the reach and scale of our platform. In the near term, we intend to operate our business to expand the reach and scale of our platform and to grow our revenue, rather than to maximize our gross margins.

We have achieved significant growth in recent periods. In the three months ended June 30, 2020 and 2019, our revenue was \$400.8 million and \$275.0 million, respectively, and our net loss was \$99.9 million and \$92.6 million, respectively. In the three months ended June 30, 2020 and 2019, our 10 largest Active Customer Accounts generated an aggregate of 15% and 13%, respectively, of our total revenue.

#### **COVID-19 UPDATE**

A novel coronavirus disease ("COVID-19") was declared a global pandemic during the first quarter of 2020 and has resulted in the imposition of numerous, unprecedented, national and international measures to try to contain the virus, including travel bans and restrictions, shutdowns, quarantines, shelter-in-place and social distancing orders. To prioritize the health and safety of our employees, customers and our community at large, we postponed SIGNAL, our annual developer and customer conference, to September 30, 2020, and converted it to a virtual event. In addition, we have either cancelled or shifted other planned events to virtual-only experiences and may determine to alter, postpone or cancel additional customer, employee or industry events in the future. Since mid-March, we have also taken several precautionary measures to protect our employees and contingent workers and help minimize the spread of the virus, including temporarily closing our worldwide offices, requiring all employees and contingent workers to work from home and suspending all business travel worldwide for our employees for the time being.

The broader implications of COVID-19 on our results of operations and overall financial performance remain uncertain. The COVID-19 pandemic and its adverse effects have become more prevalent in the locations where we, our customers, suppliers or third-party business partners conduct business. In the three months ended June 30, 2020, we continued to witness declines in usage versus pre-COVID-19 levels, with a slight rebound from the previous quarter, from customers in the travel, hospitality and ridesharing industries. However, we also continued to experience increased usage in other areas, including healthcare, education, consumer on-demand, and retail. We acknowledge that there may be additional impacts to the economy and our business as a result of COVID-19. We expect that there may be some volatility in customer demand and buying habits as the pandemic continues, and we may experience constrained supply or curtailed customer demand that could materially and adversely impact our business, results of operations and financial performance in future periods. Specifically, we may

experience impact from delayed sales cycles, including customers and prospective customers delaying contract signing or contract renewals, or reducing budgets or minimum commitments related to the products and services that we offer and changes to consumer behavior that may affect customers who use our products and service for confirmations, notifications, and other use cases. While we are continuing our recruiting efforts, it is possible that the pace of our hiring may slow during the COVID-19 pandemic. See the risk factor titled "*The global COVID-19 pandemic may adversely impact our business, results of operations and financial performance*" in Part II, Item 1A, "Risk Factors" of this Quarterly Report on Form 10-Q for further discussion of the possible impact of the COVID-19 pandemic on our business, financial condition and results of operations.

### Key Business Metrics

	Three Months Ended June 30,	
	2020	2019
Number of Active Customer Accounts (as of end date of period) <sup>(1)</sup>	200,000	161,869
Total revenue (in thousands) <sup>(1)</sup>	\$ 400,849	\$ 275,039
<i>Total Revenue Growth Rate</i> <sup>(1)</sup>	46 %	86 %
Dollar-Based Net Expansion Rate <sup>(2)</sup>	132 %	141 %

<sup>(1)</sup> Includes the contribution from our Twilio SendGrid business, acquired on February 1, 2019. Effective December 31, 2019, we round down the number of Active Customer Accounts to the nearest thousand.

<sup>(2)</sup> As previously announced in our Annual Report on Form 10-K filed with the SEC on March 2, 2020, commencing with the three-month period ended March 31, 2020, we calculate our Dollar-Based Net Expansion Rate by comparing total revenue from a cohort of Active Customer Accounts in a period to the same period in the prior year (the "New DBNE Definition"). To facilitate comparison between the periods presented, Dollar-Based Net Expansion Rate as presented in the table above has been calculated as if the New DBNE Definition had been in effect during that period. As a result of the New DBNE Definition, unless specifically identified as being calculated using total revenue, any Dollar-Based Net Expansion Rates disclosed by our Company in SEC filings, press releases and presentations prior to the date of our press release for the three months ended March 31, 2020, will not be directly comparable to our Dollar-Based Net Expansion Rates going forward. Commencing with the three month period ended March 31, 2020, Dollar-Based Net Expansion Rate includes the contribution from Twilio SendGrid from February 1, 2019 (the date of the acquisition).

**Number of Active Customer Accounts.** We believe that the number of Active Customer Accounts is an important indicator of the growth of our business, the market acceptance of our platform and future revenue trends. We define an Active Customer Account at the end of any period as an individual account, as identified by a unique account identifier, for which we have recognized at least \$5 of revenue in the last month of the period. We believe that use of our platform by customers at or above the \$5 per month threshold is a stronger indicator of potential future engagement than trial usage of our platform or usage at levels below \$5 per month. In the three months ended June 30, 2020 and 2019, revenue from Active Customer Accounts represented over 99% of total revenue in each period. A single organization may constitute multiple unique Active Customer Accounts if it has multiple account identifiers, each of which is treated as a separate Active Customer Account. Effective December 31, 2019, we round down the number of Active Customer Accounts to the nearest thousand.

**Dollar-Based Net Expansion Rate.** Our ability to drive growth and generate incremental revenue depends, in part, on our ability to maintain and grow our relationships with existing Active Customer Accounts and to increase their use of the platform. An important way in which we have historically tracked performance in this area is by measuring the Dollar-Based Net Expansion Rate for Active Customer Accounts. Our Dollar-Based Net Expansion Rate increases when such Active Customer Accounts increase their usage of a product, extend their usage of a product to new applications or adopt a new product. Our Dollar-Based Net Expansion Rate decreases when such Active Customer Accounts cease or reduce their usage of a product or when we lower usage prices on a product. As our customers grow their businesses and extend the use of our platform, they sometimes create multiple customer accounts with us for operational or other reasons. As such, for reporting periods starting with the three months ended December 31, 2016, when we identify a significant customer organization (defined as a single customer organization generating more than 1% of revenue in a quarterly reporting period) that has created a new Active Customer Account, this new Active Customer Account is tied to, and revenue from this new Active Customer Account is included with, the original Active Customer Account for the purposes of calculating this metric. We believe that measuring Dollar-Based Net Expansion Rate provides a more meaningful indication of the performance of our efforts to increase revenue from existing customers.



For historical periods through December 31, 2019, our Dollar-Based Net Expansion Rate compared the revenue from Active Customer Accounts, other than large Active Customer Accounts that have never entered into 12-month minimum revenue commitment contracts with us, in a quarter to the same quarter in the prior year. For reporting periods starting with the three months ended March 31, 2020, our Dollar-Based Net Expansion Rate compares the total revenue from all Active Customer Accounts in a quarter to the same quarter in the prior year. To calculate the Dollar-Based Net Expansion Rate, we first identify the cohort of Active Customer Accounts that were Active Customer Accounts in the same quarter of the prior year. The Dollar-Based Net Expansion Rate is the quotient obtained by dividing the revenue generated from that cohort in a quarter, by the revenue generated from that same cohort in the corresponding quarter in the prior year. When we calculate Dollar-Based Net Expansion Rate for periods longer than one quarter, we use the average of the applicable quarterly Dollar-Based Net Expansion Rates for each of the quarters in such period. As a result of the change in calculation of Dollar-Based Net Expansion Rate, unless specifically identified as being calculated based on total revenue, any Dollar-Based Net Expansion Rates disclosed by our Company in SEC filings, press releases and presentations prior to the date of our press release for the three months ended March 31, 2020, will not be directly comparable to our Dollar-Based Net Expansion Rates going forward.

The table below sets forth our historical Dollar-Based Net Expansion Rates as calculated based on total revenue.

Three Months Ended							
Dec 31, 2019	Sep 30, 2019	Jun 30, 2019	Mar 31, 2019	Dec 31, 2018	Sep 30, 2018	Jun 30, 2018	Mar 31, 2018
125 %	132 %	141 %	142 %	150 %	147 %	138 %	138 %

Three Months Ended						
Dec 31, 2017	Sep 30, 2017	Jun 30, 2017	Mar 31, 2017	Dec 31, 2016	Sep 30, 2016	Jun 30, 2016
123 %	125 %	132 %	128 %	141 %	140 %	148 %

### Key Components of Statements of Operations

**Revenue.** We derive our revenue primarily from usage-based fees earned from customers using the software products within our Solutions APIs and Channel APIs. These usage-based software products include offerings, such as Programmable Voice, Programmable Messaging and Programmable Video. Some examples of the usage-based fees for which we charge include minutes of call duration activity for our Programmable Voice products, number of text messages sent or received using our Programmable Messaging products and number of authentications for our Account Security products. In the three months ended June 30, 2020 and 2019, we generated 76% and 74% of our revenue, respectively, from usage-based fees. We also earn monthly flat fees from certain fee-based products, such as our Email API, Marketing Campaigns, Flex seats, telephone numbers, short codes and customer support.

When customers first begin using our platform, they typically pay upfront via credit card in monthly prepaid amounts and draw down their balances as they purchase or use our products. As customers grow their usage of our products, they automatically receive tiered usage discounts. Our larger customers often enter into contracts, for at least 12 months that contain minimum revenue commitments, which may contain more favorable pricing. Customers on such contracts typically are invoiced monthly in arrears for products used.

Amounts that have been charged via credit card or invoiced are recorded in revenue, deferred revenue or customer deposits, depending on whether the revenue recognition criteria have been met. Our deferred revenue and customer deposits liability balance is not a meaningful indicator of our future revenue at any point in time because very few of our contracts with invoiced customers contain terms requiring any form of prepayment.

We define U.S. revenue as revenue from customers with IP addresses or mailing addresses at the time of registration in the United States, and we define international revenue as revenue from customers with IP addresses or mailing addresses at the time of registration outside of the United States.

**Cost of Revenue and Gross Margin.** Cost of revenue consists primarily of fees paid to network service providers. Cost of revenue also includes cloud infrastructure fees, direct costs of personnel, such as salaries and stock-based compensation for our customer support employees, and non-personnel costs, such as depreciation and amortization expense related to data centers and hosting equipment, amortization of capitalized internal use software development costs and acquired intangibles. Our arrangements with network service providers require us to pay fees based on the volume of phone calls initiated or text messages sent, as well as the number of telephone numbers acquired by us to service our customers. Our arrangements with our cloud infrastructure provider require us to pay fees based on our server capacity consumption.

Our gross margin has been and will continue to be affected by a number of factors, including the timing and extent of our investments in our operations, our product mix, our ability to manage our network service provider and cloud infrastructure-related fees, including Application to Person SMS fees, the mix of U.S. revenue compared to international revenue, changes in foreign exchange rates and the timing of amortization of capitalized software development costs and acquired intangibles and the extent to which we periodically choose to pass on our cost savings from platform optimization efforts to our customers in the form of lower usage prices.

**Operating Expenses.** The most significant components of operating expenses are personnel costs, which consist of salaries, benefits, sales commissions and bonuses and stock-based compensation. We also incur other non-personnel costs related to our general overhead expenses. We expect that our operating costs will increase in absolute dollars as we add additional employees and invest in our infrastructure to grow our business.

**Research and Development.** Research and development expenses consist primarily of personnel costs, outsourced engineering services, cloud infrastructure fees for staging and development, amortization of capitalized internal use software development costs, depreciation and an allocation of our general overhead expenses. We capitalize the portion of our software development costs that meets the criteria for capitalization.

We continue to focus our research and development efforts on adding new features and products, including new use cases, improving our platform and increasing the functionality of our existing products.

**Sales and Marketing.** Sales and marketing expenses consist primarily of personnel costs, including commissions for our sales employees. Sales and marketing expenses also include expenditures related to advertising, marketing, our brand awareness activities and developer evangelism, costs related to our SIGNAL customer and developer conferences, credit card processing fees, professional services fees, depreciation, amortization of acquired intangibles and an allocation of our general overhead expenses.

We focus our sales and marketing efforts on generating awareness of our company, platform and products through our developer evangelist team and self-service model, creating sales leads and establishing and promoting our brand, both domestically and internationally. We plan to continue investing in sales and marketing by increasing our sales and marketing headcount, supplementing our self-service model with an enterprise sales approach, expanding our sales channels, driving our go-to-market strategies, building our brand awareness and sponsoring additional marketing events.

**General and Administrative.** General and administrative expenses consist primarily of personnel costs for our accounting, finance, legal, human resources and administrative support personnel and executives. General and administrative expenses also include costs related to business acquisitions, legal and other professional services fees, certain taxes, depreciation and amortization and an allocation of our general overhead expenses. We expect that we will incur costs associated with supporting the growth of our business and to meet the increased compliance requirements associated with our international expansion. We may also incur higher than usual losses related to deterioration of quality of certain financial assets caused by the macroeconomic conditions and uncertainty in the COVID-19 environment.

Our general and administrative expenses include a certain amount of sales and other taxes to which we are subject based on the manner we sell and deliver our products. Prior to March 2017, we did not collect sales or other taxes from our customers and recorded such taxes as general and administrative expenses. Effective March 2017, we began collecting most of these taxes from customers in certain jurisdictions and since then we have expanded to most jurisdictions where these taxes are now being collected. We continue expanding the number of jurisdictions where we will be collecting these taxes in the future. We expect that these expenses will continue to decline in future years as we continue collecting these taxes from our customers in additional jurisdictions, which would further reduce our rate of ongoing accrual.

**Provision for Income Taxes.** The provision for income taxes consists primarily of income taxes and withholding taxes in foreign jurisdictions in which the Company conducts business. The Company's U.S. operations have been in a loss position and the Company maintains a full valuation allowance against its U.S. deferred tax assets.

### Non-GAAP Financial Measures

We use the following non-GAAP financial information, collectively, to evaluate our ongoing operations and for internal planning and forecasting purposes. We believe that non-GAAP financial information, when taken collectively, may be helpful to investors because it provides consistency and comparability with past financial performance, facilitates period-to-period comparisons of results of operations, and assists in comparisons with other companies, many of which use similar non-GAAP financial information to supplement their GAAP results. Non-GAAP financial information is presented for supplemental informational purposes only, should not be considered a substitute for financial information presented in accordance with generally accepted accounting principles, and may be different from similarly-titled non-GAAP measures used by other companies. Whenever we use a non-GAAP financial measure, a reconciliation is provided to the most closely applicable financial measure stated in accordance with generally accepted accounting principles. Investors are encouraged to review the related GAAP financial measures and the reconciliation of these non-GAAP financial measures to their most directly comparable GAAP financial measures.

**Non-GAAP Gross Profit and Non-GAAP Gross Margin.** For the periods presented, we define non-GAAP gross profit and non-GAAP gross margin as GAAP gross profit and GAAP gross margin, respectively, adjusted to exclude, as applicable, certain expenses as presented in the table below:

	Three Months Ended June 30,	
	2020	2019
<b>Reconciliation:</b>	(In thousands)	
Gross profit	\$ 209,131	\$ 150,015
Non-GAAP adjustments:		
Stock-based compensation	2,143	1,623
Amortization of acquired intangibles	12,695	11,857
Payroll taxes related to stock-based compensation	—	58
Non-GAAP gross profit	<u>\$ 223,969</u>	<u>\$ 163,553</u>
Non-GAAP gross margin	<u>56 %</u>	<u>59 %</u>

**Non-GAAP Operating Expenses.** For the periods presented, we define non-GAAP operating expenses (including categories of operating expenses) as GAAP operating expenses (and categories of operating expenses) adjusted to exclude, as applicable, certain expenses as presented in the table below:

	Three Months Ended June 30,	
	2020	2019
<b>Reconciliation:</b>	(In thousands)	
Operating expenses	\$ 311,775	\$ 243,747
Non-GAAP adjustments:		
Stock-based compensation	(77,244)	(69,117)
Amortization of acquired intangibles	(7,900)	(7,391)
Acquisition-related expenses	(21)	(1,274)
Charitable contributions	(3,972)	—
Payroll taxes related to stock-based compensation	(8,178)	(3,922)
Non-GAAP operating expenses	<u>\$ 214,460</u>	<u>\$ 162,043</u>

**Non-GAAP Income from Operations and Non-GAAP Operating Margin.** For the periods presented, we define non-GAAP income from operations and non-GAAP operating margin as GAAP loss from operations and GAAP operating margin, respectively, adjusted to exclude, as applicable, certain expenses as presented in the table below:

	Three Months Ended	
	June 30,	
	2020	2019
<b>Reconciliation:</b>	(In thousands)	
Loss from operations	\$ (102,644)	\$ (93,732)
Non-GAAP adjustments:		
Stock-based compensation	79,387	70,740
Amortization of acquired intangibles	20,595	19,248
Acquisition-related expenses	21	1,274
Charitable contributions	3,972	—
Payroll taxes related to stock-based compensation	8,178	3,980
Non-GAAP income from operations	\$ 9,509	\$ 1,510
Non-GAAP operating margin	2 %	1 %

## Results of Operations

The following tables set forth our results of operations for the periods presented and as a percentage of our total revenue for those periods. We have included Twilio SendGrid in our results of operations prospectively after February 1, 2019, the closing date of the acquisition. The period-to-period comparison of our historical results are not necessarily indicative of the results that may be expected in the future.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
(In thousands)				
<b>Condensed Consolidated Statements of Operations Data:</b>				
Revenue	\$ 400,849	\$ 275,039	\$ 765,717	\$ 508,178
Cost of revenue <sup>(1) (2)</sup>	191,718	125,024	363,051	232,113
Gross profit	209,131	150,015	402,666	276,065
Operating expenses:				
Research and development <sup>(1) (2)</sup>	120,701	98,783	235,040	176,638
Sales and marketing <sup>(1) (2)</sup>	129,823	90,421	246,545	162,028
General and administrative <sup>(1) (2)</sup>	61,251	54,543	116,421	118,719
Total operating expenses	311,775	243,747	598,006	457,385
Loss from operations	(102,644)	(93,732)	(195,340)	(181,320)
Other income (expenses), net	3,015	(880)	1,897	(1,516)
Loss before (provision) benefit for income taxes	(99,629)	(94,612)	(193,443)	(182,836)
(Provision) benefit for income taxes	(294)	2,033	(1,271)	53,754
Net loss attributable to common stockholders	\$ (99,923)	\$ (92,579)	\$ (194,714)	\$ (129,082)

<sup>(1)</sup> Includes stock-based compensation expense as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
(In thousands)				
Cost of revenue	\$ 2,143	\$ 1,623	\$ 3,980	\$ 3,432
Research and development	39,841	33,701	73,050	59,040
Sales and marketing	23,086	14,564	43,029	26,313
General and administrative	14,317	20,852	28,353	40,279
Total	\$ 79,387	\$ 70,740	\$ 148,412	\$ 129,064

<sup>(2)</sup> Includes amortization of acquired intangibles as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
(In thousands)				
Cost of revenue	\$ 12,695	\$ 11,857	\$ 25,076	\$ 20,317
Sales and marketing	7,889	7,329	15,753	12,332
General and administrative	11	62	58	215
Total	\$ 20,595	\$ 19,248	\$ 40,887	\$ 32,864

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
<b>Condensed Consolidated Statements of Operations, as a percentage of revenue: **</b>				
Revenue	100 %	100 %	100 %	100 %
Cost of revenue	48	45	47	46
Gross profit	52	55	53	54
Operating expenses:				
Research and development	30	36	31	35
Sales and marketing	32	33	32	32
General and administrative	15	20	15	23
Total operating expenses	78	89	78	90
Loss from operations	(26)	(34)	(26)	(36)
Other income (expenses), net	1	*	*	*
Loss before (provision) benefit for income taxes	(25)	(34)	(25)	(36)
(Provision) benefit for income taxes	*	1	*	11
Net loss attributable to common stockholders	(25 %)	(34 %)	(25 %)	(25 %)

\* Less than 0.5% of revenue.

\*\* Columns may not add up to 100% due to rounding.

### Comparison of the Three Months Ended June 30, 2020 and 2019

#### Revenue

	Three Months Ended June 30,		Change
	2020	2019	
	(Dollars in thousands)		
Total Revenue	\$ 400,849	\$ 275,039	\$ 125,810 46 %

In the three months ended June 30, 2020, the total revenue increased by \$125.8 million, or 46%, compared to the same period last year. This increase was primarily attributable to an increase in the usage of our products, particularly our Programmable Messaging products and Programmable Voice products, and the adoption of additional products by our existing customers. The increase in usage was also attributable to a 24% increase in the number of Active Customer Accounts, from 161,869 as of June 30, 2019, to over 200,000 as of June 30, 2020. These increases were partially offset by pricing decreases that we have implemented over time in the form of lower usage prices, in an effort to increase the reach and scale of our platform. The changes in usage and prices in 2020 were reflected in our Dollar-Based Net Expansion Rate of 132% for the three months ended June 30, 2020.

In the three months ended June 30, 2020, U.S. revenue and international revenue represented \$292.1 million, or 73%, and \$108.7 million, or 27%, respectively, of total revenue. In the three months ended June 30, 2019, U.S. revenue and international revenue represented \$195.0 million, or 71%, and \$80.0 million, or 29%, respectively, of total revenue. The increase in international revenue was attributable to the growth in usage of our products, particularly our Programmable Messaging products and Programmable Voice products, by our existing international Active Customer Accounts; and a 25% increase in the number of international Active Customer Accounts driven in part by our focus on expanding our sales to customers outside of the United States.

### Cost of Revenue and Gross Margin

	Three Months Ended June 30,			Change
	2020	2019		
	(Dollars in thousands)			
Cost of revenue	\$ 191,718	\$ 125,024	\$ 66,694	53 %
Gross margin	52 %	55 %		

In the three months ended June 30, 2020, cost of revenue increased by \$66.7 million, or 53%, compared to the same period last year. The increase in cost of revenue was primarily attributable to a \$52.7 million increase in network service providers' costs and a \$6.5 million increase in cloud infrastructure fees, both to support the growth in usage of our products.

In the three months ended June 30, 2020, gross margin percentage declined compared to the three months ended June 30, 2019. Changes in product mix and certain operational improvements were largely offset by an increase in network service provider fees in certain geographies.

### Operating Expenses

	Three Months Ended June 30,			Change
	2020	2019		
	(Dollars in thousands)			
Research and development	\$ 120,701	\$ 98,783	\$ 21,918	22 %
Sales and marketing	129,823	90,421	39,402	44 %
General and administrative	61,251	54,543	6,708	12 %
Total operating expenses	\$ 311,775	\$ 243,747	\$ 68,028	28 %

In the three months ended June 30, 2020, research and development expenses increased by \$21.9 million, or 22%, compared to the same period last year. The increase was primarily attributable to a \$22.5 million increase in personnel costs, net of a \$5.9 million increase in capitalized software development costs. The increase was largely the result of a 35% average increase in our research and development headcount, as we continued to focus on enhancing our existing products, introducing new products as well as enhancing product management and other technical functions. The increase was also due to a \$3.1 million increase in our cloud infrastructure fees related to staging and development of our products and a \$3.0 million increase in the facilities and depreciation expenses associated with the growth in our headcount.

In the three months ended June 30, 2020, sales and marketing expenses increased by \$39.4 million, or 44%, compared to the same period last year. The increase was primarily attributable to a \$26.9 million increase in personnel costs, largely as a result of an 54% average increase in sales and marketing headcount, as we continued to expand our sales efforts in the United States and abroad. The increase was also due to a \$4.3 million increase in advertising expenses and a \$2.1 million increase in facilities and related costs.

In the three months ended June 30, 2020, general and administrative expenses increased by \$6.7 million, or 12%, compared to the same period last year. The increase was primarily due to a \$4.0 million increase in charitable contributions due to a donation by Twilio.org of shares of our Class A common stock to charity and a \$2.3 million increase in our allowance for estimated credit losses that continued to be partially impacted by the COVID-19 environment.

**Comparison of the Six Months Ended June 30, 2020 and 2019****Revenue**

	Six Months Ended June 30,		Change	
	2020	2019		
	(Dollars in thousands)			
Total Revenue	\$ 765,717	\$ 508,178	\$ 257,539	51 %

In the six months ended June 30, 2020, the total revenue increased by \$257.5 million, or 51%, compared to the same period last year. This increase was primarily attributable to an increase in the usage of our products, particularly our Programmable Messaging products and Programmable Voice products, and the adoption of additional products by our existing customers. In addition, the current period includes a full six months of revenue from our Twilio SendGrid business, while the prior period included that business only from February 1, 2019, (the acquisition closing date) through June 30, 2019. The increase in usage was also attributable to a 24% increase in the number of Active Customer Accounts, from 161,869 as of June 30, 2019, to over 200,000 as of June 30, 2020. These increases were partially offset by pricing decreases that we have implemented over time in the form of lower usage prices, in an effort to increase the reach and scale of our platform. The changes in usage and prices in 2020 were reflected in our Dollar-Based Net Expansion Rate of 137% for the six months ended June 30, 2020.

In the six months ended June 30, 2020, U.S. revenue and international revenue represented \$553.9 million, or 72%, and \$211.8 million, or 28%, respectively, of total revenue. In the six months ended June 30, 2019, U.S. revenue and international revenue represented \$361.6 million, or 71%, and \$146.6 million, or 29%, respectively, of total revenue. The increase in international revenue was attributable to the growth in usage of our products, particularly our Programmable Messaging products and Programmable Voice products, by our existing international Active Customer Accounts; a 25% increase in the number of international Active Customer Accounts driven in part by our focus on expanding our sales to customers outside of the United States; and the revenue contribution from our Twilio SendGrid business after the acquisition closing date.

**Cost of Revenue and Gross Margin**

	Six Months Ended June 30,		Change	
	2020	2019		
	(Dollars in thousands)			
Cost of revenue	\$ 363,051	\$ 232,113	\$ 130,938	56 %
Gross margin	53 %	54 %		

In the six months ended June 30, 2020, cost of revenue increased by \$130.9 million, or 56%, compared to the same period last year. The increase in cost of revenue was primarily attributable to a \$99.8 million increase in network service providers' costs and a \$11.5 million increase in cloud infrastructure fees, both to support the growth in usage of our products. The increase was also due to a \$4.8 million increase in amortization expense related to the intangible assets that we acquired through our various business combinations. The current period includes a full six months of cost of revenue from our Twilio SendGrid business, while the prior period included that business only from February 1, 2019, (the acquisition closing date) through June 30, 2019.

In the six months ended June 30, 2020, gross margin percentage slightly declined compared to the six months ended June 30, 2019. Changes in product mix, which includes the impact of our Twilio SendGrid business, and certain operational improvements were largely offset by an increase in amortization expense related to acquired intangible assets, the impact of an increasing mix of international product usage, and an increase in network service provider fees in certain geographies.



**Operating Expenses**

	Six Months Ended June 30,		Change	
	2020	2019		
	(Dollars in thousands)			
Research and development	\$ 235,040	\$ 176,638	\$ 58,402	33 %
Sales and marketing	246,545	162,028	84,517	52 %
General and administrative	116,421	118,719	(2,298)	(2) %
Total operating expenses	<u>\$ 598,006</u>	<u>\$ 457,385</u>	<u>\$ 140,621</u>	31 %

The current period includes a full six month of operating expenses from our Twilio SendGrid business, while the prior period included that business only from February 1, 2019 (the acquisition closing date) through June 30, 2019.

In the six months ended June 30, 2020, research and development expenses increased by \$58.4 million, or 33%, compared to the same period last year. The increase was primarily attributable to a \$54.2 million increase in personnel costs, net of an \$11.2 million increase in capitalized software development costs. This increase was largely the result of a 58% average increase in our research and development headcount, as we continued to focus on enhancing our existing products, introducing new products as well as enhancing product management and other technical functions. This increase also reflected the impact of growth in the headcount as a result of the acquisition of our Twilio SendGrid business. The increase was also due to a \$6.5 million increase in facilities and depreciation expenses associated with the growth in our headcount and a \$6.2 million increase in our cloud infrastructure fees related to staging and development of our products.

In the six months ended June 30, 2020, sales and marketing expenses increased by \$84.5 million, or 52%, compared to the same period last year. The increase was primarily attributable to a \$56.9 million increase in personnel costs, largely as a result of an 75% average increase in sales and marketing headcount, as we continued to expand our sales efforts in the United States and abroad. The increase also reflected the impact of growth in the headcount as a result of the acquisition of our Twilio SendGrid business. The increase was also due to a \$8.0 million increase in advertising expenses, a \$6.9 million increase in facilities and related costs and a \$3.4 million increase related to the amortization of acquired intangible assets.

In the six months ended June 30, 2020, general and administrative expenses decreased by \$2.3 million, or 2%, compared to the same period last year. The decrease was primarily due to a \$13.7 million decrease in professional expenses related to our acquisitions of other businesses and an \$11.9 million decrease in stock based compensation expense related to certain one-time expenses incurred in 2019 as a result of our business combination with SendGrid. These decreases were partially offset by a \$9.7 million increase in personnel costs, exclusive of stock based compensation, largely as a result of a 44% average increase in general and administrative headcount, driven by the organic growth of our business and our acquisition of SendGrid. Additionally, our charitable contributions increased by \$6.7 million due to a donation by Twilio.org of shares of our Class A common stock to charity and our allowance for estimated credit losses increased by \$6.4 million partially in response to the macroeconomic effects and uncertainty imposed by the COVID-19 environment.

**Liquidity and Capital Resources**

To date, our principal sources of liquidity have been (i) the net proceeds of \$155.5 million, \$64.4 million, and \$979.0 million, net of underwriting discounts and offering expenses, from our initial public offering in June 2016 and our subsequent public offerings in October 2016 and June 2019, respectively; (ii) the net proceeds we received through private sales of equity securities; (iii) the net proceeds of approximately \$537.0 million, after deducting purchaser discounts and debt issuance costs paid by us, from issuance of the 0.25% convertible senior notes due 2023 (the "Notes"), as described in Note 8 to our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q; and (iv) the payments received from customers using our products.

We believe that our cash, cash equivalents and marketable securities balances, as well as the cash flows generated by our operations will be sufficient to satisfy our anticipated cash needs for working capital and capital expenditures for at least the next 12 months. However, our belief may prove to be incorrect, and we could utilize our available financial resources sooner than we currently expect. Our future capital requirements and the adequacy of available funds will depend on many factors, including those set forth in Part II, Item 1A, "Risk Factors." We may be required to seek additional equity or debt financing in order to meet these future capital requirements. In the event that additional financing is required from outside sources, we may not be able to raise it on terms acceptable to us, or at all. If we are unable to raise additional capital when desired, our business,

results of operations and financial condition would be adversely affected. Additionally, cash from operations could also be affected by various risks and uncertainties in connection with the COVID-19 pandemic, including timing and ability to collect payments from our customers and other risks detailed in Part II, Item 1A, "Risk Factors".

### Cash Flows

The following table summarizes our cash flows:

	Six Months Ended June 30,	
	2020	2019
	(In thousands)	
Cash provided by (used in) operating activities	\$ 13,911	\$ (13,819)
Cash provided by (used in) investing activities	144,765	(961,864)
Cash provided by financing activities	63,289	1,007,122
Net increase in cash, cash equivalents and restricted cash	<u>\$ 221,965</u>	<u>\$ 31,439</u>

#### Cash Flows from Operating Activities

In the six months ended June 30, 2020, cash provided by operating activities consisted primarily of our net loss of \$194.7 million adjusted for non-cash items, including \$148.4 million of stock-based compensation expense, \$64.8 million of depreciation and amortization expense, \$17.8 million of reduction in our operating right-of-use assets, \$12.4 million in amortization of debt discount and issuance costs related to our Notes, a \$7.1 million increase in the allowance for estimated credit losses and \$55.0 million of cumulative changes in operating assets and liabilities. With respect to changes in operating assets and liabilities, accounts receivable and prepaid expenses increased \$59.8 million primarily due to the timing of cash receipts from our customers, pre-payments for cloud infrastructure fees and certain operating expenses. Accounts payable and other current liabilities increased \$35.9 million primarily due to increases in transaction volumes. Our operating right-of-use liability decreased \$16.3 million due to payments made against our operating lease obligations. Our long-term assets increased \$19.8 million due to an increase in the sales commissions balances related to the growth of our business.

In the six months ended June 30, 2019, cash used in operating activities consisted primarily of our net loss of \$129.1 million adjusted for non-cash items, including \$129.1 million of stock-based compensation expense, \$53.5 million of tax benefit related to our acquisition of other businesses, \$49.6 million of depreciation and amortization expense, \$11.7 million amortization of the debt discount and issuance costs related to our Notes, \$10.7 million of reduction of our operating right-of-use asset and \$31.7 million of cumulative changes in operating assets and liabilities. With respect to changes in operating assets and liabilities, accounts payable and other current liabilities increased \$22.3 million primarily due to increases in transaction volumes. Deferred revenue and customer deposits increased \$1.9 million due to increases in transaction volumes and timing of customer prepayments. Accounts receivable and prepaid expenses increased \$38.2 million primarily due to the timing of cash receipts from certain of our larger customers, pre-payments for cloud infrastructure fees and certain operating expenses.

#### Cash Flows from Investing Activities

In the six months ended June 30, 2020, cash provided by investing activities was \$144.8 million primarily consisting of \$177.9 million of maturities and sales of marketable securities and other investments, net of purchases, \$17.7 million related to capitalized software development costs and \$12.8 million related to purchases of long-lived assets.

In the six months ended June 30, 2019, cash used in investing activities was \$961.9 million primarily consisting of \$1,090.4 million of purchases of marketable securities, net of maturities and sales, \$147.0 million of cash acquired in our business combinations, \$10.5 million related to capitalized software development costs and \$7.9 million related to purchases of long-lived assets.

#### Cash Flows from Financing Activities

In the six months ended June 30, 2020, cash provided by financing activities was \$63.3 million primarily consisting of \$69.9 million proceeds from stock options exercised by our employees and shares issued under our employee stock purchase plan. This was offset by \$3.8 million in principal payments on financing leases and \$2.8 million related to the value of equity awards withheld to settle tax liabilities.

In the six months ended June 30, 2019, cash provided by financing activities was \$1,007.1 million primarily consisting of \$979.7 million in net proceeds from our public equity offering and \$33.5 million proceeds from stock options exercised by our employees and shares issued under our employee stock purchase plan.

### **Critical Accounting Policies and Estimates**

Our unaudited condensed consolidated financial statements are prepared in accordance with generally accepted accounting principles in the United States of America. The preparation of these unaudited condensed consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, expenses and related disclosures. We evaluate our estimates and assumptions on an ongoing basis. Our estimates are based on historical experience and various other assumptions that we believe to be reasonable under the circumstances. Our actual results could differ from these estimates.

There have been no changes to our critical accounting policies as described in our Annual Report on Form 10-K filed with the SEC on March 2, 2020.

### **Accounting Pronouncements Not Yet Adopted**

There were no accounting pronouncements pending adoption as of June 30, 2020.

### **Off-Balance Sheet Arrangements**

We have not entered into any off-balance sheet arrangements and do not have any holdings in variable interest entities.

### **Contractual Obligations and Other Commitments**

Our principal commitments consist of obligations under our Notes, our operating leases for office space and our contractual commitments to our cloud infrastructure and network service providers. In the three and six months ended June 30, 2020, we entered into several non-cancelable vendor agreements with terms up to two years for a total purchase commitment of \$6.1 million and \$22.9 million, respectively.

### **Available Information**

The following filings are available for download free of charge through our investor relations website after we file them with the Securities and Exchange Commission ("SEC"): Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and our Proxy Statement for our annual meeting of stockholders. Our investor relations website is located at <http://investors.twilio.com>. The SEC also maintains an Internet website that contains reports, proxy statements and other information about issuers, like us, that file electronically with the SEC. The address of that website is [www.sec.gov](http://www.sec.gov).

We webcast our earnings calls and certain events we participate in or host with members of the investment community on our investor relations website. Additionally, we provide notifications of news or announcements regarding our financial performance, including SEC filings, investor events, press and earnings releases and blogs as part of our investor relations website. We also use our Twitter Account (<https://twitter.com/twilio>) and the Twitter account of our Chief Executive Officer, Jeff Lawson (<https://twitter.com/jeffiel>) as a means of disclosing information about our Company, our services and other matters and for complying with our disclosure obligations under Regulation FD.

Further corporate governance information, including our corporate governance guidelines and code of business conduct and ethics, is also available on our investor relations website under the heading "Corporate Governance." The contents of our websites and the social media channels identified above are not intended to be incorporated by reference into this Quarterly Report on Form 10-Q or in any other report or document we file with the SEC, and any references to our websites are intended to be inactive textual references only.

### **Item 3. Quantitative and Qualitative Disclosures about Market Risk**

We are exposed to certain market risks in the ordinary course of our business, including sensitivities as follows:

#### ***Interest Rate Risk***

We had cash and cash equivalents of \$475.7 million and marketable securities of \$1,427.6 million as of June 30, 2020. Cash and cash equivalents consist of bank deposits and money market funds. Marketable securities consist primarily of U.S. treasury securities and high credit quality corporate debt securities. The cash and cash equivalents and marketable securities are held for working capital purposes. Such interest-earning instruments carry a degree of interest rate risk. To date, fluctuations in interest income have not been significant. The primary objective of our investment activities is to preserve principal while maximizing income without significantly increasing risk. We do not enter into investments for trading or speculative purposes and have not used any derivative financial instruments to manage our interest rate risk exposure. Due to the short-term nature of our investments, we have not been exposed to, nor do we anticipate being exposed to, material risks due to changes in interest rates. A hypothetical 10% change in interest rates during any of the periods presented would not have had a material impact on our unaudited condensed consolidated financial statements.

In May 2018, we issued \$550.0 million aggregate principal amount of Notes. The fair market value of the Notes is affected by our stock price. The fair value of the Notes will generally increase as our common stock price increases and will generally decrease as our common stock price declines in value. In addition, the fair market value of the Notes is exposed to interest rate risk. Generally, the fair market value of our fixed interest rate Notes will increase as interest rates fall and decrease as interest rates rise. Additionally, on our balance sheet we carry the Notes at face value less unamortized discount and debt issuance cost, and we present the fair value for required disclosure purposes only.

#### ***Currency Exchange Risks***

The functional currency of our foreign subsidiaries is the U.S. dollar. The local currencies of our foreign subsidiaries are the Australian dollar, the Bermuda dollar, the Brazilian real, British pound, the Columbian peso, Czech Republic koruna, the euro, the Hong Kong dollar, the Indian rupee, the Japanese yen, the Singapore dollar and the Swedish krona.

Our subsidiaries remeasure monetary assets and liabilities at period-end exchange rates, while non-monetary items are remeasured at historical rates. Revenue and expense accounts are remeasured at the average exchange rate in effect during the year. If there is a change in foreign currency exchange rates, the conversion of our foreign subsidiaries' financial statements into U.S. dollars would result in a realized gain or loss which is recorded in our unaudited condensed consolidated statements of operations. We do not currently engage in any hedging activity to reduce our potential exposure to currency fluctuations, although we may choose to do so in the future. A hypothetical 10% change in foreign exchange rates during any of the periods presented would not have had a material impact on our unaudited condensed consolidated financial statements.

### **Item 4. Controls and Procedures**

#### **(a) Evaluation of Disclosure Controls and Procedures**

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), as of the end of the period covered by this Quarterly Report on Form 10-Q.

Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of June 30, 2020, our disclosure controls and procedures were effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosures.

#### **(b) Changes in Internal Control**

There were no changes in our internal control over financial reporting 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 Quarterly Report on Form 10-Q that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

### **(c) Inherent Limitations on Effectiveness of Controls**

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 will prevent or detect all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

## **PART II - OTHER INFORMATION**

### **Item 1. Legal Proceedings**

Refer to Note 11(b) of our unaudited condensed consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for a description of our current material legal proceedings.

### **Item 1A. Risk Factors**

*A description of the risks and uncertainties associated with our business is set forth below. You should carefully consider the risks and uncertainties described below, together with all of the other information in this Quarterly Report on Form 10-Q, including Part I, Item 2, "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our condensed consolidated financial statements and related notes appearing elsewhere in this Quarterly Report on Form 10-Q. The risks and uncertainties described below may not be the only ones we face. If any of the risks actually occur, our business, financial condition, results of operations and prospects could be materially and adversely affected. In that event, the market price of our Class A common stock could decline.*

### **Risks Related to Our Business and Our Industry**

#### ***The global COVID-19 pandemic may adversely impact our business, results of operations and financial performance.***

The COVID-19 pandemic and efforts to control its spread have significantly curtailed the movement of people, goods and services worldwide, including in most or all of the regions in which we sell our products and services and conduct our business operations. While the duration and severity of the COVID-19 outbreak and the degree of its impact on our business continues to be uncertain and difficult to predict, compliance with social distancing and shelter-in-place measures have impacted our day-to-day operations. Like many other companies, including our customers and prospects, our employees continue to work from home and we have restricted all business travel for the time being. Additionally, in response to the COVID-19 pandemic, we postponed SIGNAL, our annual developer and customer conference, to September 30, 2020, and will be converting it to a virtual event. We have also cancelled or shifted other planned events to virtual-only experiences and we may deem it advisable to similarly alter, postpone or cancel entirely additional customer, employee or industry events in the future.

The continued spread of COVID-19 has had an adverse impact on the business of some of our customers while other customers in certain industries have seen an increase in customer demand. COVID-19 could still have an adverse impact on our and third-party business partners. The continuing crisis could also potentially lead to an ongoing global economic downturn, which could result in constrained supply or reduced customer demand and willingness to enter into or renew contracts with us, any of which could materially and adversely impact our business, results of operations and overall financial performance in future periods. Specifically, we typically enter into multi-year, minimum commitment arrangements with our customers. If customers fail to pay us or reduce their spending with us, we may be adversely affected by an inability to collect amounts due, the cost of enforcing the terms of our contracts, including litigation, or a reduction in revenue. We may also experience impact from delayed sales cycles, including customers and prospective customers delaying contract signing or contract renewals, or reducing budgets or minimum commitments related to the product and services that we offer. In addition, as companies transition to supporting a fully remote workforce and as individuals increasingly utilize voice, video and messaging for their communication needs, there will be increased strain and demand for telecommunications infrastructure, including our voice, video and messaging products. Supporting increased demand will require us to make additional investments to increase network capacity, the availability of which may be limited. For example, if the data centers that we rely on for our cloud infrastructure

and the network service providers that we interconnect with are unable to keep up with capacity needs or if governmental or regulatory authorities determine to limit our bandwidth, customers may experience delays, interruptions or outages in service. From time to time, including during the COVID-19 pandemic, our data center suppliers and our network service providers have had some outages which resulted in disruptions to service for some of our customers. In certain jurisdictions, governmental and regulatory authorities had announced that during the COVID-19 pandemic, telecommunications operators' implementation of traffic management measures may be justified to avoid network congestion. Such traffic management measures could result in customers experiencing delays, interruptions or outages in services. Any of these events could harm our reputation, erode customer trust, cause customers to stop using our products, impair our ability to increase revenue from existing customers, impair our ability to grow our customer base, subject us to financial penalties and liabilities under our service level agreements and otherwise harm our business, results of operations and financial condition.

Changes to consumer behavior may also affect customers who use our products and services for confirmations, notifications, and related use cases. For example, in the three months ended June 30, 2020, we continued to experience increased usage of our platform in industries such as healthcare, education, consumer on-demand and retail as well as declines in usage versus pre-COVID-19 levels, with a slight rebound from the previous quarter, from customers in the travel, hospitality and ridesharing industries. It has been and, until the COVID-19 pandemic is contained, will continue to be more difficult for us to forecast usage levels and predict revenue trends.

Additionally the COVID-19 pandemic has adversely affected global economic and market conditions, which are likely to continue for an extended period, and which could result in decreased business spending by our customers and prospective customers, reduced demand for our solutions, longer sales cycles and lower renewal rates by our customers, all of which could have a material adverse impact on our business operations and financial condition. While we have developed and continue to develop plans to help mitigate the potential negative impact of the outbreak on our business, these efforts may not be effective and a protracted economic downturn may limit the effectiveness of our mitigation efforts.

***The market for our products and platform is new and unproven, may decline or experience limited growth and is dependent in part on developers continuing to adopt our platform and use our products.***

We were founded in 2008, and we have been developing and providing a cloud-based platform that enables developers and organizations to integrate voice, messaging, video and email communications capabilities into their software applications. This market is relatively new and unproven and is subject to a number of risks and uncertainties. We believe that our revenue currently constitutes a significant portion of the total revenue in this market, and therefore, we believe that our future success will depend in large part on the growth, if any, of this market. The utilization of APIs by developers and organizations to build communications functionality into their applications is still relatively new, and developers and organizations may not recognize the need for, or benefits of, our products and platform. Moreover, if they do not recognize the need for and benefits of our products and platform, they may decide to adopt alternative products and services to satisfy some portion of their business needs. In order to grow our business and extend our market position, we intend to focus on educating developers and other potential customers about the benefits of our products and platform, expanding the functionality of our products and bringing new technologies to market to increase market acceptance and use of our platform. Our ability to expand the market that our products and platform address depends upon a number of factors, including the cost, performance and perceived value associated with such products and platform. The market for our products and platform could fail to grow significantly or there could be a reduction in demand for our products as a result of a lack of developer acceptance, technological challenges, competing products and services, decreases in spending by current and prospective customers, weakening economic conditions and other causes. If our market does not experience significant growth or demand for our products decreases, then our business, results of operations and financial condition could be adversely affected.

***We have experienced rapid growth and expect our growth to continue, and if we fail to effectively manage our growth, then our business, results of operations and financial condition could be adversely affected.***

We have experienced substantial growth in our business since inception. For example, our headcount has grown from 2,369 employees on June 30, 2019 to 3,284 employees on June 30, 2020 and have moved to a virtual on-boarding process since the imposition of COVID-19 restrictions on certain business activities. In addition, we are rapidly expanding our international operations. Our international headcount grew from 486 employees as of June 30, 2019 to 924 employees as of June 30, 2020. We expect to continue to expand our international operations in the future. We have also experienced significant growth in the number of customers, usage and amount of data that our platform and associated infrastructure support. This growth has placed and may continue to place significant demands on our corporate culture, operational infrastructure and management.

We believe that our corporate culture has been a critical component of our success. We have invested substantial time and resources in building our team and nurturing our culture. As we expand our business in the U.S. and non-U.S. regions and

mature as a public company, we may find it difficult to maintain our corporate culture while managing this growth. Any failure to manage our anticipated growth and organizational changes in a manner that preserves the key aspects of our culture could hurt our chance for future success, including our ability to recruit and retain personnel, and effectively focus on and pursue our corporate objectives. This, in turn, could adversely affect our business, results of operations and financial condition.

In addition, as we have rapidly grown, our organizational structure has become more complex. In order to manage these increasing complexities, we will need to continue to scale and adapt our operational, financial and management controls, as well as our reporting systems and procedures. The expansion of our systems and infrastructure will require us to commit substantial financial, operational and management resources before our revenue increases and without any assurances that our revenue will increase.

Finally, if this growth continues, it could strain our ability to maintain reliable service levels for our customers. If we fail to achieve the necessary level of efficiency in our organization as we grow, then our business, results of operations and financial condition could be adversely affected.

***Our quarterly results may fluctuate, and if we fail to meet securities analysts' and investors' expectations, then the trading price of our Class A common stock and the value of your investment could decline substantially.***

Our results of operations, including the levels of our revenue, cost of revenue, gross margin and operating expenses, have fluctuated from quarter to quarter in the past and may continue to vary significantly in the future. These fluctuations are a result of a variety of factors, many of which are outside of our control, including general market volatility caused by the COVID-19 pandemic, and may be difficult to predict and may or may not fully reflect the underlying performance of our business. If our quarterly results of operations or forward-looking quarterly and annual financial guidance fall below the expectations of investors or securities analysts, then the trading price of our Class A common stock could decline substantially. Some of the important factors that may cause our results of operations to fluctuate from quarter to quarter include:

- the impact of COVID-19 on our customers, our pace of hiring and the global economy in general;
- our ability to retain and increase revenue from existing customers and attract new customers;
- fluctuations in the amount of revenue from our Active Customer Accounts;
- our ability to attract and retain enterprises and international organizations as customers;
- our ability to introduce new products and enhance existing products;
- competition and the actions of our competitors, including pricing changes and the introduction of new products, services and geographies;
- changes in laws, industry standards, regulations or regulatory enforcement in the United States or internationally, the General Data Protection Regulation ("GDPR"), the California Consumer Privacy Act of 2018 and other privacy regulations that may be implemented in the future, including the Schrems II decision invalidating the EU-U.S. Privacy Shield, SHAKEN/STIR and other robocalling prevention and anti-spam standards and increased costs associated with such compliance, as well as enhanced Know-Your-Client processes that impact our ability to market, sell or deliver our products;
- the number of new employees;
- changes in network service provider fees that we pay in connection with the delivery of communications on our platform;
- changes in cloud infrastructure fees that we pay in connection with the operation of our platform;
- changes in our pricing as a result of our optimization efforts or otherwise;
- reductions in pricing as a result of negotiations with our larger customers;
- the rate of expansion and productivity of our sales force, including our enterprise sales force, which has been a focus of our recent expansion efforts;

- changes in the size and complexity of our customer relationships;
- the length and complexity of the sales cycle for our services, especially for sales to larger enterprises, government and regulated organizations;
- change in the mix of products that our customers use;
- change in the revenue mix of U.S. and international products;
- the amount and timing of operating costs and capital expenditures related to the operations and expansion of our business, including investments in our international expansion, additional systems and processes and research and development of new products and services;
- significant security breaches of, technical difficulties with, or interruptions to, the delivery and use of our products on our platform;
- the timing of customer payments and any difficulty in collecting accounts receivable from customers;
- general economic conditions that may adversely affect a prospective customer's ability or willingness to adopt our products, delay a prospective customer's adoption decision, reduce the revenue that we generate from the use of our products or affect customer retention;
- changes in foreign currency exchange rates and our ability to effectively hedge our foreign currency exposure;
- extraordinary expenses such as litigation or other dispute-related settlement payments;
- sales tax and other tax determinations by authorities in the jurisdictions in which we conduct business;
- the impact of new accounting pronouncements;
- expenses in connection with mergers, acquisitions or other strategic transactions and the follow-on costs of integration; and
- fluctuations in stock-based compensation expense.

The occurrence of one or more of the foregoing and other factors may cause our results of operations to vary significantly. As such, we believe that quarter-to-quarter comparisons of our results of operations may not be meaningful and should not be relied upon as an indication of future performance. In addition, a significant percentage of our operating expenses is fixed in nature and is based on forecasted revenue trends. Accordingly, in the event of a revenue shortfall, we may not be able to mitigate the negative impact on our income (loss) and margins in the short term. If we fail to meet or exceed the expectations of investors or securities analysts, then the trading price of our Class A common stock could fall substantially, and we could face costly lawsuits, including securities class action suits.

Additionally, global pandemics such as COVID-19 as well as certain large scale events, such as major elections and sporting events, can significantly impact usage levels on our platform, which could cause fluctuations in our results of operations. We expect that significantly increased usage of all communications platforms, including ours, during certain seasonal and one-time events could impact delivery and quality of our products during those events. We also tend to experience increased expenses in connection with the hosting of SIGNAL, our customer and developer conference, which we hosted in the third quarter of 2019 and plan to host annually, including this year on a virtual basis, from September 30 to October 1. Such annual and one-time events may cause fluctuations in our results of operations and may impact both our revenue and operating expenses.



***If we are not able to maintain and enhance our brand and increase market awareness of our company and products, then our business, results of operations and financial condition may be adversely affected.***

We believe that maintaining and enhancing the “Twilio” brand identity and increasing market awareness of our company and products, particularly among developers, is critical to achieving widespread acceptance of our platform, to strengthen our relationships with our existing customers and to our ability to attract new customers. The successful promotion of our brand will depend largely on our continued marketing efforts, our ability to continue to offer high quality products, our ability to be thought leaders in the cloud communications market and our ability to successfully differentiate our products and platform from competing products and services. Our brand promotion and thought leadership activities may not be successful or yield increased revenue. In addition, independent industry analysts often provide reviews of our products and competing products and services, which may significantly influence the perception of our products in the marketplace. If these reviews are negative or not as strong as reviews of our competitors’ products and services, then our brand may be harmed.

From time to time, our customers have complained about our products, such as complaints about our pricing and customer support. If we do not handle customer complaints effectively, then our brand and reputation may suffer, our customers may lose confidence in us and they may reduce or cease their use of our products. In addition, many of our customers post and discuss on social media about Internet-based products and services, including our products and platform. Our success depends, in part, on our ability to generate positive customer feedback and minimize negative feedback on social media channels where existing and potential customers seek and share information. If actions we take or changes we make to our products or platform upset these customers, then their online commentary could negatively affect our brand, reputation and customer trust. Complaints or negative publicity about us, our products or our platform could materially and adversely impact our ability to attract and retain customers, our business, results of operations and financial condition.

The promotion of our brand also requires us to make substantial expenditures, and we anticipate that these expenditures will increase as our market becomes more competitive and as we expand into new markets. To the extent that these activities increase revenue, this revenue still may not be enough to offset the increased expenses we incur. In addition, due to restrictions on travel and in-person meetings as a result of the on-going COVID-19 pandemic, we have postponed SIGNAL, our annual developer and customer conference, to September 30, 2020 and converted it to a virtual event. We have also cancelled or shifted other planned events to virtual-only experiences and may determine to alter, postpone or cancel additional customer, employee or industry events in the future. We have typically relied on marketing and promotional events such as SIGNAL and in-person meetings to facilitate customer sign-ups and generate leads for potential customers and we cannot predict whether virtual marketing events and phone or virtual sales interactions will be as successful as in-person events and meetings or, for how long, or the extent to which the COVID-19 pandemic may continue to constrain our marketing, promotional and sales activities. If we do not successfully maintain and enhance our brand, then our business may not grow, we may see our pricing power reduced relative to competitors and we may lose customers, all of which would adversely affect our business, results of operations and financial condition.

***Our business depends on customers increasing their use of our products, and any loss of customers or decline in their use of our products could materially and adversely affect our business, results of operations and financial condition.***

Our ability to grow and generate incremental revenue depends, in part, on our ability to maintain and grow our relationships with existing customers (including any customers acquired in connection with our acquisitions) and to have them increase their usage of our platform. If our customers do not increase their use of our products, then our revenue may decline, and our results of operations may be harmed. Customers are charged based on the usage of our products. Most of our customers do not have long-term contractual financial commitments to us and, therefore, most of our customers may reduce or cease their use of our products at any time without penalty or termination charges. Customers may terminate or reduce their use of our products for any number of reasons, including if they are not satisfied with our products, the value proposition of our products or our ability to meet their needs and expectations. We cannot accurately predict customers’ usage levels and the loss of customers or reductions in their usage levels of our products may each have a negative impact on our business, results of operations and financial condition and may cause our Dollar-Based Net Expansion Rate to decline in the future if customers are not satisfied with our products, the value proposition of our products or our ability to meet their needs and expectations. If a significant number of customers cease using, or reduce their usage of our products, then we may be required to spend significantly more on sales and marketing than we currently plan to spend in order to maintain or increase revenue from customers. Such additional sales and marketing expenditures could adversely affect our business, results of operations and financial condition.

***If we are unable to attract new customers in a cost-effective manner, then our business, results of operations and financial condition would be adversely affected.***

In order to grow our business, we must continue to attract new customers in a cost-effective manner. We use a variety of marketing channels to promote our products and platform, such as developer events and developer evangelism, as well as search engine marketing and optimization. We periodically adjust the mix of our other marketing programs such as regional customer events, email campaigns, billboard advertising and public relations initiatives. If the costs of the marketing channels we use increase dramatically, then we may choose to use alternative and less expensive channels, which may not be as effective as the channels we currently use. As we add to or change the mix of our marketing strategies, we may need to expand into more expensive channels than those we are currently in, which could adversely affect our business, results of operations and financial condition. We will incur marketing expenses before we are able to recognize any revenue that the marketing initiatives may generate, and these expenses may not result in increased revenue or brand awareness. We have made in the past, and may make in the future, significant expenditures and investments in new marketing campaigns, and we cannot guarantee that any such investments will lead to the cost-effective acquisition of additional customers. If we are unable to maintain effective marketing programs, then our ability to attract new customers could be materially and adversely affected, our advertising and marketing expenses could increase substantially, and our results of operations may suffer.

***If we do not develop enhancements to our products and introduce new products that achieve market acceptance, our business, results of operations and financial condition could be adversely affected.***

Our ability to attract new customers and increase revenue from existing customers depends in part on our ability to enhance and improve our existing products, increase adoption and usage of our products and introduce new products. The success of any enhancements or new products depends on several factors, including timely completion, adequate quality testing, actual performance quality, market-accepted pricing levels and overall market acceptance. Enhancements and new products that we develop may not be introduced in a timely or cost-effective manner, may contain errors or defects, may have interoperability difficulties with our platform or other products or may not achieve the broad market acceptance necessary to generate significant revenue. Furthermore, our ability to increase the usage of our products depends, in part, on the development of new use cases for our products, which is typically driven by our developer community and may be outside of our control. We also have invested, and may continue to invest, in the acquisition of complementary businesses, technologies, services, products and other assets that expand the products that we can offer our customers. We may make these investments without being certain that they will result in products or enhancements that will be accepted by existing or prospective customers. Our ability to generate usage of additional products by our customers may also require increasingly sophisticated and more costly sales efforts and result in a longer sales cycle. If we are unable to successfully enhance our existing products to meet evolving customer requirements, increase adoption and usage of our products, develop new products, or if our efforts to increase the usage of our products are more expensive than we expect, then our business, results of operations and financial condition would be adversely affected.

***The market in which we participate is intensely competitive, and if we do not compete effectively, our business, results of operations and financial condition could be harmed.***

The market for cloud communications is rapidly evolving, significantly fragmented and highly competitive, with relatively low barriers to entry in some segments. The principal competitive factors in our market include completeness of offering, credibility with developers, global reach, ease of integration and programmability, product features, platform scalability, reliability, deliverability, security and performance, brand awareness and reputation, the strength of sales and marketing efforts, customer support, as well as the cost of deploying and using our products. Our competitors fall into four primary categories:

- legacy on-premise vendors, such as Avaya and Cisco;
- regional network service providers that offer limited developer functionality on top of their own physical infrastructure;
- smaller software companies that compete with portions of our product line; and
- software-as-a-service (“SaaS”) companies and cloud platform vendors that offer prepackaged applications and platforms.

Some of our competitors and potential competitors are larger and have greater name recognition, longer operating histories, more established customer relationships, larger budgets and significantly greater resources than we do. In addition,

they have the operating flexibility to bundle competing products and services at little or no perceived incremental cost, including offering them at a lower price as part of a larger sales transaction. As a result, our competitors may be able to respond more quickly and effectively than we can to new or changing opportunities, technologies, standards or customer requirements. In addition, some competitors may offer products or services that address one or a limited number of functions at lower prices, with greater depth than our products or in different geographies. Our current and potential competitors may develop and market new products and services with comparable functionality to our products, and this could lead to us having to decrease prices in order to remain competitive. Customers utilize our products in many ways and use varying levels of functionality that our products offer or are capable of supporting or enabling within their applications. Customers that use many of the features of our products or use our products to support or enable core functionality for their applications may have difficulty or find it impractical to replace our products with a competitor's products or services, while customers that use only limited functionality may be able to more easily replace our products with competitive offerings. Our customers also may choose to build some of the functionality our products provide, which may limit or eliminate their demand for our products.

With the introduction of new products and services and new market entrants, we expect competition to intensify in the future. In addition, some of our customers may choose to use our products and our competitors' products at the same time. Further, customers and consumers may choose to adopt other forms of electronic communications or alternative communication platforms.

Moreover, as we expand the scope of our products, we may face additional competition. If one or more of our competitors were to merge or partner with another of our competitors, the change in the competitive landscape could also adversely affect our ability to compete effectively. In addition, some of our competitors have lower list prices than us, which may be attractive to certain customers even if those products have different or lesser functionality. If we are unable to maintain our current pricing due to competitive pressures, our margins will be reduced and our business, results of operations and financial condition would be adversely affected. In addition, pricing pressures and increased competition generally could result in reduced revenue, reduced margins, increased losses or the failure of our products to achieve or maintain widespread market acceptance, any of which could harm our business, results of operations and financial condition.

***We have a history of losses and we are uncertain about our future profitability.***

We have incurred net losses in each year since our inception, including net losses of \$194.7 million, \$307.1 million and \$121.9 million in the six months ended June 30, 2020 and the years ended December 31, 2019 and 2018, respectively. We had an accumulated deficit of \$873.5 million as of June 30, 2020. We expect to continue to expend substantial financial and other resources on, among other things:

- investments in our engineering team, improvements in security and data protection, the development of new products, features and functionality and enhancements to our platform;
- sales and marketing, including the continued expansion of our direct sales organization and marketing programs, especially for enterprises and for organizations outside of the United States, and expanding our programs directed at increasing our brand awareness among current and new developers;
- expansion of our operations and infrastructure, both domestically and internationally; and
- general administration, including legal, accounting and other expenses related to being a public company.

These investments may not result in increased revenue or growth of our business. We also expect that our revenue growth rate will decline over time. Accordingly, we may not be able to generate sufficient revenue to offset our expected cost increases and achieve and sustain profitability. If we fail to achieve and sustain profitability, then our business, results of operations and financial condition would be adversely affected.

***If we are unable to increase adoption of our products by enterprises, our business, results of operations and financial condition may be adversely affected.***

Historically, we have relied on the adoption of our products by software developers through our self-service model for a significant majority of our revenue, and we currently generate only a small portion of our revenue from enterprise customers. Our ability to increase our customer base, especially among enterprises, and achieve broader market acceptance of our products will depend, in part, on our ability to effectively organize, focus and train our sales and marketing personnel. We have limited experience selling to enterprises and only recently established an enterprise-focused sales force.

Our ability to convince enterprises to adopt our products will depend, in part, on our ability to attract and retain sales personnel with experience selling to enterprises. We believe that there is significant competition for experienced sales professionals with the skills and technical knowledge that we require. Our ability to achieve significant revenue growth in the future will depend, in part, on our ability to recruit, train and retain a sufficient number of experienced sales professionals, particularly those with experience selling to enterprises. In addition, even if we are successful in hiring qualified sales personnel, new hires require significant training and experience before they achieve full productivity, particularly for sales efforts targeted at enterprises and new territories. Our recent hires and planned hires may not become as productive as quickly as we expect, and we may be unable to hire or retain sufficient numbers of qualified individuals in the future in the markets where we do business. Because we do not have a long history of targeting our sales efforts at enterprises, we cannot predict whether, or to what extent, our sales will increase as we organize and train our sales force or how long it will take for sales personnel to become productive.

As we seek to increase the adoption of our products by enterprises, including products like Flex, which is primarily aimed at complex contact center implementations at larger companies, we expect to incur higher costs and longer sales cycles. In the enterprise market segment, the decision to adopt our products may require the approval of multiple technical and business decision makers, including legal, security, compliance, procurement, operations and IT. In addition, while enterprise customers may quickly deploy our products on a limited basis, before they will commit to deploying our products at scale, they often require extensive education about our products and significant customer support time, engage in protracted pricing negotiations and seek to secure readily available development resources. In addition, sales cycles for enterprises are inherently more complex and less predictable than the sales through our self-service model, and some enterprise customers may not use our products enough to generate revenue that justifies the cost to obtain such customers. In addition, these complex and resource intensive sales efforts could place additional strain on our product and engineering resources. Further, enterprises, including some of our customers, may choose to develop their own solutions that do not include our products. They also may demand reductions in pricing as their usage of our products increases, which could have an adverse impact on our gross margin. As a result of our limited experience selling and marketing to enterprises, our efforts to sell to these potential customers may not be successful. If we are unable to increase the revenue that we derive from enterprises, then our business, results of operations and financial condition may be adversely affected.

***If we are unable to expand our relationships with existing technology partner customers and add new technology partner customers, our business, results of operations and financial condition could be adversely affected.***

We believe that the continued growth of our business depends in part upon developing and expanding strategic relationships with technology partner customers. Technology partner customers embed our software products in their solutions, such as software applications for contact centers and sales force and marketing automation, and then sell such solutions to other businesses. When potential customers do not have the available developer resources to build their own applications, we refer them to either our technology partners who embed our products in the solutions that they sell to other businesses or our consulting partners who provide consulting and development services for organizations that have limited software development expertise to build our platform into their software applications.

As part of our growth strategy, we intend to expand our relationships with existing technology partner customers and add new technology partner customers. If we fail to expand our relationships with existing technology partner customers or establish relationships with new technology partner customers in a timely and cost-effective manner, or at all, then our business, results of operations and financial condition could be adversely affected. Additionally, even if we are successful at building these relationships but there are problems or issues with integrating our products into the solutions of these customers, our reputation and ability to grow our business may be harmed.

***We rely upon Amazon Web Services to operate our platform, and any disruption of or interference with our use of Amazon Web Services would adversely affect our business, results of operations and financial condition.***

We outsource a substantial majority of our cloud infrastructure to Amazon Web Services (“AWS”), which hosts our products and platform. Our customers need to be able to access our platform at any time, without interruption or degradation of performance. AWS runs its own platform that we access, and we are, therefore, vulnerable to service interruptions at AWS. We have experienced, and expect that in the future we may experience interruptions, delays and outages in service and availability due to a variety of factors, including infrastructure changes, human or software errors, website hosting disruptions and capacity constraints. Capacity constraints could be due to a number of potential causes, including technical failures, natural disasters, pandemics such as COVID-19, fraud or security attacks. For instance, in September 2015, AWS suffered a significant outage that had a widespread impact on the ability of our customers to use several of our products and from time to time since then, we have experienced some outages which resulted in disruptions to service for some of our customers. In addition, if our security, or that of AWS, is compromised, or our products or platform are unavailable or our users are unable to use our products within

a reasonable amount of time or at all, then our business, results of operations and financial condition could be adversely affected. In some instances, we may not be able to identify the cause or causes of these performance problems within a period of time acceptable to our customers. It may become increasingly difficult to maintain and improve our platform performance, especially during peak usage times, as our products become more complex and the usage of our products increases. To the extent that we do not effectively address capacity constraints, either through AWS or alternative providers of cloud infrastructure, our business, results of operations and financial condition may be adversely affected. In addition, any changes in service levels from AWS may adversely affect our ability to meet our customers' requirements.

The substantial majority of the services we use from AWS are for cloud-based server capacity and, to a lesser extent, storage and other optimization offerings. AWS enables us to order and reserve server capacity in varying amounts and sizes distributed across multiple regions. We access AWS infrastructure through standard IP connectivity. AWS provides us with computing and storage capacity pursuant to an agreement that continues until terminated by either party. AWS may terminate the agreement for cause upon notice and upon our failure to cure a breach within 30 days from the date of such notification. Although we expect that we could receive similar services from other third parties, if any of our arrangements with AWS are terminated, we could experience interruptions on our platform and in our ability to make our products available to customers, as well as delays and additional expenses in arranging alternative cloud infrastructure services.

Any of the above circumstances or events may harm our reputation, erode customer trust, cause customers to stop using our products, impair our ability to increase revenue from existing customers, impair our ability to grow our customer base, subject us to financial penalties and liabilities under our service level agreements and otherwise harm our business, results of operations and financial condition.

***To deliver our products, we rely on network service providers and internet service providers for our network service and connectivity and disruption or deterioration in the quality of these services could adversely affect our business, results of operations and financial condition.***

We currently interconnect with network service providers around the world to enable the use by our customers of our products over their networks. Although we are in the process of acquiring authorization in many countries for direct access to phone numbers, we expect that we will continue to rely on network service providers for these services. Where we don't have direct access to phone numbers, our reliance on network service providers has reduced our operating flexibility, ability to make timely service changes and control quality of service. In addition, the fees that we are charged by network service providers may change daily or weekly, while we do not typically change our customers' pricing as rapidly.

At times, network service providers have instituted additional fees due to regulatory, competitive or other industry related changes that increase our network costs. For example, in early 2020, a major U.S. mobile carrier introduced a new Application to Person (A2P) SMS service offering that adds a new fee for A2P SMS messages delivered to its subscribers. We expect other U.S. mobile carriers to follow suit. While we have historically responded to these types of fee increases through a combination of further negotiating efforts with our network service providers, absorbing the increased costs or changing our prices to customers, there is no guarantee that we will continue to be able to do so in the future without a material negative impact to our business. In the case of this new A2P SMS fee, we are passing these fees on to our customers who are sending SMS messages to this carrier's subscribers. This is expected to increase our revenue and cost of revenue, but it is not expected to impact the gross profit dollars received for sending these messages. However, mathematically this would still have a negative impact on our gross margins. Additionally, our ability to respond to any new fees may be constrained if all network service providers in a particular market impose equivalent fee structures, if the magnitude of the fees is disproportionately large when compared to the underlying prices paid by our customers, or if the market conditions limit our ability to increase the price we charge our customers.

Furthermore, many of these network service providers do not have long-term committed contracts with us and may interrupt services or terminate their agreements with us without notice. If a significant portion of our network service providers stop providing us with access to their infrastructure, fail to provide these services to us on a cost-effective basis, cease operations, or otherwise terminate these services, the delay caused by qualifying and switching to other network service providers could be time consuming and costly and could adversely affect our business, results of operations and financial condition. Further, if problems occur with our network service providers, it may cause errors or poor quality communications with our products, and we could encounter difficulty identifying the source of the problem. The occurrence of errors or poor quality communications on our products, whether caused by our platform or a network service provider, may result in the loss of our existing customers or the delay of adoption of our products by potential customers and may adversely affect our business, results of operations and financial condition.

We also interconnect with internet service providers around the world to enable the use of our email products by our customers, and we expect that we will continue to rely on internet service providers for network connectivity going forward. Our reliance on internet service providers reduces our control over quality of service and exposes us to potential service outages and rate fluctuations. If a significant portion of our internet service providers stop providing us with access to their network infrastructure, fail to provide access on a cost-effective basis, cease operations, or otherwise terminate access, the delay caused by qualifying and switching to other internet service providers could be time consuming and costly and could adversely affect our business, results of operations, and financial condition.

***Our future success depends in part on our ability to drive the adoption of our products by international customers.***

In the six months ended June 30, 2020 and the years ended December 31, 2019 and 2018, we derived 28%, 29% and 25% of our revenue, respectively, from customer accounts located outside the United States. The future success of our business will depend, in part, on our ability to expand our customer base worldwide. While we have been rapidly expanding our sales efforts internationally, our experience in selling our products outside of the United States is limited. Furthermore, our developer-first business model may not be successful or have the same traction outside the United States. As a result, our investment in marketing our products to these potential customers may not be successful. If we are unable to increase the revenue that we derive from international customers, then our business, results of operations and financial condition may be adversely affected.

***We are in the process of expanding our international operations, which exposes us to significant risks.***

We are continuing to expand our international operations to increase our revenue from customers outside of the United States as part of our growth strategy. Between June 30, 2019 and June 30, 2020, our international headcount grew from 486 employees to 924 employees. We expect to open additional international offices and hire employees to work at these offices in order to reach new customers and gain access to additional technical talent. Operating in international markets requires significant resources and management attention and will subject us to regulatory, economic and political risks in addition to those we already face in the United States. Because of our limited experience with international operations or with developing and managing sales in international markets, our international expansion efforts may not be successful.

In addition, we will face risks in doing business internationally that could adversely affect our business, including:

- exposure to political developments in the United Kingdom (“U.K.”), including the departure of the U.K. from the European Union (“EU”) (“Brexit”), which has created an uncertain political and economic environment, instability for businesses, volatility in global financial markets and the value of foreign currencies, all of which could disrupt trade, the sale of our services and the mobility of our employees and contractors between the United Kingdom, EU and other jurisdictions. Any long-term impact from Brexit on our business and operations will depend, in part, on the outcome of the U.K.’s negotiations on tariffs, tax treaties, trade, regulatory, and other matters and may require us to expend significant time and expense to make adjustments to our business and operations.
- the difficulty of managing and staffing international operations and the increased operations, travel, infrastructure and legal compliance costs associated with servicing international customers and operating numerous international locations;
- our ability to effectively price our products in competitive international markets;
- new and different sources of competition or other changes to our current competitive landscape;
- understanding and reconciling different technical standards, data privacy and telecommunications regulations, registration and certification requirements outside the United States, which could prevent customers from deploying our products or limit their usage;
- our ability to comply with the General Data Protection Regulation (“GDPR”), which went into effect on May 25, 2018, Brazil’s General Data Protection Law (Lei Geral de Proteção de Dados Pessoais) (Law No. 13,709/2018), which currently is expected to take effect in August 2020 (subject to potential delay in response to the COVID-19 pandemic) and laws, regulations and industry standards relating to data privacy, data localization and security enacted in countries and other regions in which we operate or do business;
- potentially greater difficulty collecting accounts receivable and longer payment cycles;

- higher or more variable network service provider fees outside of the United States;
- the need to adapt and localize our products for specific countries;
- the need to offer customer support in various languages;
- difficulties in understanding and complying with local laws, regulations and customs in non-U.S. jurisdictions;
- export controls and economic sanctions administered by the Department of Commerce Bureau of Industry and Security and the Treasury Department's Office of Foreign Assets Control;
- compliance with various anti-bribery and anti-corruption laws such as the Foreign Corrupt Practices Act and United Kingdom Bribery Act of 2010;
- changes in international trade policies, tariffs and other non-tariff barriers, such as quotas and local content rules;
- more limited protection for intellectual property rights in some countries;
- adverse tax consequences;
- fluctuations in currency exchange rates, which could increase the price of our products outside of the United States, increase the expenses of our international operations and expose us to foreign currency exchange rate risk;
- currency control regulations, which might restrict or prohibit our conversion of other currencies into U.S. dollars;
- restrictions on the transfer of funds;
- deterioration of political relations between the United States and other countries;
- the impact of natural disasters and public health epidemics such as COVID-19 on employees, contingent workers, partners, travel and the global economy and the ability to operate freely and effectively in a region that may be fully or partially on lockdown; and
- political or social unrest or economic instability in a specific country or region in which we operate, which could have an adverse impact on our operations in that location.

Also, due to costs from our international expansion efforts and network service provider fees outside of the United States, which generally are higher than domestic rates, our gross margin for international customers is typically lower than our gross margin for domestic customers. As a result, our gross margin may be impacted and fluctuate as we expand our operations and customer base worldwide.

Our failure to manage any of these risks successfully could harm our international operations, and adversely affect our business, results of operations and financial condition.

***Our products and platform and our business are subject to a variety of U.S. and international laws and regulations, including those regarding privacy, data protection and information security, and our customers may be subject to regulations related to the handling and transfer of certain types of sensitive and confidential information, including protected health information under HIPAA. Any failure of our products to comply with or enable our customers and channel partners to comply with applicable laws and regulations would harm our business, results of operations and financial condition.***

We and our customers that use our products may be subject to privacy and data protection-related laws and regulations that impose obligations in connection with the collection, processing and use of personal data, financial data, health or other similar data. The U.S. federal and various state and foreign governments have adopted or proposed limitations on, or requirements regarding, the collection, distribution, use, security and storage of personal data of individuals. The U.S. Federal Trade Commission and numerous state attorneys general are applying federal and state consumer protection laws to impose standards on the online collection, use and dissemination of data, and to the security measures applied to such data.

Similarly, many foreign countries and governmental bodies, including the EU member states, have laws and regulations concerning the collection and use of personal data obtained from individuals located in the EU or by businesses operating within their jurisdiction, which are often more restrictive than those in the United States. Laws and regulations in these jurisdictions apply broadly to the collection, use, storage, disclosure and security of personal data that identifies or may be used to identify an individual, such as names, telephone numbers, email addresses and, in some jurisdictions, IP addresses and other online identifiers.

For example, in April 2016 the EU adopted the GDPR, which took full effect on May 25, 2018. The GDPR enhances data protection obligations for businesses and requires service providers (data processors) processing personal data on behalf of customers to cooperate with European data protection authorities, implement security measures and keep records of personal data processing activities. Noncompliance with GDPR can trigger fines equal to or greater of €20 million or 4% of global annual revenues. Given the breadth and depth of changes in data protection obligations, preparing to meet the requirements of GDPR has required significant time and resources, including a review of our technology and systems currently in use against the requirements of GDPR. There are also additional EU laws and regulations (and member states implementations thereof) which govern the protection of consumers and of electronic communications. If our efforts to comply with GDPR or other applicable EU laws and regulations are not successful, we may be subject to penalties and fines that would adversely impact our business and results of operations, and our ability to conduct business in the EU could be significantly impaired.

We have in the past relied on the EU-U.S. and the Swiss-U.S. Privacy Shield frameworks approved by the European Commission in July 2016 and the Swiss Government in January 2017, respectively, which were designed to allow U.S. corporations to self-certify to the U.S. Department of Commerce and publicly commit to comply with the Privacy Shield requirements to freely import personal data from the EU and Switzerland. However, on July 16, 2020, the European Court of Justice invalidated the EU-U.S. Privacy Shield in connection with what is commonly referred to as the Schrems II case. Further, while the decision upheld an alternative transfer safeguard, Standard Contractual Clauses, the court noted that whether that safeguard is sufficient requires an individualized determination, including whether the required level of data protection is respected in the country to which personal data was exported and that the domestic laws of the U.S. with respect to government access and use of personal data are in conflict with the level of protection of personal data required under EU law. Subsequent interpretive guidance from the European Data Protection Board on July 24, 2020 extended the European Court of Justice's guidance regarding the use of Standard Contractual Clauses as a transfer safeguard to the use of Binding Corporate Rules, which serve as Twilio's primary mechanism to legitimize data transfers from the European Economic Area to other jurisdictions, including the U.S. Because our primary data processing facilities are in the U.S., we may experience hesitancy, reluctance, or refusal by European or multinational customers to continue to use our services due to the potential risk exposure to such customers as a result of this ruling from the European Court of Justice and subsequent interpretive guidance from the European Data Protection Board. We and our customers are at risk of enforcement actions taken by an EU data protection authority until such point in time that we are able to ensure that all data transfers to us from the European Economic Area are legitimized. In addition, as the United Kingdom transitions out of the EU, we may encounter additional complexity with respect to data privacy and data transfers to and from the U.K. As well, in light of the European Court of Justice ruling, Switzerland may be more likely to reconsider the validity of the Swiss-U.S. Privacy Shield Framework and raise questions regarding transfers of Swiss personal data to the U.S.

Furthermore, outside of the EU, we continue to see increased regulation of data privacy and security, including the adoption of more stringent subject matter specific state laws in the United States. For example, on July 8, 2019, Brazil enacted the General Data Protection Law (Lei Geral de Proteção de Dados Pessoais) (Law No. 13,709/2018) ("LGPD") regulating the processing of personal data, although full implementation and enforcement has been delayed until 2021 due to COVID-19. Also, on June 28, 2018, California enacted the California Consumer Privacy Act ("CCPA"), which took effect on January 1, 2020. The CCPA gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing, and receive detailed information about how their personal information is used. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that is expected to increase data breach litigation. The CCPA may increase our compliance costs and potential liability. Some observers have noted that the CCPA could mark the beginning of a trend toward more stringent state privacy legislation in the U.S., which could increase our potential liability and adversely affect our business.

As well, we continue to see jurisdictions imposing data localization laws, which require personal information, or certain subcategories of personal information to be stored in the jurisdiction of origin. These regulations may inhibit our ability to expand into those markets or prohibit us from continuing to offer services in those markets without significant additional costs.

We have also begun supporting customer workloads that involve the processing of protected health information and are signing business associate agreements ("BAAs") with customers. As a result, we are subject to the privacy and security requirements under the U.S. Health Insurance Portability and Accountability Act of 1996 and the U.S. Health Information



Technology for Economic and Clinical Health Act as well as state laws that govern the privacy and security of health information. If we fail to maintain compliance with these requirements, we could be subject to regulatory audits, civil and criminal penalties, fines and breach of contract claims, as well as reputational damage, which could impact the willingness of healthcare sector customers to do business with us.

As we expand into new industries and regions, we will likely need to comply with new requirements to compete effectively. The uncertainty and changes in the requirements of multiple jurisdictions may increase the cost of compliance, delay or reduce demand for our services, restrict our ability to offer services in certain locations, impact our customers' ability to deploy our solutions in certain jurisdictions, or subject us to sanctions, by national data protection regulators, all of which could harm our business, financial condition and results of operations.

Additionally, although we endeavor to have our products and platform comply with applicable laws and regulations, these and other obligations may be modified, they may be interpreted and applied in an inconsistent manner from one jurisdiction to another, and they may conflict with one another, other regulatory requirements, contractual commitments or our internal practices.

We also may be bound by contractual obligations relating to our collection, use and disclosure of personal, financial and other data or may find it necessary or desirable to join industry or other self-regulatory bodies or other privacy or data protection-related organizations that require compliance with their rules pertaining to privacy and data protection.

We expect that there will continue to be new proposed laws, rules of self-regulatory bodies, regulations and industry standards concerning privacy, data protection and information security in the United States, the European Union and other jurisdictions, and we cannot yet determine the impact such future laws, rules, regulations and standards may have on our business. Moreover, existing U.S. federal and various state and foreign privacy and data protection-related laws and regulations are evolving and subject to potentially differing interpretations, and various legislative and regulatory bodies may expand current or enact new laws and regulations regarding privacy and data protection-related matters. Because global laws, regulations and industry standards concerning privacy and data security have continued to develop and evolve rapidly, it is possible that we or our products or platform may not be, or may not have been, compliant with each such applicable law, regulation and industry standard and compliance with such new laws or to changes to existing laws may impact our business and practices, require us to expend significant resources to adapt to these changes, or to stop offering our products in certain countries. These developments could adversely affect our business, results of operations and financial condition.

Any failure or perceived failure by us, our products or our platform to comply with new or existing U.S., EU or other foreign privacy or data security laws, regulations, policies, industry standards or legal obligations, or any security incident that results in the unauthorized access to, or acquisition, release or transfer of, personal data or other customer data may result in governmental investigations, inquiries, enforcement actions and prosecutions, private litigation, fines and penalties, adverse publicity or potential loss of business. For example, in February 2016, a putative class action complaint was filed in the Alameda County Superior Court in California and alleged that our products permitted the interception, recording and disclosure of communications at certain of our customers' request in a manner that violated the California Invasion of Privacy Act. This litigation has now settled, but actions in the future could lead to similar claims and include damages and related penalties that could divert management's attention and resources, as well as adversely affect our brand, business, results of operations and financial condition.

***Certain of our products are subject to telecommunications-related regulations, and future legislative or regulatory actions could adversely affect our business, results of operations and financial condition.***

As a provider of communications products, we are subject to existing or potential Federal Communications Commission ("FCC") regulations relating to privacy, telecommunications, consumer protection and other requirements. In addition, the extension of telecommunications regulations to our non-interconnected VoIP services could result in additional federal and state regulatory obligations and taxes. We are also in discussions with certain jurisdictions regarding our prior sales and other taxes, if any, that we may owe. In the event any of these jurisdictions disagree with management's assumptions and analysis, the assessment of our tax exposure could differ materially from management's current estimates, which may increase our costs of doing business and negatively affect the prices our customers pay for our services. If we do not comply with FCC rules and regulations, we could be subject to FCC enforcement actions, fines, loss of licenses and possibly restrictions on our ability to operate or offer certain of our products. Any enforcement action by the FCC, which may be a public process, would hurt our reputation in the industry, could erode customer trust, possibly impair our ability to sell our VoIP products to customers and could adversely affect our business, results of operations and financial condition.

Our products are subject to a number of FCC regulations and laws that are administered by the FCC. Among others, we must comply (in whole or in part) with:

- the Communications Act of 1934, as amended, which regulates communications services and the provision of such services;
- the Telephone Consumer Protection Act, which limits the use of automatic dialing systems for calls and texts, artificial or prerecorded voice messages, and fax machines;
- the Communications Assistance for Law Enforcement Act (“CALEA”), which requires covered entities to assist law enforcement in undertaking electronic surveillance;
- requirements to safeguard the privacy of certain customer information;
- payment of annual FCC regulatory fees and taxes based on our interstate and international revenues;
- rules pertaining to access to our services by people with disabilities and contributions to the Telecommunications Relay Services fund; and
- FCC rules regarding the use of customer proprietary network information.

In addition, Congress and the FCC are attempting to mitigate the scourge of robocalls by requiring participation in a technical standard called SHAKEN/STIR, which allows voice carriers to authenticate caller ID, prohibiting malicious spoofing.

If we do not comply with any current or future rules or regulations that apply to our business, we could be subject to substantial fines and penalties, and we may have to restructure our offerings, exit certain markets or raise the price of our products. In addition, any uncertainty regarding whether particular regulations apply to our business, and how they apply, could increase our costs or limit our ability to grow.

As we continue to expand internationally, we have become subject to telecommunications laws and regulations in the foreign countries where we offer our products. Internationally, we currently offer our products in over 180 countries.

Our international operations are subject to country-specific governmental regulation and related actions that have increased and will continue to increase our costs or impact our products and platform or prevent us from offering or providing our products in certain countries. Moreover, the regulation of communications platform-as-a-service (“CPaaS”) companies like us is continuing to evolve internationally and many existing regulations may not fully contemplate the CPaaS business model or how they fit into the communications regulatory framework. As a result, interpretation and enforcement of regulations often involve significant uncertainties. In many countries, including those in the European Union, a number of our products or services are subject to licensing and communications regulatory requirements which increases the level of scrutiny and enforcement by regulators. Future legislative, regulatory or judicial actions impacting CPaaS services could also increase the cost and complexity of compliance and expose us to liability. For example, in some countries, some or all of our services offered are not considered regulated telecommunications business subject to regulations, including but not limited to payment into universal service funds, licensing fees, provision of emergency services, provision of information to support emergency services and number portability, but in other countries the provision of some or all of our services is a regulated telecommunications business. Specifically, the Australian Communications and Media Authority recently issued a formal finding against several companies, including our Company, for failure to upload data into a centralized database for emergency services and, in the future, regulatory authorities in other jurisdictions in which we operate may also determine that we are a telecommunications company subject to similar regulations. Failure to comply with these regulations could result in our Company being issued remedial directions to undertake independent audits and implement effective systems, processes and practices to ensure compliance, significant fines or being prohibited from providing telecommunications services in a jurisdiction.

Moreover, certain of our products may be used by customers located in countries where voice and other forms of IP communications may be illegal or require special licensing or in countries on a U.S. embargo list. Even where our products are reportedly illegal or become illegal or where users are located in an embargoed country, users in those countries may be able to continue to use our products in those countries notwithstanding the illegality or embargo. We may be subject to penalties or governmental action if consumers continue to use our products in countries where it is illegal to do so or if we use a local partner to provide services in a country and the local partner does not comply with applicable governmental regulations. Any such penalties or governmental action may be costly and may harm our business and damage our brand and reputation. We may

be required to incur additional expenses to meet applicable international regulatory requirements or be required to raise the prices of services, or restructure or discontinue those services if required by law or if we cannot or will not meet those requirements. Any of the foregoing could adversely affect our business, results of operations and financial condition.

***If we are unable to obtain or retain geographical, mobile, regional, local or toll-free numbers, or to effectively process requests to port such numbers in a timely manner due to industry regulations, our business and results of operations may be adversely affected.***

Our future success depends in part on our ability to obtain allocations of geographical, mobile, regional, local and toll-free direct inward dialing numbers (“DIDs”) or phone numbers as well as short codes, in the United States and foreign countries at a reasonable cost and without overly burdensome restrictions. Our ability to obtain allocations of, assign and retain DIDs depends on factors outside of our control, such as applicable regulations, the practices of authorities that administer national numbering plans or of network service providers from whom we can provision DIDs, such as offering DIDs with conditional minimum volume call level requirements, the cost of these DIDs and the level of overall competitive demand for new DIDs.

In addition, in order to obtain allocations of, assign and retain telephone numbers in the European Union or certain other regions, we are often required to be licensed by local telecommunications regulatory authorities, some of which have been increasingly monitoring and regulating the categories of phone numbers that are eligible for provisioning to our customers. We have obtained licenses, and are in the process of obtaining licenses in various countries in which we do business, but in some countries, the regulatory regime around provisioning of phone numbers is unclear, subject to change over time, and sometimes may conflict from jurisdiction to jurisdiction. Furthermore, these regulations and governments’ approach to their enforcement, as well as our products and services, are still evolving and we may be unable to maintain compliance with applicable regulations, or enforce compliance by our customers, on a timely basis or without significant cost. Also, compliance with these types of regulation may require changes in products or business practices that result in reduced revenue. Due to our or our customers’ assignment and/or use of phone numbers in certain countries in a manner that violates applicable rules and regulations, we have been subjected to government inquiries and audits, and may in the future be subject to significant penalties or further governmental action, and in extreme cases, may be precluded from doing business in that particular country. We have also been forced to reclaim phone numbers from our customers as a result of certain events of non-compliance. These reclamations result in loss of customers, loss of revenue, reputational harm, erosion of customer trust, and may also result in breach of contract claims, all of which could have a material adverse effect on our business, results of operations and financial condition.

Due to their limited availability, there are certain popular area code prefixes that we generally cannot obtain. Our inability to acquire or retain DIDs for our operations would make our voice and messaging products less attractive to potential customers in the affected local geographic areas. In addition, future growth in our customer base, together with growth in the customer bases of other providers of cloud communications, has increased, which increases our dependence on needing sufficiently large quantities of DIDs. It may become increasingly difficult to source larger quantities of DIDs as we scale and we may need to pay higher costs for DIDs, and DIDs may become subject to more stringent regulation or conditions of usage such as the registration and on-going compliance requirements discussed above.

Additionally, in some geographies, we support number portability, which allows our customers to transfer their existing phone numbers to us and thereby retain their existing phone numbers when subscribing to our voice and messaging products. Transferring existing numbers is a manual process that can take up to 15 business days or longer to complete. Any delay that we experience in transferring these numbers typically results from the fact that we depend on network service providers to transfer these numbers, a process that we do not control, and these network service providers may refuse or substantially delay the transfer of these numbers to us. Number portability is considered an important feature by many potential customers, and if we fail to reduce any related delays, then we may experience increased difficulty in acquiring new customers.

Any of the foregoing factors could adversely affect our business, results of operations and financial condition.

***If we fail to adapt and respond effectively to rapidly changing technology, evolving industry standards, changing regulations, and changing customer needs, requirements or preferences, our products may become less competitive.***

The market for communications in general, and cloud communications in particular, is subject to rapid technological change, evolving industry standards, changing regulations, as well as changing customer needs, requirements and preferences. The success of our business will depend, in part, on our ability to adapt and respond effectively to these changes on a timely basis. If we are unable to develop new products that satisfy our customers and provide enhancements and new features for our existing products that keep pace with rapid technological and industry change, including but not limited to SHAKEN/STIR and applicable industry standards, our business, results of operations and financial condition could be adversely affected. If new technologies emerge that are able to deliver competitive products and services at lower prices, more efficiently, more conveniently or more securely, such technologies could adversely impact our ability to compete effectively.

Our platform must integrate with a variety of network, hardware, mobile and software platforms and technologies, and we need to continuously modify and enhance our products and platform to adapt to changes and innovation in these technologies. For example, Apple, Google and other cell-phone operating system providers or inbox service providers have developed and, may in the future develop, new applications or functions intended to filter spam and unwanted phone calls, messages or emails. Similarly, our network service providers may adopt new filtering technologies in an effort to combat spam or robocalling. Such technologies may inadvertently filter desired messages or calls to or from our customers. If cell-phone operating system providers, network service providers, our customers or their end users adopt new software platforms or infrastructure, we may be required to develop new versions of our products to work with those new platforms or infrastructure. This development effort may require significant resources, which would adversely affect our business, results of operations and financial condition. Any failure of our products and platform to operate effectively with evolving or new platforms and technologies could reduce the demand for our products. If we are unable to respond to these changes in a cost-effective manner, our products may become less marketable and less competitive or obsolete, and our business, results of operations and financial condition could be adversely affected.

***We typically provide monthly uptime service level commitments of up to 99.95% under our agreements with customers. If we fail to meet these contractual commitments, then our business, results of operations and financial condition could be adversely affected.***

Our agreements with customers typically provide for service level commitments. If we suffer extended periods of downtime for our products or platform and we are unable to meet these commitments, then we are contractually obligated to provide a service credit, which is typically 10% of the customer's amounts due for the month in question. In addition, the performance and availability of AWS, which provides our cloud infrastructures is outside of our control and, therefore, we are not in full control of whether we meet our service level commitments. As a result, our business, results of operations and financial condition could be adversely affected if we suffer unscheduled downtime that exceeds the service level commitments we have made to our customers. Any extended service outages could adversely affect our business and reputation and erode customer trust.

***Breaches of our networks or systems, or those of AWS or our service providers, could degrade our ability to conduct our business, compromise the integrity of our products, platform and data, result in significant data losses and the theft of our intellectual property, damage our reputation, expose us to liability to third parties and require us to incur significant additional costs to maintain the security of our networks and data.***

We depend upon our IT systems to conduct virtually all of our business operations, ranging from our internal operations and research and development activities to our marketing and sales efforts and communications with our customers and business partners. Individuals or entities may attempt to penetrate our network security, or that of our platform, and to cause harm to our business operations, including by misappropriating our proprietary information or that of our customers, employees and business partners or to cause interruptions of our products and platform. In particular, cyberattacks and other malicious internet-based activity continue to increase in frequency and in magnitude generally, and cloud-based companies have been targeted in the past. In addition to threats from traditional computer hackers, malicious code (such as malware, viruses, worms, and ransomware), employee theft or misuse, password spraying, phishing, credential stuffing, and denial-of-service attacks, we also face threats from sophisticated organized crime, nation-state, and nation-state supported actors who engage in attacks (including advanced persistent threat intrusions) that add to the risk to our systems (including those hosted on AWS or other cloud services), internal networks, our customers' systems and the information that they store and process. While we devote significant financial and personnel resources to implement and maintain security measures, because the techniques used by such individuals or entities to access, disrupt or sabotage devices, systems and networks change frequently and may not be recognized until launched against a target, we may be required to make further investments over time to protect data and infrastructure as cybersecurity threats develop, evolve and grow more complex over time. We may also be unable to anticipate

these techniques, and we may not become aware in a timely manner of such a security breach, which could exacerbate any damage we experience. Additionally, we depend upon our employees and contractors to appropriately handle confidential and sensitive data, including customer data, and to deploy our IT resources in a safe and secure manner that does not expose our network systems to security breaches or the loss of data. We have been and expect to be subject to cybersecurity threats and incidents, including denial-of-service attacks, employee errors or individual attempts to gain unauthorized access to information systems. Any data security incidents, including internal malfeasance or inadvertent disclosures by our employees or a third party's fraudulent inducement of our employees to disclose information, unauthorized access or usage, virus or similar breach or disruption of us or our service providers, such as AWS, could result in loss of confidential information, damage to our reputation, erosion of customer trust, loss of customers, litigation, regulatory investigations, fines, penalties and other liabilities. Accordingly, if our cybersecurity measures or those of AWS or our service providers, fail to protect against unauthorized access, attacks (which may include sophisticated cyberattacks), compromise or the mishandling of data by our employees and contractors, then our reputation, customer trust, business, results of operations and financial condition could be adversely affected. While we maintain errors, omissions, and cyber liability insurance policies covering certain security and privacy damages, we cannot be certain that our existing insurance coverage will continue to be available on acceptable terms or will be available, and in sufficient amounts, to cover the potentially significant losses that may result from a security incident or breach or that the insurer will not deny coverage as to any future claim.

***Defects or errors in our products could diminish demand for our products, harm our business and results of operations and subject us to liability.***

Our customers use our products for important aspects of their businesses, and any errors, defects or disruptions to our products and any other performance problems with our products could damage our customers' businesses and, in turn, hurt our brand and reputation and erode customer trust. We provide regular updates to our products, which have in the past contained, and may in the future contain, undetected errors, failures, vulnerabilities and bugs when first introduced or released. Real or perceived errors, failures or bugs in our products could result in negative publicity, loss of or delay in market acceptance of our platform, loss of competitive position, lower customer retention or claims by customers for losses sustained by them. In such an event, we may be required, or may choose, for customer relations or other reasons, to expend additional resources in order to help correct the problem. In addition, we may not carry insurance sufficient to compensate us for any losses that may result from claims arising from defects or disruptions in our products. As a result, our reputation and our brand could be harmed, and our business, results of operations and financial condition may be adversely affected.

***We currently generate significant revenue from our largest customers, and the loss or decline in revenue from any of these customers could harm our business, results of operations and financial condition.***

In the six months ended June 30, 2020 and the years ended December 31, 2019 and 2018, our 10 largest Active Customer Accounts generated an aggregate of 15%, 13% and 18% of our revenue, respectively. A significant portion of our revenue comes from WhatsApp. In the six months ended June 30, 2020 and the years ended December 31, 2019 and 2018, WhatsApp accounted for 7%, 5% and 7% of our revenue, respectively. WhatsApp does not have a long-term contract with us and may reduce or fully terminate their usage of our products at any time without notice, penalty or termination charges. In addition, the usage of our products by WhatsApp and other customers that do not have long-term contracts with us may change significantly between periods.

In the event that any of our large customers do not continue to use our products, use fewer of our products, or use our products in a more limited capacity, or not at all, our business, results of operations and financial condition could be adversely affected.

***If we are unable to develop and maintain successful relationships with consulting partners, our business, results of operations and financial condition could be adversely affected.***

We believe that continued growth of our business depends in part upon identifying, developing and maintaining strategic relationships with consulting partners. As part of our growth strategy, we intend to further develop partnerships and specific solution areas with consulting partners. If we fail to establish these relationships in a timely and cost-effective manner, or at all, then our business, results of operations and financial condition could be adversely affected. Additionally, even if we are successful at developing these relationships but there are problems or issues with the integrations or enterprises are not willing to purchase through consulting partners, our reputation and ability to grow our business may be adversely affected.

***Any failure to offer high quality customer support may adversely affect our relationships with our customers and prospective customers, and adversely affect our business, results of operations and financial condition.***

Many of our customers depend on our customer support team to assist them in deploying our products effectively to help them to resolve post-deployment issues quickly and to provide ongoing support. If we do not devote sufficient resources or are otherwise unsuccessful in assisting our customers effectively, it could adversely affect our ability to retain existing customers and could prevent prospective customers from adopting our products. We may be unable to respond quickly enough to accommodate short-term increases in demand for customer support. We also may be unable to modify the nature, scope and delivery of our customer support to compete with changes in the support services provided by our competitors. Increased demand for customer support, without corresponding revenue, could increase costs and adversely affect our business, results of operations and financial condition. Our sales are highly dependent on our business reputation and on positive recommendations from developers. Any failure to maintain high quality customer support, or a market perception that we do not maintain high quality customer support, could erode customer trust and adversely affect our reputation, business, results of operations and financial condition.

***Failure to set optimal prices for our products could adversely impact our business, results of operations and financial condition.***

We charge our customers based on their use of our products. We expect that we may need to change our pricing from time to time. In the past we have sometimes reduced our prices either for individual customers in connection with long-term agreements or for a particular product. One of the challenges to our pricing is that the fees that we pay to network service providers over whose networks we transmit communications can vary daily or weekly and are affected by volume and other factors that may be outside of our control and difficult to predict. This can result in us incurring increased costs that we may be unable or unwilling to pass through to our customers, which could adversely impact our business, results of operations and financial condition.

Further, as competitors introduce new products or services that compete with ours or reduce their prices, we may be unable to attract new customers or retain existing customers based on our historical pricing. As we expand internationally, we also must determine the appropriate price to enable us to compete effectively internationally. Moreover, enterprises, which are a primary focus for our direct sales efforts, may demand substantial price concessions. In addition, if the mix of products sold changes, including for a shift to IP-based products, then we may need to, or choose to, revise our pricing. As a result, in the future we may be required or choose to reduce our prices or change our pricing model, which could adversely affect our business, results of operations and financial condition.

***We have been sued, and may, in the future, be sued by third parties for alleged infringement of their proprietary rights, which could adversely affect our business, results of operations and financial condition.***

There is considerable patent and other intellectual property development activity in our industry. Our future success depends, in part, on not infringing the intellectual property rights of others and we may be unaware of the intellectual property rights of others that may cover some or all of our technology. Our competitors or other third parties have claimed and may, in the future, claim that our products or platform and underlying technology are infringing upon their intellectual property rights, and we may be found to be infringing upon such rights. For example, Telesign Corporation (“Telesign”) sued us in 2015 and 2016 alleging that we infringed four U.S. patents: U.S. Patent No. 7,945,034 (“034”), U.S. Patent No. 8,462,920 (“920”), U.S. Patent No. 8,687,038 (“038”), and U.S. Patent No. 9,300,792 (“792”). The patent infringement allegations in the lawsuit relate to our two-factor authentication use case, *Authy*, and an API tool to find information about a phone number. On October 19, 2018, a United States District Court in the Northern District of California entered judgment in our favor on all asserted claims. Telesign appealed, and the Court of Appeals for the Federal Circuit affirmed the judgment in the Company’s favor on January 9, 2020. The deadline for further appeals has passed and the matter is finally resolved in our favor. We intend to vigorously defend ourselves against such lawsuits and believe we have meritorious defenses to matters in which we are a defendant. During the course of these lawsuits, there may be announcements of the results of hearings and motions and other interim developments related to the litigation. If securities analysts or investors regard these announcements as negative, the trading price of our Class A common stock may decline.

In the future, we may also introduce or acquire new products or technologies, including in areas where we historically have not participated in, which could increase our exposure to intellectual property claims. Any claims or litigation could cause us to incur significant expenses and, if successfully asserted against us, could require that we pay substantial damages or ongoing royalty payments, prevent us from offering our products, or require that we comply with other unfavorable terms. We may also be obligated to indemnify our customers or business partners in connection with any such litigation and to obtain licenses or modify our products or platform, which could further exhaust our resources. Litigation is inherently uncertain and

even if we were to prevail in the event of claims or litigation against us, any claim or litigation regarding intellectual property could be costly and time-consuming and divert the attention of our management and other employees from our business. Patent infringement, trademark infringement, trade secret misappropriation and other intellectual property claims and proceedings brought against us, whether successful or not, could harm our brand, business, results of operations and financial condition.

***Indemnity provisions in various agreements potentially expose us to substantial liability for intellectual property infringement and other losses.***

Our agreements with customers and other third parties typically include indemnification or other provisions under which we agree to indemnify or otherwise be liable to them for losses suffered or incurred as a result of claims of intellectual property infringement, loss or exposure of confidential or sensitive data, damages caused by us to property or persons or other liabilities relating to or arising from our products or platform or other acts or omissions. The term of these contractual provisions often survives termination or expiration of the applicable agreement. Large indemnity payments or damage claims from contractual breach could harm our business, results of operations and financial condition. Although typically we contractually limit our liability with respect to such obligations, we may still incur substantial liability related to them. Any dispute with a customer with respect to such obligations could have adverse effects on our relationship with that customer and other current and prospective customers, demand for our products and adversely affect our business, results of operations and financial condition.

***We could incur substantial costs in protecting or defending our intellectual property rights, and any failure to protect our intellectual property could adversely affect our business, results of operations and financial condition.***

Our success depends, in part, on our ability to protect our brand and the proprietary methods and technologies that we develop under patent and other intellectual property laws in the U.S. and in non-U.S. jurisdictions so that we can prevent others from using our inventions and proprietary information. As of December 31, 2019, in the United States, we had been issued 131 patents, which expire between 2029 and 2037. As of such date, we also had 27 issued patents in non-U.S. jurisdictions, all of which are related to U.S. patents and patent applications. We have also filed various applications for protection of certain aspects of our intellectual property in the United States and internationally. There can be no assurance that additional patents will be issued or that any patents that have been issued or that may be issued in the future will provide significant protection for our intellectual property. As of December 31, 2019, we had 32 registered trademarks in the United States and 163 registered trademarks in non-U.S. jurisdictions. If we fail to protect our intellectual property rights adequately, our competitors might gain access to our technology and our business, results of operations and financial condition may be adversely affected.

There can be no assurance that the particular forms of intellectual property protection that we seek, including business decisions about when to file patent applications and trademark applications, will be adequate to protect our business. We could be required to spend significant resources to monitor and protect our intellectual property rights. Litigation may be necessary in the future to enforce our intellectual property rights, determine the validity and scope of our proprietary rights or those of others, or defend against claims of infringement or invalidity. Such litigation could be costly, time-consuming and distracting to management, result in a diversion of significant resources, the narrowing or invalidation of portions of our intellectual property and have an adverse effect on our business, results of operations and financial condition. Our efforts to enforce our intellectual property rights may be met with defenses, counterclaims and countersuits attacking the validity and enforceability of our intellectual property rights or alleging that we infringe the counterclaimant's own intellectual property. Any of our patents, copyrights, trademarks or other intellectual property rights could be challenged by others or invalidated through administrative process or litigation.

We also rely, in part, on confidentiality agreements with our business partners, employees, consultants, advisors, customers and others in our efforts to protect our proprietary technology, processes and methods. These agreements may not effectively prevent disclosure of our confidential information, and it may be possible for unauthorized parties to copy our software or other proprietary technology or information, or to develop similar software independently without our having an adequate remedy for unauthorized use or disclosure of our confidential information. In addition, others may independently discover our trade secrets and proprietary information, and in these cases, we would not be able to assert any trade secret rights against those parties. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

In addition, the laws of some countries do not protect intellectual property and other proprietary rights to the same extent as the laws of the United States. To the extent we expand our international activities, our exposure to unauthorized copying, transfer and use of our proprietary technology or information may increase.

We cannot be certain that our means of protecting our intellectual property and proprietary rights will be adequate or that our competitors will not independently develop similar technology. If we fail to meaningfully protect our intellectual property and proprietary rights, our business, results of operations and financial condition could be adversely affected.

***We may acquire or invest in companies, which may divert our management's attention and result in debt or dilution to our stockholders. We may be unable to integrate acquired businesses and technologies successfully or achieve the expected benefits of such acquisitions.***

We may evaluate and consider potential strategic transactions, including acquisitions of, or investments in, businesses, technologies, services, products and other assets in the future. We also may enter into relationships with other businesses to expand our products and platform, which could involve preferred or exclusive licenses, additional channels of distribution, discount pricing or investments in other companies.

Any acquisition, investment or business relationship may result in unforeseen operating difficulties and expenditures. In particular, we may encounter difficulties or delays in assimilating or integrating the businesses, technologies, products, personnel or operations of the acquired companies, particularly if the key personnel of the acquired company choose not to work for us, their products or services are not easily adapted to work with our platform, or we have difficulty retaining the customers of any acquired business due to changes in ownership, management or otherwise. In addition, we may discover liabilities or deficiencies associated with the assets or companies we acquire or ineffective or inadequate controls, procedures or policies at an acquired business that were not identified in advance, any of which could result in significant unanticipated costs. Acquisitions also may disrupt our business, divert our resources or require significant management attention that would otherwise be available for development of our existing business. Moreover, the anticipated benefits of any acquisition, investment or business relationship may not be realized or we may be exposed to unknown risks or liabilities.

Negotiating these transactions can be time consuming, difficult and expensive, and our ability to complete these transactions may often be subject to approvals that are beyond our control. Consequently, these transactions, even if announced, may not be completed. For one or more of those transactions, we may:

- issue additional equity securities that would dilute our existing stockholders;
- use cash that we may need in the future to operate our business;
- incur large charges or substantial liabilities;
- incur debt on terms unfavorable to us or that we are unable to repay;
- encounter difficulties retaining key employees of the acquired company or integrating diverse software codes or business cultures;
- encounter difficulties retaining the acquired company's customers; or
- become subject to adverse tax consequences, substantial depreciation, or deferred compensation charges.

The occurrence of any of these foregoing could adversely affect our business, results of operations and financial condition.

***We depend largely on the continued services of our senior management and other key employees, the loss of any of whom could adversely affect our business, results of operations and financial condition.***

Our future performance depends on the continued services and contributions of our senior management and other key employees to execute on our business plan, to develop our products and platform, to deliver our products to customers, to attract and retain customers and to identify and pursue opportunities. The loss of services of senior management or other key employees could significantly delay or prevent the achievement of our development and strategic objectives. In particular, we depend to a considerable degree on the vision, skills, experience and effort of our co-founder and Chief Executive Officer, Jeff Lawson. None of our executive officers or other senior management personnel is bound by a written employment agreement and any of them may terminate employment with us at any time with no advance notice. The replacement of any of our senior management personnel would likely involve significant time and costs, and such loss could significantly delay or prevent the achievement of our business objectives. The loss of the services of any of our senior management or other key employees for any reason could adversely affect our business, results of operations and financial condition.



***If we are unable to hire, retain and motivate qualified personnel, our business will suffer.***

Our future success depends, in part, on our ability to continue to attract and retain highly skilled personnel. We believe that there is, and will continue to be, intense competition for highly skilled management, technical, sales and other personnel with experience in our industry in the San Francisco Bay Area, where our headquarters are located, and in other locations where we maintain offices. We must provide competitive compensation packages and a high quality work environment to hire, retain and motivate employees. If we are unable to retain and motivate our existing employees and attract qualified personnel to fill key positions, we may be unable to manage our business effectively, including the development, marketing and sale of our products, which could adversely affect our business, results of operations and financial condition. To the extent we hire personnel from competitors, we also may be subject to allegations that they have been improperly solicited or divulged proprietary or other confidential information.

Volatility in, or lack of performance of, our stock price may also affect our ability to attract and retain key personnel. Many of our key personnel are, or will soon be, vested in a substantial number of shares of Class A common stock or stock options. Employees may be more likely to terminate their employment with us if the shares they own or the shares underlying their vested options have significantly appreciated in value relative to the original purchase prices of the shares or the exercise prices of the options, or, conversely, if the exercise prices of the options that they hold are significantly above the trading price of our Class A common stock. If we are unable to retain our employees, our business, results of operations and financial condition could be adversely affected.

***United States federal legislation and international laws impose certain obligations on the senders of commercial emails, which could minimize the effectiveness of our platform, and establish financial penalties for non-compliance, which could increase the costs of our business.***

The Federal Controlling the Assault of Non-Solicited Pornography and Marketing Act of 2003, or the CAN-SPAM Act, establishes certain requirements for commercial email messages and transactional email messages and specifies penalties for the transmission of email messages that are intended to deceive the recipient as to source or content. Among other things, the CAN-SPAM Act, obligates the sender of commercial emails to provide recipients with the ability to "opt-out" of receiving future commercial emails from the sender. In addition, some states have passed laws regulating commercial email practices that are significantly more restrictive and difficult to comply with than the CAN-SPAM Act. For example, Utah and Michigan prohibit the sending of email messages that advertise products or services that minors are prohibited by law from purchasing (e.g., alcoholic beverages, tobacco products, illegal drugs) or that contain content harmful to minors (e.g., pornography) to email addresses listed on specified child protection registries. Some portions of these state laws may not be preempted by the CAN-SPAM Act. In addition, certain non-U.S. jurisdictions in which we operate have enacted laws regulating the sending of email that are more restrictive than U.S. laws. For example, some foreign laws prohibit sending broad categories of email unless the recipient has provided the sender advance consent to receipt of such email, or in other words has "opted-in" to receiving such email. If we were found to be in violation of the CAN-SPAM Act, applicable state laws governing email not preempted by the CAN-SPAM Act or foreign laws regulating the distribution of email, whether as a result of violations by our customers or our own acts or omissions, we could be required to pay large penalties, which would adversely affect our financial condition, significantly harm our business, injure our reputation and erode customer trust. The terms of any injunctions, judgments, consent decrees or settlement agreements entered into in connection with enforcement actions or investigations against our company in connection with any of the foregoing laws may also require us to change one or more aspects of the way we operate our business, which could impair our ability to attract and retain customers or could increase our operating costs.

***Our customers' and other users' violation of our policies or other misuse of our platform to transmit unauthorized, offensive or illegal messages, spam, phishing scams, and website links to harmful applications or for other fraudulent or illegal activity could damage our reputation, and we may face a risk of litigation and liability for illegal activities on our platform and unauthorized, inaccurate, or fraudulent information distributed via our platform.***

The actual or perceived improper sending of text messages or voice calls may subject us to potential risks, including liabilities or claims relating to consumer protection laws and regulatory enforcement, including fines. For example, the Telephone Consumer Protection Act of 1991 restricts telemarketing and the use of automatic SMS text messages without explicit customer consent. This has resulted in civil claims against our company and requests for information through third-party subpoenas. The scope and interpretation of the laws that are or may be applicable to the delivery of text messages or voice calls are continuously evolving and developing. If we do not comply with these laws or regulations or if we become liable under these laws or regulations due to the failure of our customers to comply with these laws by obtaining proper consent, we could face direct liability.

Moreover, despite our ongoing and substantial efforts to limit such use, certain customers may use our platform to transmit unauthorized, offensive or illegal messages, calls, spam, phishing scams, and website links to harmful applications, reproduce and distribute copyrighted material or the trademarks of others without permission, and report inaccurate or fraudulent data or information. These issues also arise with respect to a portion of those users who use our platform on a free trial basis or upon initial use. These actions are in violation of our policies, in particular, our Acceptable Use Policy. However, our efforts to defeat spamming attacks, illegal robocalls and other fraudulent activity will not prevent all such attacks and activity. Such use of our platform could damage our reputation and we could face claims for damages, regulatory enforcement, copyright or trademark infringement, defamation, negligence, or fraud. Moreover, our customers' and other users' promotion of their products and services through our platform might not comply with federal, state, and foreign laws. We rely on contractual representations made to us by our customers that their use of our platform will comply with our policies and applicable law, including, without limitation, our email and messaging policies. Although we retain the right to verify that customers and other users are abiding by certain contractual terms, our Acceptable Use Policy and our email and messaging policies and, in certain circumstances, to review their email and distribution lists, our customers and other users are ultimately responsible for compliance with our policies, and we do not systematically audit our customers or other users to confirm compliance with our policies. We cannot predict whether our role in facilitating our customers' or other users' activities would expose us to liability under applicable law. Even if claims asserted against us do not result in liability, we may incur substantial costs in investigating and defending such claims. If we are found liable for our customers' or other users' activities, we could be required to pay fines or penalties, redesign business methods or otherwise expend resources to remedy any damages caused by such actions and to avoid future liability.

***Our use of open source software could negatively affect our ability to sell our products and subject us to possible litigation.***

Our products and platform incorporate open source software, and we expect to continue to incorporate open source software in our products and platform in the future. Few of the licenses applicable to open source software have been interpreted by courts, and there is a risk that these licenses could be construed in a manner that could impose unanticipated conditions or restrictions on our ability to commercialize our products and platform. Moreover, although we have implemented policies to regulate the use and incorporation of open source software into our products and platform, we cannot be certain that we have not incorporated open source software in our products or platform in a manner that is inconsistent with such policies. If we fail to comply with open source licenses, we may be subject to certain requirements, including requirements that we offer our products that incorporate the open source software for no cost, that we make available source code for modifications or derivative works we create based upon, incorporating or using the open source software and that we license such modifications or derivative works under the terms of applicable open source licenses. If an author or other third party that distributes such open source software were to allege that we had not complied with the conditions of one or more of these licenses, we could be required to incur significant legal expenses defending against such allegations and could be subject to significant damages, enjoined from generating revenue from customers using products that contained the open source software and required to comply with onerous conditions or restrictions on these products. In any of these events, we and our customers could be required to seek licenses from third parties in order to continue offering our products and platform and to re-engineer our products or platform or discontinue offering our products to customers in the event re-engineering cannot be accomplished on a timely basis. Any of the foregoing could require us to devote additional research and development resources to re-engineer our products or platform, could result in customer dissatisfaction and may adversely affect our business, results of operations and financial condition.

***Changes in laws and regulations related to the Internet or changes in the Internet infrastructure itself may diminish the demand for our products, and could adversely affect our business, results of operations and financial condition.***

The future success of our business depends upon the continued use of the Internet as a primary medium for commerce, communications and business applications. Federal, state or foreign government bodies or agencies have in the past adopted, and may in the future adopt, laws or regulations affecting the use of the Internet as a commercial medium. Changes in these laws or regulations could require us to modify our products and platform in order to comply with these changes. In addition, government agencies or private organizations have imposed and may impose additional taxes, fees or other charges for accessing the Internet or commerce conducted via the Internet. These laws or charges could limit the growth of Internet-related commerce or communications generally or result in reductions in the demand for Internet-based products and services such as our products and platform. In addition, the use of the Internet as a business tool could be adversely affected due to delays in the development or adoption of new standards and protocols to handle increased demands of Internet activity, security, reliability, cost, ease-of-use, accessibility and quality of service. The performance of the Internet and its acceptance as a business tool has been adversely affected by "viruses", "worms", and similar malicious programs. If the use of the Internet is reduced as a result of these or other issues, then demand for our products could decline, which could adversely affect our business, results of operations and financial condition.

***The standards that private entities and inbox service providers use to regulate the use and delivery of email have in the past interfered with, and may in the future interfere with, the effectiveness of our platform and our ability to conduct business.***

Some of our customers rely on email for commercial solicitation. Other private entities often advocate standards of conduct or practice that significantly exceed current legal requirements and classify certain solicitations that comply with current legal requirements as spam. Some of these entities maintain “blacklists” of companies and individuals, and the websites, inbox service providers and IP addresses associated with those entities or individuals that do not adhere to those standards of conduct or practices for commercial solicitations that the blacklisting entity believes are appropriate. If a company’s IP addresses are listed by a blacklisting entity, emails sent from those addresses may be blocked if they are sent to any internet domain or internet address that subscribes to the blacklisting entity’s service or uses its blacklist.

From time to time, some of our IP addresses have become, and we expect will continue to be, listed with one or more blacklisting entities due to the messaging practices of our customers and other users. We may be at an increased risk of having our IP addresses blacklisted due to our scale and volume of email processed, compared to our smaller competitors. While the overall percentage of such email solicitations that our individual customers send may be at or below reasonable standards, the total aggregate number of all emails that we process on behalf of our customers may trigger increased scrutiny from these blacklisting entities. There can be no guarantee that we will be able to successfully remove ourselves from those lists. Because we fulfill email delivery on behalf of our customers, blacklisting of this type could undermine the effectiveness of our customers’ transactional email, email marketing programs and other email communications, all of which could have a material negative impact on our business, financial condition and results of operations.

Additionally, inbox service providers can block emails from reaching their users. While we continually improve our own technology and work closely with inbox service providers to maintain our deliverability rates, the implementation of new or more restrictive policies by inbox service providers may make it more difficult to deliver our customers’ emails, particularly if we are not given adequate notice of a change in policy or struggle to update our platform or services to comply with the changed policy in a reasonable amount of time. In addition, some inbox service providers categorize as “promotional” emails that originate from email service providers and, as a result, direct them to an alternate or “tabbed” section of the recipient’s inbox. If inbox service providers materially limit or halt the delivery of our customers’ emails, or if we fail to deliver our customers’ emails in a manner compatible with inbox service providers’ email handling or authentication technologies or other policies, or if the open rates of our customers’ emails are negatively impacted by the actions of inbox service providers to categorize emails, then customers may question the effectiveness of our platform and cancel their accounts. This, in turn, could harm our business, financial condition and results of operations.

***We may be subject to governmental export controls and economic sanctions regulations that could impair our ability to compete in international markets due to licensing requirements and could subject us to liability if we are not in compliance with applicable laws.***

Certain of our products and services may be subject to export control and economic sanctions regulations, including the U.S. Export Administration Regulations, U.S. Customs regulations and various economic and trade sanctions regulations administered by the U.S. Treasury Department’s Office of Foreign Assets Controls. Exports of our products and the provision of our services must be made in compliance with these laws and regulations. Although we take precautions to prevent our products from being provided in violation of such laws, we are aware of previous exports of certain of our products to a small number of persons and organizations that are the subject of U.S. sanctions or located in countries or regions subject to U.S. sanctions. If we fail to comply with these laws and regulations, we and certain of our employees could be subject to substantial civil or criminal penalties, including: the possible loss of export privileges; fines, which may be imposed on us and responsible employees or managers; and, in extreme cases, the incarceration of responsible employees or managers. Obtaining the necessary authorizations, including any required license, for a particular deployment may be time-consuming, is not guaranteed and may result in the delay or loss of sales opportunities. In addition, changes in our products or services, or changes in applicable export or economic sanctions regulations may create delays in the introduction and deployment of our products and services in international markets, or, in some cases, prevent the export of our products or provision of our services to certain countries or end users. Any change in export or economic sanctions regulations, shift in the enforcement or scope of existing regulations, or change in the countries, governments, persons or technologies targeted by such regulations, could also result in decreased use of our products and services, or in our decreased ability to export our products or provide our services to existing or prospective customers with international operations. Any decreased use of our products and services or limitation on our ability to export our products and provide our services could adversely affect our business, results of operations and financial condition.

Further, we incorporate encryption technology into certain of our products. Various countries regulate the import of certain encryption technology, including through import permitting and licensing requirements, and have enacted laws that could limit our customers' ability to import our products into those countries. Encryption products and the underlying technology may also be subject to export control restrictions. Governmental regulation of encryption technology and regulation of exports of encryption products, or our failure to obtain required approval for our products, when applicable, could harm our international sales and adversely affect our revenue. Compliance with applicable regulatory requirements regarding the export of our products and provision of our services, including with respect to new releases of our products and services, may create delays in the introduction of our products and services in international markets, prevent our customers with international operations from deploying our products and using our services throughout their globally-distributed systems or, in some cases, prevent the export of our products or provision of our services to some countries altogether.

***Our reliance on SaaS technologies from third parties may adversely affect our business, results of operations and financial condition.***

We rely on hosted SaaS technologies from third parties in order to operate critical internal functions of our business, including enterprise resource planning, customer support and customer relations management services. If these services become unavailable due to extended outages or interruptions, or because they are no longer available on commercially reasonable terms or prices, our expenses could increase. As a result, our ability to manage our operations could be interrupted and our processes for managing our sales process and supporting our customers could be impaired until equivalent services, if available, are identified, obtained and implemented, all of which could adversely affect our business, results of operations and financial condition.

***We may have additional tax liabilities, which could harm our business, results of operations and financial condition.***

Significant judgments and estimates are required in determining our provision for income taxes and other tax liabilities. Our tax expense may be impacted, for example, if tax laws change or are clarified to our detriment or if tax authorities successfully challenge the tax positions that we take, such as, for example, positions relating to the arms-length pricing standards for our intercompany transactions and our sales and use tax positions. In determining the adequacy of income taxes, we assess the likelihood of adverse outcomes that could result if our tax positions were challenged by the Internal Revenue Service ("IRS"), and other tax authorities. Should the IRS or other tax authorities assess additional taxes as a result of examinations, we may be required to record charges to operations that could adversely affect our results of operations and financial condition. We are currently in discussions with certain jurisdictions regarding prior sales taxes that we may owe. We have reserved \$28.1 million on our June 30, 2020 balance sheet for these tax payments. The actual exposure could differ materially from our current estimates, and if the actual payments we make to any jurisdiction exceed the accrual in our balance sheet, our results of operations would be harmed. For example, one jurisdiction has assessed us for \$38.8 million in taxes, including interest and penalties, which exceeded the \$11.5 million we had accrued as of June 30, 2020. We believe this assessment is overstated and have disputed it, paid the full amount as required by law, and are seeking a refund. The payment made in excess of the accrued amount will be reflected as a deposit in our balance sheet in the future periods. If the jurisdiction denies our refund claim, we will challenge the jurisdiction's denial in court. However, litigation is uncertain and a ruling against us may adversely affect our financial position and results of operation.

***We could be subject to liability for historical and future sales, use and similar taxes, which could adversely affect our results of operations.***

We conduct operations in many tax jurisdictions throughout the United States. In many of these jurisdictions, non-income-based taxes, such as sales, use, and telecommunications taxes, are assessed on our operations. We are subject to indirect taxes, and may be subject to certain other taxes, in some of these jurisdictions. Historically, we have not billed or collected these taxes and, in accordance with generally accepted accounting principles in the United States ("U.S. GAAP"), we have recorded a provision for our tax exposure in these jurisdictions when it is both probable that a liability has been incurred and the amount of the exposure can be reasonably estimated. These estimates include several key assumptions, including, but not limited to, the taxability of our products, the jurisdictions in which we believe we have nexus, and the sourcing of revenues to those jurisdictions. In the event these jurisdictions challenge our assumptions and analysis, our actual exposure could differ materially from our current estimates.

We have been and may continue to be subject to scrutiny from tax authorities in various jurisdictions and may have additional exposure related to our historical operations. Furthermore, certain jurisdictions in which we do not collect such taxes have in the past and may in the future assert that such taxes are applicable, which could result in tax assessments, penalties and interest, and we may be required to collect such taxes in the future. Such tax assessments, penalties and interest or future

requirements may adversely affect our business, the prices at which we are able to offer our services, our results of operations and financial condition.

Effective March 2017, we began collecting certain telecommunications-based taxes from our customers in certain jurisdictions. Since then, we have added more jurisdictions where we collect these taxes and we expect to continue expanding the number of jurisdictions in which we will collect these taxes in the future. We are also in discussions with certain jurisdictions regarding our prior sales and other taxes, if any, that we may owe. In the event any of these jurisdictions disagree with management's assumptions and analysis, the assessment of our tax exposure could differ materially from management's current estimates. Some customers may question the incremental tax charges and some may seek to negotiate lower pricing from us, which could adversely affect our business, results of operations and financial condition.

***Our global operations and structure subject us to potentially adverse tax consequences.***

We generally conduct our global operations through subsidiaries and report our taxable income in various jurisdictions worldwide based upon our business operations in those jurisdictions. In particular, our intercompany relationships are subject to complex transfer pricing regulations administered by taxing authorities in various jurisdictions. Also, our tax expense could be affected depending on the applicability of withholding and other taxes (including withholding and indirect taxes on software licenses and related intercompany transactions) under the tax laws of certain jurisdictions in which we have business operations. The relevant revenue and taxing authorities may disagree with positions we have taken generally, or our determinations as to the value of assets sold or acquired or income and expenses attributable to specific jurisdictions. If such a disagreement were to occur, and our position were not sustained, we could be required to pay additional taxes, interest and penalties, which could result in one-time tax charges, higher effective tax rates, reduced cash flows and lower overall profitability of our operations.

Certain government agencies in jurisdictions where we and our affiliates do business have had an extended focus on issues related to the taxation of multinational companies. In addition, the Organization for Economic Co-operation and Development is conducting a project focused on base erosion and profit shifting in international structures, which seeks to establish certain international standards for taxing the worldwide income of multinational companies. As a result of these developments, the tax laws of certain countries in which we and our affiliates do business could change on a prospective or retroactive basis, and any such changes could increase our liabilities for taxes, interest and penalties, and therefore could harm our business, cash flows, results of operations and financial position.

***Changes in the U.S. taxation of international business activities or the adoption of other tax reform policies could materially impact our business, results of operations and financial condition.***

Changes to U.S. tax laws that may be enacted in the future could impact the tax treatment of our foreign earnings. Due to the expansion of our international business activities, any changes in the U.S. taxation of such activities may increase our worldwide effective tax rate and adversely affect our business, results of operations and financial condition.

***If we experience excessive credit card or fraudulent activity, we could incur substantial costs.***

Most of our customers authorize us to bill their credit card accounts directly for service fees that we charge. If people pay for our services with stolen credit cards, we could incur substantial third-party vendor costs for which we may not be reimbursed. Further, our customers provide us with credit card billing information online, and we do not review the physical credit cards used in these transactions, which increases our risk of exposure to fraudulent activity. We also incur charges, which we refer to as chargebacks, from the credit card companies from claims that the customer did not authorize the credit card transaction to purchase our services. If the number of unauthorized credit card transactions becomes excessive, we could be assessed substantial fines for excess chargebacks, and we could lose the right to accept credit cards for payment.

Our products may also be subject to fraudulent usage, including but not limited to revenue share fraud, domestic traffic pumping, subscription fraud, premium text message scams and other fraudulent schemes. Although our customers are required to set passwords or personal identification numbers to protect their accounts, third parties have in the past been, and may in the future be, able to access and use their accounts through fraudulent means. Furthermore, spammers attempt to use our products to send targeted and untargeted spam messages. We cannot be certain that our efforts to defeat spamming attacks will be successful in eliminating all spam messages from being sent using our platform. In addition, a cybersecurity breach of our customers' systems could result in exposure of their authentication credentials, unauthorized access to their accounts or fraudulent calls on their accounts, any of which could adversely affect our business, results of operations and financial condition.

***Unfavorable conditions in our industry or the global economy or reductions in spending on information technology and communications could adversely affect our business, results of operations and financial condition.***

Our results of operations may vary based on the impact of changes in our industry or the global economy on our customers. Our results of operations depend in part on demand for information technology and cloud communications. In addition, our revenue is dependent on the usage of our products, which in turn is influenced by the scale of business that our customers are conducting. To the extent that weak economic conditions, geopolitical developments, such as existing and potential trade wars, and other events outside of our control such as the COVID-19 pandemic, result in a reduced volume of business for, and communications by, our customers and prospective customers, demand for, and use of, our products may decline. Furthermore, weak economic conditions may make it more difficult to collect on outstanding accounts receivable. Additionally, historically, we have generated the substantial majority of our revenue from small and medium-sized businesses, and we expect this to continue for the foreseeable future. Small and medium-sized business may be affected by economic downturns to a greater extent than enterprises, and typically have more limited financial resources, including capital borrowing capacity, than enterprises. If our customers reduce their use of our products, or prospective customers delay adoption or elect not to adopt our products, as a result of a weak economy, this could adversely affect our business, results of operations and financial condition.

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

We intend to continue to make investments to support our business and may require additional funds. In particular, we may seek additional funds to develop new products and enhance our platform and existing products, expand our operations, including our sales and marketing organizations and our presence outside of the United States, improve our infrastructure or acquire complementary businesses, technologies, services, products and other assets. In addition, we may use a portion of our cash to satisfy tax withholding and remittance obligations related to outstanding restricted stock units. Accordingly, we may need to engage in equity or debt financings to secure additional funds. If we raise additional funds through future issuances of equity or convertible debt securities, our stockholders could suffer significant dilution, and any new equity securities we issue could have rights, preferences and privileges superior to those of holders of our Class A and Class B common stock. Any debt financing that we may secure in the future could involve restrictive covenants relating to our capital raising activities and other financial and operational matters, which may make it more difficult for us to obtain additional capital and to pursue business opportunities. We may not be able to obtain additional financing on terms favorable to us, if at all. If we are unable to obtain adequate financing or financing on terms satisfactory to us when we require it, our ability to continue to support our business growth, scale our infrastructure, develop product enhancements and to respond to business challenges could be significantly impaired, and our business, results of operations and financial condition may be adversely affected.

***We face exposure to foreign currency exchange rate fluctuations, and such fluctuations could adversely affect our business, results of operations and financial condition.***

As our international operations expand, our exposure to the effects of fluctuations in currency exchange rates grows. For example, global political events, including Brexit, trade tariff developments and other geopolitical events have caused global economic uncertainty and variability in foreign currency exchange rates. While we have primarily transacted with customers and business partners in U.S. dollars, we have transacted with customers in Australian dollar, Brazilian real, British pounds, euro, Japanese yen, and Swedish krona. We expect to significantly expand the number of transactions with customers that are denominated in foreign currencies in the future as we continue to expand our business internationally. We also incur expenses for some of our network service provider costs outside of the United States in local currencies and for employee compensation and other operating expenses at our non-U.S. locations in the local currency for such locations. Fluctuations in the exchange rates between the U.S. dollar and other currencies could result in an increase to the U.S. dollar equivalent of such expenses.

In addition, our international subsidiaries maintain net assets that are denominated in currencies other than the functional operating currencies of these entities. As we continue to expand our international operations, we become more exposed to the effects of fluctuations in currency exchange rates. Accordingly, changes in the value of foreign currencies relative to the U.S. dollar can affect our results of operations due to transactional and translational remeasurements. As a result of such foreign currency exchange rate fluctuations, it could be more difficult to detect underlying trends in our business and results of operations. In addition, to the extent that fluctuations in currency exchange rates cause our results of operations to differ from our expectations or the expectations of our investors and securities analysts who follow our stock, the trading price of our Class A common stock could be adversely affected.

We do not currently maintain a program to hedge transactional exposures in foreign currencies. However, in the future, we may use derivative instruments, such as foreign currency forward and option contracts, to hedge certain exposures to

fluctuations in foreign currency exchange rates. The use of such hedging activities may not offset any or more than a portion of the adverse financial effects of unfavorable movements in foreign exchange rates over the limited time the hedges are in place. Moreover, the use of hedging instruments may introduce additional risks if we are unable to structure effective hedges with such instruments.

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

As of December 31, 2019, we had federal, state and foreign net operating loss carryforwards (“NOLs”), of \$1,159.3 million, \$630.2 million and \$13.8 million, respectively. In the year ended December 31, 2019, as a result of our SendGrid acquisition, we assumed a \$56.2 million deferred tax liability, as described in Notes 6 and 16 to our consolidated financial statements included in our Annual Report on Form 10-K filed with the SEC on March 2, 2020. In general, under Section 382 of the Internal Revenue Code of 1986, as amended (the “Code”), a corporation that undergoes an “ownership change” (generally defined as a greater than 50-percentage-point cumulative change (by value) in the equity ownership of certain stockholders over a rolling three-year period) is subject to limitations on its ability to utilize its pre-change NOLs to offset post-change taxable income. Our existing NOLs may be subject to limitations arising from previous ownership changes, and if we undergo an ownership change in the future, our ability to utilize NOLs could be further limited by Section 382 of the Code. Future changes in our stock ownership, some of which may be outside of our control, could result in an ownership change under Section 382 of the Code.

On December 22, 2017, the U.S. government enacted new tax legislation commonly referred to as the Tax Cuts and Jobs Act (the “Tax Act”). The Tax Act makes broad and complex changes to the U.S. tax code including changes to the uses and limitations of net operating losses. For example, while the Tax Act allows for federal net operating losses incurred in tax years beginning after December 31, 2017 to be carried forward indefinitely, the Tax Act also imposes an 80% limitation on the use of net operating losses that are generated in tax years beginning after December 31, 2017. Net operating losses generated prior to December 31, 2017 still have a 20-year carryforward period and are not subject to 80% limitation. The CARES Act enacted on March 27, 2020 permits a full five-year carryback of net operating losses arising in tax years beginning after December 31, 2017 and before January 1, 2021. This provision does not impact us since we have net operating losses in the applicable tax years. Our ability to utilize net operating loss carryforwards depends on existence of sufficient taxable income of the appropriate character within the carryforward period. Based on all available evidence, other than future taxable income from reversing taxable temporary differences, we have no other sources of taxable income that are objectively verifiable. As such, net operating loss carryforwards generated prior to December 31, 2017, could expire unused and net operating losses arising after December 31, 2017, while can be carried forward indefinitely, are also not more likely than not to be realized due to lack of taxable income.

***If our estimates or judgments relating to our critical accounting policies prove to be incorrect, our results of operations could be adversely affected.***

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, as provided in Part I, Item 2, “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” The results of these estimates form the basis for making judgments about the carrying values of assets, liabilities and equity, and the amount of revenue and expenses that are not readily apparent from other sources. Assumptions and estimates used in preparing our consolidated financial statements include those related to revenue recognition and business combinations. Our results of operations may be adversely affected if our assumptions change or if actual circumstances differ from those in our assumptions, which could cause our results of operations to fall below the expectations of securities analysts and investors, resulting in a decline in the trading price of our Class A common stock.

***Changes in financial accounting standards or practices may cause adverse, unexpected financial reporting fluctuations and affect our results of operations.***

A change in accounting standards or practices may have a significant effect on our results of operations and may even affect our reporting of transactions completed before the change is effective. New accounting pronouncements and varying interpretations of accounting pronouncements have occurred and may occur in the future. Changes to existing rules or the questioning of current practices may adversely affect our reported financial results or the way we conduct our business.

For example, a new accounting guidance, Accounting Standards Codification (“ASC”) 842, “Leases”, became effective January 1, 2019. The adoption of this new guidance had a significant impact on our balance sheet as described in detail in Notes 2 and 5 to our consolidated financial statements included in our Annual Report on Form 10-K filed with the SEC on March 2,

2020. Adoption of these types of accounting standards and any difficulties in implementation of changes in accounting principles, including the ability to modify our accounting systems, could cause us to fail to meet our financial reporting obligations, which result in regulatory discipline and harm investors' confidence in us.

***If we fail to maintain an effective system of disclosure controls and internal control over financial reporting, our ability to produce timely and accurate financial statements or comply with applicable regulations could be impaired.***

As a public company, we are required to maintain internal control over financial reporting and to report any material weaknesses in such internal control. Section 404 of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, requires that we evaluate and determine the effectiveness of our internal control over financial reporting and provide a management report on internal control over financial reporting. A material weakness is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our financial statements will not be prevented or detected on a timely basis.

We reported in our Annual Report on Form 10-K as of December 31, 2017, a material weakness related to the tracking of qualifying internal use software development costs eligible for capitalization. During 2018, we completed the remediation measures related to our previously reported material weakness and have concluded that our internal control over financial reporting was effective as of December 31, 2018 and 2019. However, completion of remediation does not provide assurance that our remediated controls will continue to operate properly or that our financial statements will be free from error.

Our current controls and any new controls that we develop may become inadequate because of changes in conditions in our business. Further, weaknesses in our disclosure controls and internal control over financial reporting may be discovered in the future. Any failure to develop or maintain effective controls or any difficulties encountered in their implementation or improvement could harm our results of operations or cause us to fail to meet our reporting obligations and may result in a restatement of our financial statements for prior periods. Any failure to implement and maintain effective internal control over financial reporting also could adversely affect the results of periodic management evaluations and annual independent registered public accounting firm attestation reports regarding the effectiveness of our internal control over financial reporting that we are required to include in our periodic reports that will be filed with the SEC. Ineffective disclosure controls and procedures and internal control over financial reporting could also cause investors to lose confidence in our reported financial and other information, and could have a material and adverse effect on our business, results of operations and financial condition and could cause a decline in the trading price of our Class A common stock. In addition, if we are unable to continue to meet these requirements, we may not be able to remain listed on the New York Stock Exchange.

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

We review our intangible assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. Goodwill is required to be tested for impairment at least annually. As of June 30, 2020, we carried a net \$2,716.4 million of goodwill and intangible assets. An adverse change in market conditions, particularly if such change has the effect of changing one of our critical assumptions or estimates, could result in a change to the estimation of fair value that could result in an impairment charge to our goodwill or intangible assets. Any such charges may adversely affect our results of operations.

***Our business is subject to the risks of pandemics, earthquakes, fire, floods and other natural catastrophic events, and to interruption by man-made problems such as power disruptions, computer viruses, data security breaches or terrorism.***

Our corporate headquarters are located in the San Francisco Bay Area, a region known for seismic activity. A significant natural disaster, such as an earthquake, fire or flood, occurring at our headquarters, at one of our other facilities or where a business partner is located could adversely affect our business, results of operations and financial condition. Further, if a natural disaster or man-made problem were to affect our service providers, this could adversely affect the ability of our customers to use our products and platform. In addition, natural disasters, pandemics and acts of terrorism could cause disruptions in our or our customers' businesses, national economies or the world economy as a whole. For example, the rapid spread of coronavirus (COVID-19) globally has resulted in increased travel restrictions and disruption and shutdown of businesses. Health concerns or political or governmental developments in countries in which we or our customers, partners and service providers operate could result in economic, social or labor instability and could have a material adverse effect on our business and our results of operations and financial condition. The extent to which the coronavirus impacts our results will depend on future developments, which are highly uncertain and will include emerging information concerning the severity of the coronavirus and the actions taken by governments and private businesses to attempt to contain the coronavirus. Any prolonged contractions in the travel and hospitality industries, along with any effects on supply chain or on other industries in which our customers operate, could materially and adversely impact our business, results of operations and financial condition.



We also rely on our network and third-party infrastructure and enterprise applications and internal technology systems for our engineering, sales and marketing, and operations activities. Although we maintain incident management and disaster response plans, in the event of a major disruption caused by a natural disaster or man-made problem, we may be unable to continue our operations and may endure system interruptions, reputational harm, delays in our development activities, lengthy interruptions in service, breaches of data security and loss of critical data, any of which could adversely affect our business, results of operations and financial condition.

In addition, computer malware, viruses and computer hacking, fraudulent use attempts and phishing attacks have become more prevalent in our industry, have occurred on our platform in the past and may occur on our platform in the future. Though it is difficult to determine what, if any, harm may directly result from any specific interruption or attack, any failure to maintain performance, reliability, security, integrity and availability of our products and technical infrastructure to the satisfaction of our users may harm our reputation and our ability to retain existing users and attract new users.

### **Risks Related to Ownership of Our Class A Common Stock**

***The trading price of our Class A common stock has been volatile and may continue to be volatile, and you could lose all or part of your investment.***

Prior to our initial public offering in June 2016, there was no public market for shares of our Class A common stock. On June 23, 2016, we sold shares of our Class A common stock to the public at \$15.00 per share. From June 23, 2016, the date that our Class A common stock started trading on the New York Stock Exchange, through June 30, 2020, the trading price of our Class A common stock has ranged from \$22.80 per share to \$222.38 per share. The trading price of our Class A common stock may continue to fluctuate significantly in response to numerous factors, many of which are beyond our control, including:

- price and volume fluctuations in the overall stock market from time to time;
- volatility in the trading prices and trading volumes of technology stocks;
- changes in operating performance and stock market valuations of other technology companies generally, or those in our industry in particular;
- sales of shares of our Class A common stock by us or our stockholders;
- failure of securities analysts to maintain coverage of us, changes in financial estimates by securities analysts who follow our company, or our failure to meet these estimates or the expectations of investors;
- the financial projections we may provide to the public, any changes in those projections or our failure to meet those projections;
- announcements by us or our competitors of new products or services;
- the public's reaction to our press releases, other public announcements and filings with the SEC;
- rumors and market speculation involving us or other companies in our industry;
- changes in laws, industry standards, regulations or regulatory enforcement in the United States or internationally, the General Data Protection Regulation ("GDPR"), the California Consumer Privacy Act of 2018 and other privacy regulations that may be implemented in the future, including the Schrems II decision invalidating the EU-U.S. Privacy Shield, SHAKEN/STIR and other robocalling prevention and anti-spam standards and increased costs associated with such compliance, as well as enhanced Know-Your-Client processes that impact our ability to market, sell or deliver our products;
- actual or anticipated changes in our results of operations or fluctuations in our results of operations;
- actual or anticipated developments in our business, our competitors' businesses or the competitive landscape generally;
- litigation involving us, our industry or both, or investigations by regulators into our operations or those of our competitors;

- developments or disputes concerning our intellectual property or other proprietary rights;
- announced or completed acquisitions of businesses, products, services or technologies by us or our competitors;
- changes in accounting standards, policies, guidelines, interpretations or principles;
- any significant change in our management; and
- general economic conditions and slow or negative growth of our markets.

In addition, in the past, 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. This litigation, if instituted against us, could result in substantial costs and a diversion of our management's attention and resources.

***Substantial future sales of shares of our Class A common stock could cause the market price of our Class A common stock to decline.***

The market price of our Class A common stock could decline as a result of substantial sales of our Class A common stock, particularly sales by our directors, executive officers and significant stockholders, or the perception in the market that holders of a large number of shares intend to sell their shares.

Additionally, the shares of Class A common stock subject to outstanding options and restricted stock unit awards under our equity incentive plans and the shares reserved for future issuance under our equity incentive plans will become eligible for sale in the public market upon issuance, subject to applicable insider trading policies. Certain holders of our Class A common stock have rights, subject to some conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for our stockholders or ourselves.

***The dual class structure of our common stock has the effect of concentrating voting control with those stockholders who held our capital stock prior to the completion of our initial public offering, including our directors, executive officers and their respective affiliates. This limits or precludes your ability to influence corporate matters, including the election of directors, amendments of our organizational documents and any merger, consolidation, sale of all or substantially all of our assets, or other major corporate transaction requiring stockholder approval.***

Our Class B common stock has 10 votes per share, and our Class A common stock has one vote per share. As of June 30, 2020, our directors, executive officers and their respective affiliates, held in the aggregate 27.5% of the voting power of our capital stock. Because of the 10-to-one voting ratio between our Class B common stock and Class A common stock, the holders of our Class B common stock collectively will continue to control a majority of the combined voting power of our common stock and therefore be able to control all matters submitted to our stockholders for approval until the earlier of (i) June 28, 2023, or (ii) the date the holders of two-thirds of our Class B common stock elect to convert the Class B common stock to Class A common stock. This concentrated control limits or precludes your ability to influence corporate matters for the foreseeable future, including the election of directors, amendments of our organizational documents, and any merger, consolidation, sale of all or substantially all of our assets, or other major corporate transaction requiring stockholder approval. In addition, this may prevent or discourage unsolicited acquisition proposals or offers for our capital stock that you may feel are in your best interest as one of our stockholders.

Future transfers by holders of Class B common stock will generally result in those shares converting to Class A common stock, subject to limited exceptions, such as certain transfers effected for estate planning purposes. The conversion of Class B common stock to Class A common stock will have the effect, over time, of increasing the relative voting power of those holders of Class B common stock who retain their shares in the long term.

***If securities or industry analysts cease publishing research or reports about us, our business or our market, or if they change their recommendations regarding our Class A common stock adversely, the trading price of our Class A common stock and trading volume could decline.***

The trading market for our Class A common stock is influenced by the research and reports that securities or industry analysts may publish about us, our business, our market or our competitors. If any of the analysts who cover us change their recommendation regarding our Class A common stock adversely, or provide more favorable relative recommendations about our competitors, the trading price of our Class A common stock would likely decline. If any analyst who covers us were to

cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause the trading price of our Class A common stock or trading volume to decline.

***Anti-takeover provisions contained in our amended and restated certificate of incorporation and amended and restated bylaws, as well as provisions of Delaware law, could impair a takeover attempt.***

Our amended and restated certificate of incorporation, amended and restated bylaws and Delaware law contain provisions which could have the effect of rendering more difficult, delaying, or preventing an acquisition deemed undesirable by our board of directors. Among other things, our amended and restated certificate of incorporation and amended and restated bylaws include provisions:

- authorizing “blank check” preferred stock, which could be issued by our board of directors without stockholder approval and may contain voting, liquidation, dividend and other rights superior to our Class A and Class B common stock;
- limiting the liability of, and providing indemnification to, our directors and officers;
- limiting the ability of our stockholders to call and bring business before special meetings;
- providing for a dual class common stock structure in which holders of our Class B common stock have the ability to control the outcome of matters requiring stockholder approval, even if they own significantly less than a majority of the outstanding shares of our Class A and Class B common stock, including the election of directors and significant corporate transactions, such as a merger or other sale of our company or its assets;
- providing that our board of directors is classified into three classes of directors with staggered three-year terms;
- prohibit stockholder action by written consent, which requires all stockholder actions to be taken at a meeting of our stockholders;
- requiring advance notice of stockholder proposals for business to be conducted at meetings of our stockholders and for nominations of candidates for election to our board of directors;
- controlling the procedures for the conduct and scheduling of board of directors and stockholder meetings; and
- providing for 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 meeting of stockholders, 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.

These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our management.

As a Delaware corporation, we are also subject to provisions of Delaware law, including Section 203 of the Delaware General Corporation law, which prevents certain stockholders holding more than 15% of our outstanding common stock from engaging in certain business combinations without approval of the holders of at least two-thirds of our outstanding common stock not held by such 15% or greater stockholder.

Any provision of our amended and restated certificate of incorporation, amended and restated bylaws or Delaware law that has the effect of delaying, preventing or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock and could also affect the price that some investors are willing to pay for our Class A common stock.

***We do not expect to declare any dividends in the foreseeable future.***

We have never paid dividends and we do not anticipate declaring any cash dividends to holders of our common stock in the foreseeable future. Consequently, investors may need to rely on sales of their Class A common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investment. Investors seeking cash dividends should not purchase our Class A common stock.

## Risks Related to the Outstanding Notes

***Servicing our future debt may require a significant amount of cash, and we may not have sufficient cash flow from our business to pay our indebtedness.***

Our ability to make scheduled payments of the principal of, to pay interest on or to refinance our indebtedness, including our 0.25% convertible senior notes due 2023 (the “Notes”), depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. Our business may not generate cash flow from operations in the future sufficient to service our debt and make necessary capital expenditures. If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as selling assets, restructuring debt or obtaining additional debt financing or equity capital on terms that may be onerous or highly dilutive. Our ability to refinance any future indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations. In addition, any of our future debt agreements may contain restrictive covenants that may prohibit us from adopting any of these alternatives. Our failure to comply with these covenants could result in an event of default which, if not cured or waived, could result in the acceleration of our debt.

***We may not have the ability to raise the funds necessary for cash settlement upon conversion of the Notes or to repurchase the Notes for cash upon a fundamental change, and our future debt may contain limitations on our ability to pay cash upon conversion of the Notes or to repurchase the Notes.***

Subject to limited exceptions, holders of the Notes have the right to require us to repurchase their Notes upon the occurrence of a fundamental change at a fundamental change repurchase price equal to 100% of the principal amount of the Notes to be repurchased, plus accrued and unpaid interest, if any, to, but excluding, the fundamental change repurchase date. In addition, upon conversion of the Notes, unless we elect to deliver solely shares of our Class A common stock to settle such conversion (other than paying cash in lieu of delivering any fractional share), we will be required to make cash payments in respect of the Notes being converted. However, we may not have enough available cash or be able to obtain financing at the time we are required to make repurchases of Notes surrendered therefor or pay any cash amounts due upon conversion. In addition, our ability to repurchase the Notes or to pay cash upon conversions of the Notes may be limited by law, by regulatory authority or by agreements governing our future indebtedness. Our failure to repurchase Notes at a time when the repurchase is required by the indenture governing the Notes or to pay any cash payable on future conversions of the Notes as required by such indenture would constitute a default under such indenture. A default under the indenture or the fundamental change itself could also lead to a default under agreements governing our future indebtedness. If the repayment of the related indebtedness were to be accelerated after any applicable notice or grace periods, we may not have sufficient funds to repay the indebtedness and repurchase the Notes or make cash payments upon conversions thereof.

***The triggering of the conditional conversion feature of the Notes could adversely affect our financial condition and operating results.***

In the event the conditional conversion feature of the Notes is triggered, holders of the Notes will be entitled to convert the Notes at any time during specified periods at their option. This conditional conversion feature was triggered during the three months ended June 30, 2020, as the last reported sale price of our Class A common stock was more than or equal to 130% of the conversion price for at least 20 trading days (whether or not consecutive) in the period of 30 consecutive trading days ending on June 30, 2020 (the last trading day of the calendar quarter), and therefore the Notes are currently convertible, in whole or in part, at the option of the holders between July 1, 2020 through September 30, 2020. Whether the Notes will be convertible following such period will depend on the continued satisfaction of this condition or another conversion condition in the future. If one or more holders elect to convert their Notes during a period in which the Notes are convertible, unless we elect to satisfy our conversion obligation by delivering solely shares of our Class A common stock (other than paying cash in lieu of delivering any fractional share), we would be required to settle a portion or all of our conversion obligation through the payment of cash, which could adversely affect our liquidity. In addition, even if holders do not elect to convert their Notes, under certain circumstances, such as a fundamental change or default, as described in the indenture, we could be required under applicable accounting rules to reclassify all or a portion of the outstanding principal of the Notes as a current rather than long-term liability, which would result in a material reduction of our net working capital.

***The accounting method for convertible debt securities that may be settled in cash, such as the Notes, could have a material effect on our reported financial results.***

Under Financial Accounting Standards Board Accounting Standards Codification 470-20, Debt with Conversion and Other Options, which we refer to as ASC 470-20, an entity must separately account for the liability and equity components of

convertible debt instruments (such as the Notes) that may be settled entirely or partially in cash upon conversion in a manner that reflects the issuer's economic interest cost. ASC 470-20 requires the value of the conversion option of the Notes, representing the equity component, to be recorded as additional paid-in capital within stockholders' equity in our consolidated balance sheet and as a discount to the debt component of the Notes, which reduces their initial debt carrying value reflected as a liability on our balance sheets. The carrying value of the debt component of the Notes, net of the discount recorded, will be accreted up to the principal amount of the Notes from the issuance date until maturity, which will result in non-cash charges to interest expense in our consolidated statement of operations. Accordingly, we will report lower net income or higher net loss in our financial results because ASC 470-20 requires interest to include both the current period's accretion of the debt discount and the instrument's coupon interest, which could adversely affect our reported or future financial results, the trading price of our Class A common stock and the trading price of the Notes.

In addition, under certain circumstances, convertible debt instruments (such as the Notes) that may be settled entirely or partly in cash are currently accounted for utilizing the treasury stock method, the effect of which is that the shares issuable upon conversion of the Notes are not included in the calculation of diluted earnings per share except to the extent that the conversion value of the Notes exceeds their principal amount. Under the treasury stock method, for diluted earnings per share purposes, the transaction is accounted for as if the number of shares of Class A common stock that would be necessary to settle such excess, if we elected to settle such excess in shares, are issued. We cannot be sure that the accounting standards in the future will continue to permit the use of the treasury stock method. If we are unable to use the treasury stock method in accounting for the shares issuable upon conversion of the Notes, then our diluted earnings per share would be adversely affected in periods when we report net income.

***The capped call transactions may affect the value of the Notes and our Class A common stock.***

In connection with the pricing of the Notes, we entered into privately negotiated capped call transactions with the option counterparties. The capped call transactions are expected generally to reduce the potential dilution to our Class A common stock upon any conversion of the Notes and/or offset any potential cash payments we are required to make in excess of the principal amount of converted Notes, as the case may be, with such reduction and/or offset subject to a cap.

In connection with establishing their initial hedges of the capped call transactions, the option counterparties or their respective affiliates entered into various derivative transactions with respect to our Class A common stock and/or purchased shares of our Class A common stock concurrently with or shortly after the pricing of the Notes.

In addition, the option counterparties and/or their respective affiliates may modify their hedge positions by entering into or unwinding various derivatives with respect to our Class A common stock and/or purchasing or selling our Class A common stock or other securities of ours in secondary market transactions at any time prior to the maturity of the Notes (and are likely to do so during any observation period related to a conversion of Notes). This activity could cause or avoid an increase or a decrease in the market price of our Class A common stock.

We do not make any representation or prediction as to the direction or magnitude of any potential effect that the transactions described above may have on the price of the Notes or our Class A common stock. In addition, we do not make any representation that the option counterparties will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

***We are subject to counterparty risk with respect to the capped call transactions.***

The option counterparties are financial institutions, and we will be subject to the risk that any or all of them might default under the capped call transactions. Our exposure to the credit risk of the option counterparties will not be secured by any collateral. Past global economic conditions have resulted in the actual or perceived failure or financial difficulties of many financial institutions. If an option counterparty becomes subject to insolvency proceedings, we will become an unsecured creditor in those proceedings with a claim equal to our exposure at that time under the capped call transactions with such option counterparty. Our exposure will depend on many factors but, generally, an increase in our exposure will be correlated to an increase in the market price and in the volatility of our Class A common stock. In addition, upon a default by an option counterparty, we may suffer adverse tax consequences and more dilution than we currently anticipate with respect to our Class A common stock. We can provide no assurances as to the financial stability or viability of the option counterparties.

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

*Unregistered Sales of Equity Securities*

None

**Item 5. Other Information**

On July 31, 2020, the Company's Board of Directors adopted the Second Amended and Restated Bylaws of Twilio Inc. to effect the following changes:

- Article II, Section 2.4 (Advance Notice Provisions):
  - Section 2.4(i)(b): Amended the process regarding advance notice of stockholder business
  - Section 2.4(ii)(b): Amended the process for advance notice of director nominations by stockholders at annual meeting
  - Section 2.4(iii): Amended the process for advance notice of director nominations by stockholders at special meetings
  - Section 2.4(iv): Added subsections (b) and (c) regarding other requirements and rights
- Article II, Section 2.6 (Adjourned Meeting; Notice): Amended language regarding the requirement for a quorum
- Article II, Section 2.7 (Quorum): Clarified language regarding quorum at an adjourned meeting
- Article VI, Section 6.1 (Stock Certificate; Partly Paid Shares): Amended signature requirements for company stock certificate from specific officers to two authorized officers
- Article VIII (Forum for Certain Actions): Amended forum provision for certain state and federal actions
- Other minor administrative corrections, including conforming changes in certain defined terms

The foregoing summary and description of the provisions of the Second Amended and Restated Bylaws does not purport to be complete and is qualified in its entirety by reference to the full text of the Second Amended and Restated Bylaws, a copy of which is filed as Exhibit 3.1 to this Quarterly Report on Form 10-Q and is incorporated herein by reference.

**Item 6. Exhibits**

The documents listed in the Exhibit Index of this Quarterly Report on Form 10-Q are incorporated by reference or are filed with this Quarterly Report on Form 10-Q, in each case as indicated therein.

**EXHIBIT INDEX**

<b>Exhibit Number</b>	<b>Description</b>	<b>Filing Date</b>
<a href="#">3.1</a>	<a href="#">Second Amended and Restated Bylaws of Twilio Inc.</a>	Filed herewith
<a href="#">31.1</a>	<a href="#">Certification of the Chief Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</a>	Filed herewith
<a href="#">31.2</a>	<a href="#">Certification of the Chief Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</a>	Filed herewith
<a href="#">32.1</a> *	<a href="#">Certification of the 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</a>	Furnished herewith
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document	Filed herewith
101.SCH	XBRL Taxonomy Extension Schema Document	Filed herewith
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document	Filed herewith
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document	Filed herewith
101.LAB	XBRL Taxonomy Extension Label Linkbase Document	Filed herewith
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document	Filed herewith
104	Cover Page with Interactive Data File (formatted as Inline XBRL with applicable taxonomy extension information contained in Exhibits 101).	

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\* The certifications furnished in Exhibit 32.1 hereto are deemed to accompany this Quarterly Report on Form 10-Q and will not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, except to the extent that the registrant specifically incorporates it by reference.

**SIGNATURES**

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

**Twilio Inc.**

August 4, 2020

/s/ JEFFREY LAWSON

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Jeffrey Lawson  
*Chief Executive Officer (Principal Executive Officer)*

August 4, 2020

/s/ KHOZEMA SHIPCHANDLER

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Khozema Shipchandler  
*Chief Financial Officer (Principal Accounting and Financial Officer)*



**SECOND AMENDED AND RESTATED**  
**BYLAWS OF**  
**TWILIO INC.**  
(effective as of July 31, 2020)

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**SECOND AMENDED AND RESTATED  
BYLAWS OF TWILIO INC.**

**ARTICLE I**

**CORPORATE OFFICES**

1.1 Registered Office. The registered office of Twilio Inc. shall be fixed in the corporation's certificate of incorporation, as the same may be amended from time to time.

1.2 Other Offices. The corporation's board of directors may at any time establish other offices at any place or places where the corporation is qualified to do business.

**ARTICLE II**

**MEETINGS OF STOCKHOLDERS**

2.1 Place of Meetings. Meetings of stockholders shall be held at any place, within or outside the State of Delaware, designated by the board of directors. The board of directors may, in its sole discretion, determine that a meeting of stockholders shall not be held at any place, but may instead be held solely by means of remote communication as authorized by Section 211(a) (2) of the Delaware General Corporation Law (the "DGCL"). In the absence of any such designation or determination, stockholders' meetings shall be held at the corporation's principal executive office.

2.2 Annual Meeting. The annual meeting of stockholders shall be held on such date, at such time, and at such place (if any) within or without the State of Delaware as shall be designated from time to time by the board of directors and stated in the corporation's notice of the meeting. At the annual meeting, directors shall be elected and any other proper business, brought in accordance with Section 2.4 of these bylaws, may be transacted. The board of directors may cancel, postpone or reschedule any previously scheduled annual meeting at any time, before or after the notice for such meeting has been sent to the stockholders.

2.3 Special Meeting.

(i) A special meeting of the stockholders, other than those required by statute, may be called at any time by (A) the board of directors, (B) the chairperson of the board of directors, (C) the chief executive officer or (D) the president (in the absence of a chief executive officer), but a special meeting may not be called by any other person or persons. The board of directors may cancel, postpone or reschedule any previously scheduled special meeting at any time, before or after the notice for such meeting has been sent to the stockholders.

(ii) The notice of a special meeting shall include the purpose for which the meeting is called. Only such business shall be conducted at a special meeting of stockholders as shall have been brought before the meeting by or at the direction of the board of directors, chairperson of the board of directors, chief executive officer or president (in the absence of a chief executive officer). Nothing contained in this Section 2.3(ii) shall be construed as limiting, fixing or

affecting the time when a meeting of stockholders called by action of the board of directors may be held.

#### 2.4 Advance Notice Procedures.

(i) Advance Notice of Stockholder Business. At an annual meeting of the stockholders, only such business shall be conducted as shall have been properly brought before the meeting. To be properly brought before an annual meeting, business must be brought: (A) pursuant to the corporation's proxy materials with respect to such meeting, (B) by or at the direction of the board of directors, or (C) by a stockholder of the corporation who (1) is a stockholder of record at the time of the giving of the notice required by this Section 2.4(i) and on the record date for the determination of stockholders entitled to vote at the annual meeting, is entitled to vote at the meeting and (2) has timely complied in proper written form with the notice procedures set forth in this Section 2.4(i). In addition, for business to be properly brought before an annual meeting by a stockholder, such business must be a proper matter for stockholder action pursuant to these bylaws and applicable law. For the avoidance of doubt, except for proposals properly made in accordance with Rule 14a-8 under the Securities and Exchange Act of 1934, as amended, or any successor thereto (the "**1934 Act**"), and the regulations thereunder (or any successor rule and in any case as so amended), clause (C) above shall be the exclusive means for a stockholder to bring business before an annual meeting of stockholders.

(a) To comply with clause (C) of Section 2.4(i) above, a stockholder's notice must set forth all information required under this Section 2.4(i) and must be timely received by the secretary of the corporation. To be timely, a stockholder's notice must be received by the secretary at the principal executive offices of the corporation not later than the 45th day nor earlier than the 75th day before the one-year anniversary of the date on which the corporation first mailed its proxy materials or a notice of availability of proxy materials (whichever is earlier) for the preceding year's annual meeting; *provided, however*, that in the event that no annual meeting was held in the previous year or if the date of the annual meeting is advanced by more than 30 days prior to or delayed by more than 60 days after the one-year anniversary of the date of the previous year's annual meeting, then, (i) for notice by the stockholder to be timely, it must be so received by the secretary not earlier than the close of business on the 120th day prior to such annual meeting and not later than the close of business on the later of the 90<sup>th</sup> day prior to such annual meeting, or (ii) the tenth day following the day on which Public Announcement (as defined below) of the date of such annual meeting is first made. In no event shall any adjournment, rescheduling or postponement of an annual meeting or the announcement thereof commence a new time period for the giving of a stockholder's notice as described in this Section 2.4(i)(a). "**Public Announcement**" shall mean disclosure in a press release reported by the Dow Jones News Service, Associated Press or a comparable national news service, in a document publicly filed by the corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the 1934 Act, or made via a Tweet from a verified account operated by the corporation (e.g., @Twilio).

(b) To be in proper written form, a stockholder's notice to the secretary must set forth:

(1) As to each Proposing Person (as defined below), (A) the name and address of such Proposing Person (including, without limitation, if applicable, the name

and address that appear on the corporation's books and records) and (B) the class or series and number of shares of the corporation that are, directly or indirectly, owned of record or beneficially owned (within the meaning of Rule 13d-3 under the 1934 Act) by such Proposing Person, except that such Proposing Person shall in all events be deemed to beneficially own any shares of any class or series of the corporation as to which such Proposing Person has a right to acquire beneficial ownership at any time in the future (whether or not such right is exercisable immediately or only after the passage of time or upon the satisfaction of any conditions or both) pursuant to any agreement, arrangement or understanding (whether or not in writing) (the disclosures to be made pursuant to the foregoing clauses (A) and (B) are referred to as "**Stockholder Information**");

(2) As to each Proposing Person, (A) any derivative, swap or other transaction or series of transactions engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to give such Proposing Person economic risk similar to ownership of shares of any class or series of the corporation, including, without limitation, due to the fact that the value of such derivative, swap or other transactions is determined by reference to the price, value or volatility of any shares of any class or series of the corporation, or which derivative, swap or other transactions provide, directly or indirectly, the opportunity to profit, or share in any profit, derived from any change in the price or value of shares of any class or series of the corporation ("**Synthetic Equity Interests**"), which Synthetic Equity Interests shall be disclosed without regard to whether (i) the derivative, swap or other transactions convey any voting rights in such shares to such Proposing Person, (ii) the derivative, swap or other transactions are required to be, or are capable of being, settled through delivery of such shares or (iii) such Proposing Person may have entered into other transactions that hedge or mitigate the economic effect of such derivative, swap or other transactions, (B) any proxy (other than a revocable proxy or consent given in response to a solicitation made pursuant to, and in accordance with, Section 14(a) of the 1934 Act by way of a solicitation statement filed on Schedule 14A), agreement, arrangement, understanding or relationship pursuant to which such Proposing Person has or shares a right to vote any shares of any class or series of the corporation, (C) any agreement, arrangement, understanding or relationship, including, without limitation, any repurchase or similar so-called "stock borrowing" agreement or arrangement, engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to mitigate loss to, reduce the economic risk (of ownership or otherwise) of shares of any class or series of the corporation by, manage the risk of share price changes for, or increase or decrease the voting power of, such Proposing Person with respect to the shares of any class or series of the corporation, or which provides, directly or indirectly, the opportunity to profit, or to share in any profit, derived from any change in the price or value of the shares of any class or series of the corporation ("**Short Interests**"), (D) any rights to dividends on the shares of any class or series of the corporation owned beneficially by such Proposing Person that are separated or separable from the underlying shares of the corporation, (E) any performance related fees (other than an asset based fee) that such Proposing Person is entitled to based on any increase or decrease in the price or value of shares of any class or series of the corporation, or any Synthetic Equity Interests or Short Interests, if any, (F)(i) if such Proposing Person is not a natural person, the identity of the natural person or persons associated with such Proposing Person responsible for the formulation of and decision to propose the business to be brought before the meeting (such person or persons, the "**Responsible Person**"), the manner in which such Responsible Person was selected, any fiduciary duties owed by such Responsible Person to the equity holders or other beneficiaries of such Proposing Person, the qualifications and background of such Responsible Person and any material interests or relationships of such Responsible Person

that are not shared generally by any other record or beneficial holder of the shares of any class or series of the corporation and that reasonably could have influenced the decision of such Proposing Person to propose such business to be brought before the meeting, and (ii) if such Proposing Person is a natural person, the qualifications and background of such natural person and any material interests or relationships of such natural person that are not shared generally by any other record or beneficial holder of the shares of any class or series of the corporation and that reasonably could have influenced the decision of such Proposing Person to propose such business to be brought before the meeting, (G) any significant equity interests or any Synthetic Equity Interests or Short Interests in any principal competitor of the corporation held by such Proposing Persons, (H) any direct or indirect interest of such Proposing Person in any contract with the corporation, any affiliate of the corporation or any principal competitor of the corporation (including, without limitation, in any such case, any employment agreement, collective bargaining agreement or consulting agreement), (I) any pending or threatened litigation in which such Proposing Person is a party or material participant involving the corporation or any of its officers or directors, or any affiliate of the corporation, (J) any material transaction occurring during the prior twelve months between such Proposing Person, on the one hand, and the corporation, any affiliate of the corporation or any principal competitor of the corporation, on the other hand and (K) any other information relating to such Proposing Person that would be required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies or consents by such Proposing Person in support of the business proposed to be brought before the meeting pursuant to Section 14(a) of the 1934 Act (the disclosures to be made pursuant to the foregoing clauses (A) through (K) are referred to as “**Disclosable Interests**”); provided, however, that Disclosable Interests shall not include any such disclosures with respect to the ordinary course business activities of any broker, dealer, commercial bank, trust company or other nominee who is a Proposing Person solely as a result of being the stockholder of record directed to prepare and submit the notice required by these bylaws on behalf of a beneficial owner; and

(3) As to each item of business that the stockholder proposes to bring before the annual meeting, (A) a reasonably brief description of the business desired to be brought before the annual meeting, the reasons for conducting such business at the annual meeting and any material interest in such business of each Proposing Person, (B) the text of the proposal or business (including, without limitation, the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend the bylaws of the corporation, the language of the proposed amendment), (C) a reasonably detailed description of all agreements, arrangements and understandings between or among any of the Proposing Persons or between or among any Proposing Person and any other person or entity (including, without limitation, their names) in connection with the proposal of such business by such stockholder, (D) a representation that the stockholder is a holder of record of stock of the corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to propose such business, (E) a representation whether the Proposing Person intends or is part of a group which intends (i) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the corporation’s voting shares required under applicable law to carry the proposal and/or (ii) otherwise to solicit proxies or votes from stockholders in support of such proposal and (F) any other information relating to such item of business that would be required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies in support of the business proposed to be brought before the meeting pursuant to Section 14(a) of the 1934 Act; provided, however, that the disclosures required by this paragraph (b)(3) shall not

include any disclosures with respect to any broker, dealer, commercial bank, trust company or other nominee who is a Proposing Person solely as a result of being the stockholder of record directed to prepare and submit the notice required by these bylaws on behalf of a beneficial owner (such information provided and statements made as required by Sections 2.4(i)(b)(1)-(3), a “**Business Solicitation Statement**”).

(4) For purposes of this Section 2.4, the term “**Proposing Person**” shall mean (A) the stockholder providing the notice of business proposed to be brought before an annual meeting, (B) the beneficial owner or beneficial owners, if different, on whose behalf the notice of the business proposed to be brought before the annual meeting is made, (C) any affiliate or associate (each within the meaning of Rule 12b-2 under the 1934 Act for the purposes of these bylaws) of such stockholder or beneficial owner and (D) any other person with whom such stockholder or beneficial owner (or any of their respective affiliates or associates) is Acting in Concert (as defined below).

(5) A person shall be deemed to be “**Acting in Concert**” with another person for purposes of these bylaws if such person knowingly acts (whether or not pursuant to an express agreement, arrangement or understanding) in concert with, or towards a common goal relating to the management, governance or control of the corporation in parallel with, such other person where (A) each person is conscious of the other person’s conduct or intent and this awareness is an element in their decision-making processes and (B) at least one additional factor suggests that such persons intend to act in concert or in parallel, which such additional factors may include, without limitation, exchanging information (whether publicly or privately), attending meetings, conducting discussions, or making or soliciting invitations to act in concert or in parallel; provided, that a person shall not be deemed to be Acting in Concert with any other person solely as a result of the solicitation or receipt of revocable proxies or consents from such other person in response to a solicitation made pursuant to, and in accordance with, Section 14(a) of the 1934 Act by way of a proxy or consent solicitation statement filed on Schedule 14A. A person Acting in Concert with another person shall be deemed to be Acting in Concert with any third party who is also Acting in Concert with such other person.

(c) Without exception, no business shall be conducted at any annual meeting except in accordance with the provisions set forth in this Section 2.4(i) and, if applicable, Section 2.4(ii). In addition, business proposed to be brought by a stockholder may not be brought before the annual meeting if such Proposing Person, as applicable, takes action contrary to the representations made in the Business Solicitation Statement applicable to such business or if the Business Solicitation Statement applicable to such business contains an untrue statement of a material fact or omits to state a material fact necessary to make the statements therein not misleading. The chairperson of the annual meeting shall, if the facts warrant, determine and declare at the annual meeting that business was not properly brought before the annual meeting and in accordance with the provisions of this Section 2.4(i), and, if the chairperson should so determine, he or she shall so declare at the annual meeting that any such business not properly brought before the annual meeting shall not be conducted.

(ii) Advance Notice of Director Nominations at Annual Meetings. Notwithstanding anything in these bylaws to the contrary, only persons who are nominated in accordance with the procedures set forth in this Section 2.4(ii) shall be eligible for election or re-



election as directors at an annual meeting of stockholders. Nominations of persons for election to the board of directors of the corporation shall be made at an annual meeting of stockholders only (x) by or at the direction of the board of directors or (y) by a stockholder of the corporation who (1) was a stockholder of record at the time of the giving of the notice required by this Section 2.4(ii) and on the record date for the determination of stockholders entitled to vote at the annual meeting and (2) has complied with the notice procedures set forth in this Section 2.4(ii). In addition to any other applicable requirements, for a nomination to be made by a stockholder, the stockholder must have given timely notice thereof in proper written form to the secretary of the corporation.

(a) To comply with clause (y) of Section 2.4(ii) above, a nomination to be made by a stockholder must set forth all information required under this Section 2.4(ii) and must be received by the secretary of the corporation at the principal executive offices of the corporation at the time set forth in, and in accordance with Section 2.4(i)(a) above; *provided additionally, however*, that in the event that the number of directors to be elected to the board of directors is increased and there is no Public Announcement naming all of the nominees for director or specifying the size of the increased board made by the corporation at least ten days before the last day a stockholder may deliver a notice of nomination pursuant to the foregoing provisions, a stockholder's notice required by this Section 2.4(ii) shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if it shall be received by the secretary of the corporation at the principal executive offices of the corporation not later than the close of business on the tenth day following the day on which such Public Announcement is first made by the corporation.

(b) To be in proper written form, such stockholder's notice to the secretary must set forth:

(1) as to each person (a "**nominee**") whom the stockholder proposes to nominate for election or re-election as a director: (A) the name, age, business address and residence address of the nominee, (B) the principal occupation or employment of the nominee, (C) the class and number of shares of the corporation that are held of record or are beneficially owned by the nominee and any derivative positions held or beneficially held by the nominee, (D) whether and the extent to which any hedging or other transaction or series of transactions has been entered into by or on behalf of the nominee with respect to any securities of the corporation, and a description of any other agreement, arrangement or understanding (including any short position or any borrowing or lending of shares), the effect or intent of which is to mitigate loss to, or to manage the risk or benefit of share price changes for, or to increase or decrease the voting power of the nominee, (E) a description of all arrangements or understandings between or among any of the stockholder, each nominee and/or any other person or persons (naming such person or persons) pursuant to which the nominations are to be made by the stockholder or relating to the nominee's potential service on the board of directors, (F) a written questionnaire with respect to the background and qualifications of the nominee completed by the nominee in the form required by the corporation (which questionnaire shall be provided by the secretary upon written request), (G) a representation and agreement in the form required by the corporation (which form shall be provided by the secretary upon written request) that: (i) such proposed nominee is not and will not become party to any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity as to how such person, if elected as a director of

the corporation, will act or vote on any issue or question (a “**Voting Commitment**”) that has not been disclosed to the corporation or any Voting Commitment that could limit or interfere with such person’s ability to comply, if elected as a director of the corporation, with such person’s fiduciary duties under applicable law; (ii) such proposed nominee is not and will not become a party to any agreement, arrangement, or understanding with any person or entity other than the corporation with respect to any direct or indirect compensation, reimbursement, or indemnification in connection with service or action as a director that has not been disclosed to the corporation; (iii) such proposed nominee would, if elected as a director, comply with applicable law of the exchanges upon which the corporation’s shares of common stock trade, the corporation’s corporate governance guidelines, code of business conduct and ethics, stock ownership policy and all of the corporation’s conflict of interest, confidentiality and stock trading policies and guidelines applicable generally to the corporation’s directors, and applicable fiduciary duties under state law and, if elected as a director of the corporation, such person currently would be in compliance with any such policies and guidelines that have been publicly disclosed and (iv) intends to serve as a director for the full term for which he or she is to stand for election, and (H) any other information relating to the nominee that would be required to be disclosed about such nominee if proxies were being solicited for the election of the nominee as a director, or that is otherwise required, in each case pursuant to Regulation 14A under the 1934 Act (including without limitation the nominee’s written consent to being named in the proxy statement, if any, as a nominee and to serving as a director if elected); and

(2) as to such stockholder giving notice, (A) the Stockholder Information (as defined in Section 2.4(i)(b) above, except that the references to “business” in such clauses shall instead refer to nominations of directors for purposes of this paragraph, and except that for purposes of this Section 2.4(ii), the term “Nominating Person” (as defined below) shall be substituted for the term “Proposing Person” in all places it appears in Section 2.4(ii), (B) any Disclosable Interests (as defined in Section 2.4(i)(b)(2) above, except that the disclosure in clause (K) of Section 2.4(i)(b)(2) shall be made with respect to the election of directors at the meeting) provided, however, that Disclosable Interests shall not include any such disclosures with respect to the ordinary course business activities of any broker, dealer, commercial bank, trust company or other nominee who is a Nominating Person solely as a result of being the stockholder directed to prepare and submit the notice required by these bylaws on behalf of a beneficial owner; (C) any material interest in such nominations of directors of the Nominating Person; (D) a representation that the Nominating Person is a holder of record of stock of the corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to propose such nomination; and (E) a representation whether the Nominating Person intends or is part of a group which intends (i) to deliver a proxy statement and/or form of proxy to holders of at least a majority of the corporation’s voting shares and (ii) otherwise to solicit proxies or votes from stockholders in support of such nomination (such information provided and statements made as required by clauses (A) through (D) above, a “**Nominee Solicitation Statement**”).

(c) At the request of the board of directors, any person nominated by a stockholder for election as a director must furnish to the secretary of the corporation (1) that information required to be set forth in the stockholder’s notice of nomination of such person as a director as of a date subsequent to the date on which the notice of such person’s nomination was given and (2) such other information as may reasonably be required by the corporation to determine the eligibility of such proposed nominee to serve as an independent director of the

corporation or that could be material to a reasonable stockholder's understanding of the independence, or lack thereof, of such nominee; in the absence of the furnishing of such information if requested, such stockholder's nomination shall not be considered in proper form pursuant to this Section 2.4(ii).

(d) For purposes of this Section 2.4(ii), the term "**Nominating Person**" shall mean (1) the stockholder providing notice of the nomination proposed to be made at the meeting, (2) the beneficial owner or beneficial owners, if different, on whose behalf the notice of the nomination proposed to be made at the meeting is made, (3) any affiliate or associate of such stockholder or beneficial owner and (4) any other person with whom such stockholder or such beneficial owner (or any of their respective affiliates or associates) is Acting in Concert.

(e) Without exception, no person shall be eligible for election or re-election as a director of the corporation at an annual meeting of stockholders unless nominated in accordance with the provisions set forth in this Section 2.4(ii). In addition, a nominee shall not be eligible for election or re-election if a Nominating Person takes action contrary to the representations made in the Nominee Solicitation Statement applicable to such nominee or if the Nominee Solicitation Statement applicable to such nominee contains an untrue statement of a material fact or omits to state a material fact necessary to make the statements therein not misleading. The chairperson of the annual meeting shall, if the facts warrant, determine and declare at the annual meeting that a nomination was not made in accordance with the provisions prescribed by these bylaws, and if the chairperson should so determine, he or she shall so declare at the annual meeting, and the defective nomination shall be disregarded.

(iii) Advance Notice of Director Nominations for Special Meetings.

(a) For a special meeting of stockholders at which directors are to be elected pursuant to Section 2.3, nominations of persons for election to the board of directors shall be made only (1) by or at the direction of the board of directors or (2) by any stockholder of the corporation who (A) is a stockholder of record at the time of the giving of the notice required by this Section 2.4(iii) and on the record date for the determination of stockholders entitled to vote at the special meeting and (B) delivers a timely written notice of the nomination to the secretary of the corporation that includes the information set forth in Sections 2.4(ii)(a), 2.4(ii)(b) and 2.4(ii)(c) above. To be timely, such notice must be received by the secretary at the principal executive offices of the corporation not later than the close of business on the later of the 90<sup>th</sup> day prior to such special meeting or the tenth day following the day on which Public Announcement is first made of the date of the special meeting and of the nominees proposed by the board of directors to be elected at such meeting. In no event shall any adjournment, rescheduling or postponement of a special meeting or the announcement thereof commence a new time period for the giving of a stockholder's notice. A person shall not be eligible for election or re-election as a director at a special meeting unless the person is nominated (i) by or at the direction of the board of directors or (ii) by a stockholder in accordance with the notice procedures set forth in this Section 2.4(iii). In addition, a nominee shall not be eligible for election or re-election if the Nominating Person takes action contrary to the representations made in the Nominee Solicitation Statement applicable to such nominee or if the Nominee Solicitation Statement applicable to such nominee contains an untrue statement of a material fact or omits to state a material fact necessary to make the statements therein not misleading.

(b) The chairperson of the special meeting shall, if the facts warrant, determine and declare at the meeting that a nomination or business was not made in accordance with the procedures prescribed by these bylaws, and if the chairperson should so determine, he or she shall so declare at the meeting, and the defective nomination or business shall be disregarded.

(iv) Other Requirements and Rights.

(a) In addition to the foregoing provisions of this Section 2.4, a stockholder must also comply with all applicable requirements of state law and of the 1934 Act and the rules and regulations thereunder with respect to the matters set forth in this Section 2.4, including, with respect to business such stockholder intends to bring before the annual meeting that involves a proposal that such stockholder requests to be included in the corporation's proxy statement, the requirements of Rule 14a-8 (or any successor provision) under the 1934 Act. Nothing in this Section 2.4 shall be deemed to affect any right of the corporation to omit a proposal from the corporation's proxy statement pursuant to Rule 14a-8 (or any successor provision) under the 1934 Act.

(b) Notwithstanding the foregoing provisions of this Section 2.4, unless otherwise required by law, if the stockholder (or a qualified representative of the stockholder) does not appear at the annual meeting to present proposed business or the proposed nomination, such proposed business or nomination shall not be transacted, notwithstanding that proxies in respect of such vote may have been received by the corporation. For purposes of this Section 2.4, except as provided under Rule 14a-8 under the 1934 Act, to be considered a qualified representative of the stockholder, a person must be a duly authorized officer, manager or partner of such stockholder or must be authorized by a writing executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the annual meeting and such person must produce such writing or electronic transmission, or a reliable reproduction of the writing or electronic transmission, at the annual meeting.

(c) A stockholder providing notice under this Section 2.4 shall update such notice, if necessary, so that the information provided or required to be provided in such notice shall continue to be true and correct (1) as of the record date for the meeting and (2) as of the date that is ten (10) business days prior to the meeting (or any postponement, adjournment or recess thereof), and such update shall be delivered to, or mailed and received by, the secretary at the principal executive offices of the corporation not later than five (5) business days after the record date for the meeting (in the case of an update required to be made pursuant to the foregoing clause (1)) and not later than seven (7) business days prior to the date for the meeting, if practicable or, if not practicable, on the first practicable date prior to the meeting or any adjournment, recess or postponement thereof (in the case of an update required to be made pursuant to the foregoing clause (2)). For the avoidance of doubt, the obligation to update as set forth in this Section 2.4(iv)(c) shall not limit the corporation's rights with respect to any deficiencies in any notice provided by a stockholder, extend any applicable deadlines hereunder or enable or be deemed to permit a stockholder who has previously submitted notice hereunder to amend or update any proposal or nomination or to submit any new proposal, including by changing or adding nominees, matters, business and or resolutions proposed to be brought before a meeting of the stockholders.

2.5 Notice of Stockholders' Meetings. Whenever stockholders are required or permitted to take any action at a meeting, a written notice of the meeting shall be given which shall state the place, if any, date and hour of the meeting, the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting, the record date for determining the stockholders entitled to vote at the meeting, if such date is different from the record date for determining stockholders entitled to notice of the meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called. Except as otherwise provided in the DGCL, the certificate of incorporation or these bylaws, the written notice of any meeting of stockholders shall be given not less than 10 nor more than 60 days before the date of the meeting to each stockholder entitled to vote at such meeting as of the record date for determining the stockholders entitled to notice of the meeting.

2.6 Quorum. The holders of a majority of the voting power of the stock issued and outstanding and entitled to vote, present in person or by remote communication, if applicable, or represented by proxy, shall constitute a quorum for the transaction of business at all meetings of the stockholders, unless otherwise required by law, the certificate of incorporation, these bylaws or the rules of any applicable stock exchange. A quorum, once established at a meeting, shall not be broken by the withdrawal of enough votes to leave less than a quorum. Where a separate vote by a class or series or classes or series is required, a majority of the voting power of the issued and outstanding shares of such class or series or classes or series, present in person or represented by proxy, shall constitute a quorum entitled to take action with respect to that vote on that matter, except as otherwise required by law, the certificate of incorporation, these bylaws or the rules of any applicable stock exchange.

Whether or not a quorum is present at a meeting of stockholders, the chairperson of the meeting shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting. At such adjourned meeting at which a quorum is present or represented, any business may be transacted that might have been transacted at the original meeting.

2.7 Adjourned Meeting; Notice. When a meeting is adjourned to another time or place, unless these bylaws otherwise require, notice need not be given of the adjourned meeting if the time, place, if any, thereof, and the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than 30 days, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting. If after the adjournment a new record date for stockholders entitled to vote is fixed for the adjourned meeting, the board of directors shall fix a new record date for notice of such adjourned meeting in accordance with Section 213(a) of the DGCL and Section 2.11 of these bylaws, and shall give notice of the adjourned meeting to each stockholder of record entitled to vote at such adjourned meeting as of the record date fixed for notice of such adjourned meeting. If a quorum was present at the original meeting, it shall also be deemed present at an adjourned session of such meeting, unless a new record date is, or is required to be, set for the adjourned session.

2.8 Conduct of Business. The chairperson of any meeting of stockholders shall determine the order of business and the procedure at the meeting, including such regulation of the manner of voting and the conduct of business. The chairperson of any meeting of stockholders shall be designated by the board of directors; in the absence of such designation, the chairperson of the board, if any, the chief executive officer (in the absence of the chairperson) or the lead independent director (in the absence of the chairperson of the board and the chief executive officer), or in their absence any other executive officer of the corporation, shall serve as chairperson of the stockholder meeting.

2.9 Voting. The stockholders entitled to vote at any meeting of stockholders shall be determined in accordance with the provisions of Section 2.11 of these bylaws, subject to Section 217 (relating to voting rights of fiduciaries, pledgors and joint owners of stock) and Section 218 (relating to voting trusts and other voting agreements) of the DGCL.

Except as may be otherwise provided in the certificate of incorporation, each stockholder shall be entitled to one vote for each share of capital stock held by such stockholder.

Except as otherwise required by law, the certificate of incorporation, these bylaws or the rules of any applicable stock exchange, in all matters other than the election of directors, the affirmative vote of a majority of the voting power of the shares present in person or represented by proxy at the meeting and entitled to vote on the subject matter shall be the act of the stockholders. Except as otherwise required by law, the certificate of incorporation, these bylaws or the rules of any applicable stock exchange, directors shall be elected by a plurality of the voting power of the shares present in person or represented by proxy at the meeting and entitled to vote on the election of directors. Where a separate vote by a class or series or classes or series is required, in all matters other than the election of directors, the affirmative vote of the majority of the voting power of shares of such class or series or classes or series present in person or represented by proxy at the meeting shall be the act of such class or series or classes or series, except as otherwise provided by law, the certificate of incorporation, these bylaws or the rules of any applicable stock exchange.

2.10 Stockholder Action By Written Consent Without A Meeting. Subject to the rights of the holders of the shares of any series of preferred stock or any other class of stock or series thereof that have been expressly granted the right to take action by written consent, any action required or permitted to be taken by the stockholders of the corporation must be effected at a duly called annual or special meeting of stockholders of the corporation and may not be effected by any consent in writing by such stockholders.

2.11 Record Dates. In order that the corporation may determine the stockholders entitled to notice of any meeting of stockholders or any adjournment thereof, the board of directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the board of directors and which record date shall not be more than 60 nor less than 10 days before the date of such meeting. If the board of directors so fixes a date, such date shall also be the record date for determining the stockholders entitled to vote at such meeting unless the board of directors determines, at the time it fixes such record date, that a later date on or before the date of the meeting shall be the date for making such determination.

If no record date is fixed by the board of directors, the record date for determining stockholders entitled to notice of and to vote at a meeting of stockholders shall be at the close of

business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held.

A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; *provided, however*, that the board of directors may fix a new record date for determination of stockholders entitled to vote at the adjourned meeting, and in such case shall also fix as the record date for stockholders entitled to notice of such adjourned meeting the same or an earlier date as that fixed for determination of stockholders entitled to vote in accordance with the provisions of Section 213 of the DGCL and this Section 2.11 at the adjourned meeting.

In order that the corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights or the stockholders entitled to exercise any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action, the board of directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted, and which record date shall be not more than 60 days prior to such action. If no record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the board of directors adopts the resolution relating thereto.

2.12 Proxies. Each stockholder entitled to vote at a meeting of stockholders may authorize another person or persons to act for such stockholder by proxy authorized by an instrument in writing or by a transmission permitted by law filed in accordance with the procedure established for the meeting, but no such proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period. The revocability of a proxy that states on its face that it is irrevocable shall be governed by the provisions of Section 212 of the DGCL. A written proxy may be in the form of a telegram, cablegram, or other means of electronic transmission which sets forth or is submitted with information from which it can be determined that the telegram, cablegram, or other means of electronic transmission was authorized by the stockholder.

2.13 List of Stockholders Entitled to Vote. The officer who has charge of the stock ledger of the corporation shall prepare and make, at least 10 days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting; *provided, however*, if the record date for determining the stockholders entitled to vote is less than 10 days before the meeting date, the list shall reflect the stockholders entitled to vote as of the tenth day before the meeting date, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. The corporation shall not be required to include electronic mail addresses or other electronic contact information on such list. Such list shall be open to the examination of any stockholder for any purpose germane to the meeting for a period of at least 10 days prior to the meeting: (i) on a reasonably accessible electronic network; *provided* that the information required to gain access to such list is provided with the notice of the meeting, or (ii) during ordinary business hours, at the corporation's principal place of business. In the event that the corporation determines to make the list available on an electronic network, the corporation may take reasonable steps to ensure that such information is available only to stockholders of the corporation. If the meeting is to be held at a place, then a list of stockholders entitled to vote at the meeting shall be produced and kept at the time and place of the meeting

during the whole time thereof, and may be examined by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then such list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting. Such list shall presumptively determine the identity of the stockholders entitled to vote at the meeting and the number of shares held by each of them.

2.14 Inspectors of Election. Before any meeting of stockholders, the board of directors shall appoint an inspector or inspectors of election to act at the meeting or its adjournment. The number of inspectors shall be either one (1) or three (3). If any person appointed as inspector fails to appear or fails or refuses to act, then the chairperson of the meeting may, and upon the request of any stockholder or a stockholder's proxy shall, appoint a person to fill that vacancy; *provided further* that, in any case, if no inspector or alternate is able to act at a meeting of stockholders, the chairperson of the meeting shall appoint at least one (1) inspector to act at the meeting.

Each inspector, before entering upon the discharge of his or her duties, shall take and sign an oath to execute faithfully the duties of inspector with strict impartiality and according to the best of his or her ability. Such inspectors shall:

(i) determine the number of shares outstanding and the voting power of each, the number of shares represented at the meeting, the existence of a quorum, and the authenticity, validity, and effect of proxies;

(ii) receive votes, ballots or consents;

(iii) hear and determine all challenges and questions in any way arising in connection with the right to vote;

(iv) count and tabulate all votes or consents;

(v) determine when the polls shall close;

(vi) determine the result; and

(vii) do any other acts that may be proper to conduct the election or vote with fairness to all stockholders.

The inspectors of election shall perform their duties impartially, in good faith, to the best of their ability and as expeditiously as is practical. If there are three (3) inspectors of election, the decision, act or certificate of a majority is effective in all respects as the decision, act or certificate of all. Any report or certificate made by the inspectors of election is prima facie evidence of the facts stated therein.



## **ARTICLE III**

### **DIRECTORS**

3.1 **Powers**. The business and affairs of the corporation shall be managed by or under the direction of the board of directors, except as may be otherwise provided in the DGCL or the certificate of incorporation.

3.2 **Number of Directors**. The board of directors shall consist of one or more members, each of whom shall be a natural person. Unless the certificate of incorporation fixes the number of directors, the number of directors shall be determined from time to time by resolution of the board of directors. No reduction of the authorized number of directors shall have the effect of removing any director before that director's term of office expires.

3.3 **Election, Qualification and Term of Office Of Directors**. Except as provided in Section 3.4 of these bylaws, each director, including a director elected to fill a vacancy, shall hold office until the expiration of the term for which elected and until such director's successor is elected and qualified or until such director's earlier death, resignation or removal. Directors need not be stockholders unless so required by the certificate of incorporation or these bylaws. The certificate of incorporation or these bylaws may prescribe other qualifications for directors.

In accordance with the provisions of the certificate of incorporation, the directors of the corporation shall be divided into three classes.

3.4 **Resignation and Vacancies**. Any director may resign at any time upon notice given in writing or by electronic transmission to the corporation. A resignation is effective when the resignation is delivered unless the resignation specifies a later effective date or an effective date determined upon the happening of an event or events. A resignation which is conditioned upon the director failing to receive a specified vote for reelection as a director may provide that it is irrevocable. Unless otherwise provided in the certificate of incorporation or these bylaws, when one or more directors resign from the board of directors, effective at a future date, a majority of the directors then in office, including those who have so resigned, shall have power to fill such vacancy or vacancies, the vote thereon to take effect when such resignation or resignations shall become effective.

Unless otherwise provided in the certificate of incorporation or these bylaws, vacancies and newly created directorships resulting from any increase in the authorized number of directors elected by all of the stockholders having the right to vote as a single class shall be filled only by a majority of the directors then in office, although less than a quorum, or by a sole remaining director. If the directors are divided into classes, a person so elected by the directors then in office to fill a vacancy or newly created directorship shall hold office until the next election of the class for which such director shall have been chosen and until his or her successor shall have been duly elected and qualified.

If at any time, by reason of death or resignation or other cause, the corporation should have no directors in office, then any officer or any stockholder or an executor, administrator, trustee or guardian of a stockholder, or other fiduciary entrusted with like responsibility for the person or estate of a stockholder, may call a special meeting of stockholders in accordance with the

provisions of the certificate of incorporation or these bylaws, or may apply to the Delaware Court of Chancery for a decree summarily ordering an election as provided in Section 211 of the DGCL.

If, at the time of filling any vacancy or any newly created directorship, the directors then in office constitute less than a majority of the whole board of directors (as constituted immediately prior to any such increase), the Court of Chancery may, upon application of any stockholder or stockholders holding at least 10% of the voting power of the voting stock at the time outstanding having the right to vote for such directors, summarily order an election to be held to fill any such vacancies or newly created directorships, or to replace the directors chosen by the directors then in office as aforesaid, which election shall be governed by the provisions of Section 211 of the DGCL as far as applicable.

3.5 Place of Meetings; Meetings By Telephone. The board of directors may hold meetings, both regular and special, either within or outside the State of Delaware.

Unless otherwise restricted by the certificate of incorporation or these bylaws, members of the board of directors, or any committee designated by the board of directors, may participate in a meeting of the board of directors, or any committee, by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting.

3.6 Regular Meetings. Regular meetings of the board of directors may be held without notice at such time and at such place as shall from time to time be determined by the board of directors.

3.7 Special Meetings; Notice. Special meetings of the board of directors for any purpose or purposes may be called at any time by the chairperson of the board of directors, the chief executive officer, the president, the secretary or a majority of the authorized number of directors, at such times and places as he or she or they shall designate.

Notice of the time and place of special meetings shall be:

(i) delivered personally by hand, by courier or by telephone;

(ii) sent by United States first-class mail, postage prepaid;

(iii) sent by facsimile; or

(iv) sent by electronic mail, directed to each director at that director's address, telephone number, facsimile number or electronic mail address, as the case may be, as shown on the corporation's records.

If the notice is (i) delivered personally by hand, by courier or by telephone, (ii) sent by facsimile or (iii) sent by electronic mail, it shall be delivered or sent at least 24 hours before the time of the holding of the meeting. If the notice is sent by United States mail, it shall be deposited in the United States mail at least four days before the time of the holding of the meeting. Any oral notice may be communicated to the director. The notice need not specify the place of the meeting

(if the meeting is to be held at the corporation's principal executive office) nor the purpose of the meeting.

**3.8 Quorum; Voting.** At all meetings of the board of directors, a majority of the total authorized number of directors shall constitute a quorum for the transaction of business. If a quorum is not present at any meeting of the board of directors, then the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present. A meeting at which a quorum is initially present may continue to transact business notwithstanding the withdrawal of directors, if any action taken is approved by at least a majority of the required quorum for that meeting.

The vote of a majority of the directors present at any meeting at which a quorum is present shall be the act of the board of directors, except as may be otherwise specifically provided by statute, the certificate of incorporation or these bylaws.

If the certificate of incorporation provides that one or more directors shall have more or less than one vote per director on any matter, every reference in these bylaws to a majority or other proportion of the directors shall refer to a majority or other proportion of the votes of the directors.

**3.9 Board Action By Written Consent Without A Meeting.** Unless otherwise restricted by the certificate of incorporation or these bylaws, any action required or permitted to be taken at any meeting of the board of directors, or of any committee thereof, may be taken without a meeting if all members of the board of directors or committee, as the case may be, consent thereto in writing or by electronic transmission and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the board of directors or committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form. Any person (whether or not then a director) may provide, whether through instruction to an agent or otherwise, that a consent to action will be effective at a future time (including a time determined upon the happening of an event), no later than 60 days after such instruction is given or such provision is made and such consent shall be deemed to have been given for purposes of this Section 3.9 at such effective time so long as such person is then a director and did not revoke the consent prior to such time. Any such consent shall be revocable prior to its becoming effective.

**3.10 Fees and Compensation of Directors.** Unless otherwise restricted by the certificate of incorporation or these bylaws, the board of directors shall have the authority to fix the compensation of directors.

**3.11 Removal of Directors.** A director may be removed from office by the stockholders of the corporation only as provided in the certificate of incorporation.

No reduction of the authorized number of directors shall have the effect of removing any director prior to the expiration of such director's term of office.

## ARTICLE IV

### COMMITTEES

4.1 Committees of Directors. The board of directors may designate one or more committees, each committee to consist of one or more of the directors of the corporation. The board of directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the board of directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the board of directors or in these bylaws, shall have and may exercise all the powers and authority of the board of directors in the management of the business and affairs of the corporation, and may authorize the seal of the corporation to be affixed to all papers that may require it; but no such committee shall have the power or authority to (i) approve or adopt, or recommend to the stockholders, any action or matter (other than the election or removal of directors) expressly required by the DGCL to be submitted to stockholders for approval, or (ii) adopt, amend or repeal any bylaw of the corporation.

4.2 Committee Minutes. Each committee shall keep regular minutes of its meetings and report the same to the board of directors when required.

4.3 Meetings and Action of Committees. Meetings and actions of committees shall be governed by, and held and taken in accordance with, the provisions of:

- (i) Section 3.5 (place of meetings and meetings by telephone);
- (ii) Section 3.6 (regular meetings);
- (iii) Section 3.7 (special meetings and notice);
- (iv) Section 3.8 (quorum; voting);
- (v) Section 7.5 (waiver of notice); and
- (vi) Section 3.9 (action without a meeting)

with such changes in the context of those bylaws as are necessary to substitute the committee and its members for the board of directors and its members. However:

(i) the time of regular meetings of committees may be determined either by resolution of the board of directors or by resolution of the committee;

- (ii) special meetings of committees may also be called by resolution of the board of directors; and

(iii) notice of special meetings of committees shall also be given to all alternate members, who shall have the right to attend all meetings of the committee. The board of directors or a committee may adopt rules for the government of any committee not inconsistent with the provisions of these bylaws.

Any provision in the certificate of incorporation providing that one or more directors shall have more or less than one vote per director on any matter shall apply to voting in any committee or subcommittee, unless otherwise provided in the certificate of incorporation or these bylaws.

4.4 Subcommittees. Unless otherwise provided in the certificate of incorporation, these bylaws or the resolutions of the board of directors designating the committee, a committee may create one or more subcommittees, each subcommittee to consist of one or more members of the committee, and delegate to a subcommittee any or all of the powers and authority of the committee.

## **ARTICLE V**

### **OFFICERS**

5.1 Officers. The officers of the corporation shall be a president and a secretary. The corporation may also have, at the discretion of the board of directors, a chairperson of the board of directors, a vice chairperson of the board of directors, a chief executive officer, a chief financial officer or treasurer, one or more vice presidents, one or more assistant vice presidents, one or more assistant treasurers, one or more assistant secretaries, and any such other officers as may be appointed in accordance with the provisions of these bylaws. Any number of offices may be held by the same person.

5.2 Appointment of Officers. The board of directors shall appoint the officers of the corporation, except such officers as may be appointed in accordance with the provisions of Section 5.3 of these bylaws, subject to the rights, if any, of an officer under any contract of employment.

5.3 Subordinate Officers. The board of directors may appoint, or empower the chief executive officer or, in the absence of a chief executive officer, the president, to appoint, such other officers and agents as the business of the corporation may require. Each of such officers and agents shall hold office for such period, have such authority, and perform such duties as are provided in these bylaws or as the board of directors may from time to time determine.

5.4 Removal and Resignation of Officers. Subject to the rights, if any, of an officer under any contract of employment, any officer may be removed, either with or without cause, by an affirmative vote of the majority of the board of directors at any regular or special meeting of the board of directors or, except in the case of an officer chosen by the board of directors, by any officer upon whom such power of removal may be conferred by the board of directors.

Any officer may resign at any time by giving written or electronically transmitted notice to the corporation. Any resignation shall take effect at the date of the receipt of that notice or at any later time specified in that notice. Unless otherwise specified in the notice of resignation, the acceptance of the resignation shall not be necessary to make it effective. Any resignation is

without prejudice to the rights, if any, of the corporation under any contract to which the officer is a party.

5.5 Vacancies In Offices. Any vacancy occurring in any office of the corporation shall be filled by the board of directors or as provided in Section 5.3 .

5.6 Representation of Shares of Other Corporations. The chairperson of the board of directors, the president, any vice president, the treasurer, the secretary or assistant secretary of this corporation, or any other person authorized by the board of directors or the president or a vice president, is authorized to vote, represent, and exercise on behalf of this corporation all rights incident to any and all shares or other equity interests of any other corporation or corporations or entity or entities standing in the name of this corporation. The authority granted herein may be exercised either by such person directly or by any other person authorized to do so by proxy or power of attorney duly executed by such person having the authority.

5.7 Authority and Duties of Officers. All officers of the corporation shall respectively have such authority and perform such duties in the management of the business of the corporation as may be designated from time to time by the board of directors or the stockholders and, to the extent not so provided, as generally pertain to their respective offices, subject to the control of the board of directors.

## ARTICLE VI

### STOCK

6.1 Stock Certificates; Partly Paid Shares. The shares of the corporation shall be represented by certificates; *provided* that the board of directors may provide by resolution or resolutions that some or all of any or all classes or series of its stock shall be uncertificated shares. Any such resolution shall not apply to shares represented by a certificate until such certificate is surrendered to the corporation. Every holder of stock represented by certificates shall be entitled to have a certificate signed by, or in the name of the corporation by any two authorized officers of the corporation representing the number of shares registered in certificate form. Any or all of the signatures on the certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate has ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the corporation with the same effect as if such person were such officer, transfer agent or registrar at the date of issue. The corporation shall not have power to issue a certificate in bearer form.

The corporation may issue the whole or any part of its shares as partly paid and subject to call for the remainder of the consideration to be paid therefor. Upon the face or back of each stock certificate issued to represent any such partly-paid shares, or upon the books and records of the corporation in the case of uncertificated partly-paid shares, the total amount of the consideration to be paid therefor and the amount paid thereon shall be stated. Upon the declaration of any dividend on fully-paid shares, the corporation shall declare a dividend upon partly-paid shares of the same class, but only upon the basis of the percentage of the consideration actually paid thereon.

6.2 Special Designation On Certificates. If the corporation is authorized to issue more than one class of stock or more than one series of any class, then the powers, the designations, the

preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate that the corporation shall issue to represent such class or series of stock; *provided, however*, that, except as otherwise provided in Section 202 of the DGCL, in lieu of the foregoing requirements there may be set forth on the face or back of the certificate that the corporation shall issue to represent such class or series of stock, a statement that the corporation will furnish without charge to each stockholder who so requests the powers, designations, preferences and relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights. Within a reasonable time after the issuance or transfer of uncertificated stock, the corporation shall send to the registered owner thereof a written notice containing the information required to be set forth or stated on certificates pursuant to this Section 6.2 or Sections 151, 156, 202(a) or 218(a) of the DGCL or with respect to this Section 6.2 a statement that the corporation will furnish without charge to each stockholder who so requests the powers, designations, preferences and relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights. Except as otherwise expressly provided by law, the rights and obligations of the holders of uncertificated stock and the rights and obligations of the holders of certificates representing stock of the same class and series shall be identical.

6.3 Lost Certificates. Except as provided in this Section 6.3, no new certificates for shares shall be issued to replace a previously issued certificate unless the latter is surrendered to the corporation and cancelled at the same time. The corporation may issue a new certificate of stock or uncertificated shares in the place of any certificate theretofore issued by it, alleged to have been lost, stolen or destroyed, and the corporation may require the owner of the lost, stolen or destroyed certificate, or such owner's legal representative, to give the corporation a bond sufficient to indemnify it against any claim that may be made against it on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate or uncertificated shares.

6.4 Dividends. The board of directors, subject to any restrictions contained in the certificate of incorporation or applicable law, may declare and pay dividends upon the shares of the corporation's capital stock.

The board of directors may set apart out of any of the funds of the corporation available for dividends a reserve or reserves for any proper purpose and may abolish any such reserve. Such purposes shall include but not be limited to equalizing dividends, repairing or maintaining any property of the corporation, and meeting contingencies.

6.5 Transfer of Stock. Transfers of record of shares of stock of the corporation shall be made only upon its books by the holders thereof, in person or by an attorney duly authorized, and, subject to Section 6.3 of these bylaws, if such stock is certificated, upon the surrender of a certificate or certificates for a like number of shares, properly endorsed or accompanied by proper evidence of succession, assignation or authority to transfer.

6.6 Stock Transfer Agreements. The corporation shall have power to enter into and perform any agreement with any number of stockholders of any one or more classes of stock of the

corporation to restrict the transfer of shares of stock of the corporation of any one or more classes owned by such stockholders in any manner not prohibited by the DGCL.

6.7 Registered Stockholders. The corporation:

(i) shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends and to vote as such owner;

(ii) shall be entitled to hold liable for calls and assessments the person registered on its books as the owner of shares; and

(iii) shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of another person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

## ARTICLE VII

### MANNER OF GIVING NOTICE AND WAIVER

7.1 Notice of Stockholders' Meetings. Notice of any meeting of stockholders, if mailed, is given when deposited in the United States mail, postage prepaid, directed to the stockholder at such stockholder's address as it appears on the corporation's records. An affidavit of the secretary or an assistant secretary of the corporation or of the transfer agent or other agent of the corporation that the notice has been given shall, in the absence of fraud, be *prima facie* evidence of the facts stated therein.

7.2 Notice By Electronic Transmission. Without limiting the manner by which notice otherwise may be given effectively to stockholders pursuant to the DGCL, the certificate of incorporation or these bylaws, any notice to stockholders given by the corporation under any provision of the DGCL, the certificate of incorporation or these bylaws shall be effective if given by a form of electronic transmission consented to by the stockholder to whom the notice is given. Any such consent shall be revocable by the stockholder by written notice to the corporation. Any such consent shall be deemed revoked if:

(i) the corporation is unable to deliver by electronic transmission two consecutive notices given by the corporation in accordance with such consent; and

(ii) such inability becomes known to the secretary or an assistant secretary of the corporation or to the transfer agent, or other person responsible for the giving of notice.

However, the inadvertent failure to treat such inability as a revocation shall not invalidate any meeting or other action.

Any notice given pursuant to the preceding paragraph shall be deemed given:

(i) if by facsimile telecommunication, when directed to a number at which the stockholder has consented to receive notice;



(ii) if by electronic mail, when directed to an electronic mail address at which the stockholder has consented to receive notice;

(iii) if by a posting on an electronic network together with separate notice to the stockholder of such specific posting, upon the later of (A) such posting and (B) the giving of such separate notice; and

(iv) if by any other form of electronic transmission, when directed to the stockholder.

An affidavit of the secretary or an assistant secretary or of the transfer agent or other agent of the corporation that the notice has been given by a form of electronic transmission shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

An “**electronic transmission**” means any form of communication, not directly involving the physical transmission of paper, that creates a record that may be retained, retrieved, and reviewed by a recipient thereof, and that may be directly reproduced in paper form by such a recipient through an automated process.

Notice by a form of electronic transmission shall not apply with respect to Sections 164, 296, 311, 312 or 324 of the DGCL.

7.3 Notice To Stockholders Sharing An Address. Except as otherwise prohibited under the DGCL, without limiting the manner by which notice otherwise may be given effectively to stockholders, any notice to stockholders given by the corporation under the provisions of the DGCL, the certificate of incorporation or these bylaws shall be effective if given by a single written notice to stockholders who share an address if consented to by the stockholders at that address to whom such notice is given. Any such consent shall be revocable by the stockholder by written notice to the corporation. Any stockholder who fails to object in writing to the corporation, within 60 days of having been given written notice by the corporation of its intention to send the single notice, shall be deemed to have consented to receiving such single written notice.

7.4 Notice To Person With Whom Communication Is Unlawful. Whenever notice is required to be given, under the DGCL, the certificate of incorporation or these bylaws, to any person with whom communication is unlawful, the giving of such notice to such person shall not be required and there shall be no duty to apply to any governmental authority or agency for a license or permit to give such notice to such person. Any action or meeting which shall be taken or held without notice to any such person with whom communication is unlawful shall have the same force and effect as if such notice had been duly given. In the event that the action taken by the corporation is such as to require the filing of a certificate under the DGCL, the certificate shall state, if such is the fact and if notice is required, that notice was given to all persons entitled to receive notice except such persons with whom communication is unlawful.

7.5 Waiver of Notice. Whenever notice is required to be given under any provision of the DGCL, the certificate of incorporation or these bylaws, a written waiver, signed by the person entitled to notice, or a waiver by electronic transmission by the person entitled to notice, whether before or after the time of the event for which notice is to be given, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting,

except when the person attends a meeting for the express purpose of objecting at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders need be specified in any written waiver of notice or any waiver by electronic transmission unless so required by the certificate of incorporation or these bylaws.

## **ARTICLE VIII**

### **FORUM FOR CERTAIN ACTIONS**

Unless the corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum to bring any state law claims for (i) any derivative action or proceeding brought on behalf of the corporation, (ii) any action asserting a claim of, or a claim based on, breach of a fiduciary duty owed by any current or former director, officer, or other employee or stockholder of the corporation to the corporation or the corporation's stockholders, (iii) any action asserting a claim against the corporation or any current or former director, officer, or other employee or stockholder of the corporation arising pursuant to any provision of the DGCL or the certificate of incorporation or bylaws, or (iv) any action asserting a claim against the corporation or any current or former director, officer, or other employee or stockholder of the corporation governed by the internal affairs doctrine. Unless the corporation consents in writing to the selection of an alternative forum, the United States District Court for the [Northern District of California] shall be the sole and exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act of 1933, as amended. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of the corporation shall be deemed to have notice of and consented to the provisions of this bylaw.

## **ARTICLE IX**

### **INDEMNIFICATION**

9.1 Indemnification of Directors and Officers In Third Party Proceedings. Subject to the other provisions of this Article IX, the corporation shall indemnify, to the fullest extent permitted by the DGCL, as now or hereinafter in effect, any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (a "**Proceeding**") (other than an action by or in the right of the corporation) by reason of the fact that such person is or was a director or officer of the corporation, or is or was a director or officer of the corporation serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such Proceeding if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe such person's conduct was unlawful. The termination of any Proceeding by judgment, order, settlement, conviction, or upon a plea of *nolo contendere* or its equivalent, shall not, of itself, create a presumption that the person did not act in good faith and in a manner which such person reasonably believed to be in or not

opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had reasonable cause to believe that such person's conduct was unlawful.

9.2 Indemnification of Directors and Officers in Actions by or in the Right of the Corporation. Subject to the other provisions of this Article IX, the corporation shall indemnify, to the fullest extent permitted by the DGCL, as now or hereinafter in effect, any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that such person is or was a director or officer of the corporation, or is or was a director or officer of the corporation serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the corporation; except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

9.3 Successful Defense. To the extent that a present or former director or officer of the corporation has been successful on the merits or otherwise in defense of any action, suit or proceeding described in Section 9.1 or Section 9.2, or in defense of any claim, issue or matter therein, such person shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection therewith.

9.4 Indemnification of Others. Subject to the other provisions of this Article IX, the corporation shall have power to indemnify its employees and agents to the extent not prohibited by the DGCL or other applicable law. The board of directors shall have the power to delegate to such person or persons as the board shall in its discretion determine the determination of whether employees or agents shall be indemnified.

9.5 Advance Payment of Expenses. Expenses (including attorneys' fees) actually and reasonably incurred by an officer or director of the corporation in defending any Proceeding shall be paid by the corporation in advance of the final disposition of such Proceeding upon receipt of a written request therefor (together with documentation reasonably evidencing such expenses) and an undertaking by or on behalf of the person to repay such amounts if it shall ultimately be determined that the person is not entitled to be indemnified under this Article IX or the DGCL. Such expenses (including attorneys' fees) incurred by former directors and officers or other employees and agents of the corporation or by persons serving at the request of the corporation as directors, officers, employees or agents of another corporation, partnership, joint venture, trust or other enterprise may be so paid upon such terms and conditions, if any, as the corporation deems appropriate. The right to advancement of expenses shall not apply to any claim for which indemnity is excluded pursuant to these bylaws, but shall apply to any Proceeding referenced in Section 9.6(ii) or 9.6(iii) prior to a determination that the person is not entitled to be indemnified by the corporation.

9.6 Limitation On Indemnification. Subject to the requirements in Section 9.3 and the DGCL, the corporation shall not be obligated to indemnify any person pursuant to this Article IX in connection with any Proceeding (or any part of any Proceeding):

(i) for which payment has actually been made to or on behalf of such person under any statute, insurance policy, indemnity provision, vote or otherwise, except with respect to any excess beyond the amount paid;

(ii) for an accounting or disgorgement of profits pursuant to Section 16(b) of the 1934 Act, or similar provisions of federal, state or local statutory law or common law, if such person is held liable therefor (including pursuant to any settlement arrangements);

(iii) for any reimbursement of the corporation by such person of any bonus or other incentive-based or equity-based compensation or of any profits realized by such person from the sale of securities of the corporation, as required in each case under the 1934 Act (including any such reimbursements that arise from an accounting restatement of the corporation pursuant to Section 304 of the Sarbanes-Oxley Act of 2002 (the “**Sarbanes-Oxley Act**”), or the payment to the corporation of profits arising from the purchase and sale by such person of securities in violation of Section 306 of the Sarbanes-Oxley Act), if such person is held liable therefor (including pursuant to any settlement arrangements);

(iv) initiated by such person, including any Proceeding (or any part of any Proceeding) initiated by such person against the corporation or its directors, officers, employees, agents or other indemnitees, unless (a) the board of directors authorized the Proceeding (or the relevant part of the Proceeding) prior to its initiation, (b) the corporation provides the indemnification, in its sole discretion, pursuant to the powers vested in the corporation under applicable law, (c) otherwise required to be made under Section 9.7 or (d) otherwise required by applicable law; or

(v) if prohibited by applicable law; *provided, however*, that if any provision or provisions of this Article IX shall be held to be invalid, illegal or unenforceable for any reason whatsoever: (1) the validity, legality and enforceability of the remaining provisions of this Article IX (including, without limitation, each portion of any paragraph or clause containing any such provision held to be invalid, illegal or unenforceable, that is not itself held to be invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby; and (2) to the fullest extent possible, the provisions of this Article IX (including, without limitation, each such portion of any paragraph or clause containing any such provision held to be invalid, illegal or unenforceable) shall be construed so as to give effect to the intent manifested by the provision held invalid, illegal or unenforceable.

9.7 Determination; Claim. If a claim for indemnification or advancement of expenses under this Article IX is not paid in full within 90 days after receipt by the corporation of the written request therefor, the claimant shall be entitled to an adjudication by a court of competent jurisdiction of his or her entitlement to such indemnification or advancement of expenses. The corporation shall indemnify such person against any and all expenses that are incurred by such person in connection with any action for indemnification or advancement of expenses from the corporation under this Article IX, to the extent such person is successful in such action, and to the extent not prohibited by law. In any such suit, the corporation shall, to the fullest extent not

prohibited by law, have the burden of proving that the claimant is not entitled to the requested indemnification or advancement of expenses.

9.8 Non-Exclusivity of Rights. The indemnification and advancement of expenses provided by, or granted pursuant to, this Article IX shall not be deemed exclusive of any other rights to which those seeking indemnification or advancement of expenses may be entitled under the certificate of incorporation or any statute, bylaw, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in such person's official capacity and as to action in another capacity while holding such office. The corporation is specifically authorized to enter into individual contracts with any or all of its directors, officers, employees or agents respecting indemnification and advancement of expenses, to the fullest extent not prohibited by the DGCL or other applicable law.

9.9 Insurance. The corporation may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of such person's status as such, whether or not the corporation would have the power to indemnify such person against such liability under the provisions of the DGCL.

9.10 Survival. The rights to indemnification and advancement of expenses conferred by this Article IX shall continue as to a person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of the heirs, executors and administrators of such a person.

9.11 Effect of Repeal or Modification. A right to indemnification or to advancement of expenses arising under a provision of the certificate of incorporation or a bylaw shall not be eliminated or impaired by an amendment to the certificate of incorporation or these bylaws after the occurrence of the act or omission that is the subject of the civil, criminal, administrative or investigative action, suit or proceeding for which indemnification or advancement of expenses is sought, unless the provision in effect at the time of such act or omission explicitly authorizes such elimination or impairment after such action or omission has occurred.

9.12 Certain Definitions. For purposes of this Article IX, references to the "**corporation**" shall include, in addition to the resulting corporation, any constituent corporation (including any constituent of a constituent) absorbed in a consolidation or merger which, if its separate existence had continued, would have had power and authority to indemnify its directors, officers, employees or agents, so that any person who is or was a director, officer, employee or agent of such constituent corporation, or is or was serving at the request of such constituent corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, shall stand in the same position under the provisions of this Article IX with respect to the resulting or surviving corporation as such person would have with respect to such constituent corporation if its separate existence had continued. For purposes of this Article IX, references to "**other enterprises**" shall include employee benefit plans; references to "**fin**es" shall include any excise taxes assessed on a person with respect to an employee benefit plan; and references to "**serv**ing at the request of the corporation" shall include any service as a director, officer, employee or agent of the corporation which imposes duties on, or involves

services by, such director, officer, employee or agent with respect to an employee benefit plan, its participants or beneficiaries; and a person who acted in good faith and in a manner such person reasonably believed to be in the interest of the participants and beneficiaries of an employee benefit plan shall be deemed to have acted in a manner “**not opposed to the best interests of the corporation**” as referred to in this Article IX.

## ARTICLE X

### GENERAL MATTERS

10.1 Execution of Corporate Contracts and Instruments. Except as otherwise provided by law, the certificate of incorporation or these bylaws, the board of directors may authorize any officer or officers, or agent or agents, to enter into any contract or execute any document or instrument in the name of and on behalf of the corporation; such authority may be general or confined to specific instances. Unless so authorized or ratified by the board of directors or within the agency power of an officer, no officer, agent or employee shall have any power or authority to bind the corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

10.2 Fiscal Year. The fiscal year of the corporation shall be fixed by resolution of the board of directors and may be changed by the board of directors.

10.3 Seal. The corporation may adopt a corporate seal, which may be altered by the board of directors. The corporation may use the corporate seal by causing it or a facsimile thereof to be impressed or affixed or in any other manner reproduced.

10.4 Construction; Definitions. Unless the context requires otherwise, the general provisions, rules of construction, and definitions in the DGCL shall govern the construction of these bylaws. Without limiting the generality of this provision, the singular number includes the plural, the plural number includes the singular, and the term “**person**” includes both a corporation and a natural person.

## ARTICLE XI

### AMENDMENTS

These bylaws may be adopted, amended or repealed by the stockholders entitled to vote; *provided, however*, that the affirmative vote of the holders of at least eighty percent (80%) of the total voting power of outstanding voting securities, voting together as a single class, shall be required for the stockholders of the corporation to alter, amend or repeal, or adopt any provision of these bylaws. The board of directors shall also have the power to adopt, amend or repeal bylaws.

A bylaw amendment adopted by stockholders which specifies the votes that shall be necessary for the election of directors shall not be further amended or repealed by the board of directors.

**TWILIO INC.**

**CERTIFICATE OF AMENDMENT OF BYLAWS**

The undersigned hereby certifies that she is the duly elected, qualified, and acting Secretary of Twilio Inc., a Delaware corporation and that the foregoing bylaws were amended and restated on July 31, 2020 by the corporation's board of directors.

**IN WITNESS WHEREOF**, the undersigned has hereunto set her hand this 4<sup>th</sup> day of August, 2020.

/s/ KARYN SMITH

Karyn Smith, Secretary

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

I, Jeffrey Lawson, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Twilio Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 4, 2020

/s/ JEFFREY LAWSON

Jeffrey Lawson

Chief Executive Officer (Principal Executive Officer)



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

I, Khozema Shipchandler, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Twilio Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 4, 2020

/s/ KHOZEMA SHIPCHANDLER

Khozema Shipchandler

*Chief Financial Officer (Principal Accounting and Financial Officer)*

**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**

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), Jeffrey Lawson, Chief Executive Officer of Twilio Inc. (the "Company"), and Khozema Shipchandler, Chief Financial Officer of the Company, each hereby certifies that, to the best of his knowledge:

1. The Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2020, to which this Certification is attached as Exhibit 32.1 (the "Periodic Report"), fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and
2. The information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 4, 2020

/s/ JEFFREY LAWSON

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Jeffrey Lawson

*Chief Executive Officer (Principal Executive Officer)*

/s/ KHOZEMA SHIPCHANDLER

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Khozema Shipchandler

*Chief Financial Officer (Principal Accounting and Financial Officer)*