UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2023

OR

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

For the transition period from to

Commission File Number: 001-36383

Five9, Inc.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**94-3394123**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)

3001 Bishop Drive, Suite 350
San Ramon, CA 94583
(Address of Principal Executive Offices) (Zip Code)
(925) 201-2000
(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
Common stock, par value $0.001 per share	FIVN	The NASDAQ Global Market

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post 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 definitions of "large accelerated filer," "accelerated filer", "smaller reporting company", and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer	☒		Accelerated Filer	☐
Non-accelerated filer	☐	(Do not check if a smaller reporting Company)	Smaller Reporting Company	☐
			Emerging Growth Company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. Yes: ☐ No: ☐

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

As of May 1, 2023, there were 71,176,473 shares of the Registrant's common stock, par value $0.001 per share, outstanding.

FIVE9, INC.

FORM 10-Q

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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 and Section 21E of the Securities Exchange Act of 1934, which involve substantial risks and uncertainties. These statements reflect the current views of our senior management with respect to future events and our financial performance. These forward-looking statements include statements with respect to our business, expenses, strategies, losses, growth plans, product and client initiatives, market growth projections, and our industry. Statements that include the words “expect,” “intend,” “plan,” “believe,” “project,” “forecast,” “estimate,” “may,” “should,” “anticipate” and similar statements of a future or forward-looking nature identify forward-looking statements for purposes of the federal securities laws or otherwise.

Forward-looking statements address matters that involve risks and uncertainties. Accordingly, there are or will be important factors that could cause our actual results to differ materially from those indicated in these statements. These factors include the information under the caption "Risk Factors" set forth in Part 1, Item 1A, of our Annual Report on Form 10-K for the fiscal year ended December 31, 2022 and Part II, Item 1A, of this Quarterly Report, which we encourage you to carefully read, and include the following:

- adverse economic conditions, including the impact of macroeconomic deterioration, including increased inflation, increased interest rates, supply chain disruptions, decreased economic output and fluctuations in currency rates, the impact of the Russia-Ukraine conflict, and other factors, may continue to harm our business;
- if we are unable to attract new clients or sell additional services and functionality to our existing clients, our revenue and revenue growth will be harmed;
- if our existing clients terminate their subscriptions or reduce their subscriptions and related usage, or fail to grow subscriptions at the rate they have in the past or that we might expect, our revenues and gross margins will be harmed, and we will be required to spend more money to grow our client base;
- because a significant percentage of our revenue is derived from existing clients, downturns or upturns in new sales will not be immediately reflected in our operating results and may be difficult to discern;
- we have established, and are continuing to increase, our network of technology solution brokers and resellers to sell our solution; our failure to effectively develop, manage, and maintain this network could materially harm our revenues;
- our quarterly and annual results may fluctuate significantly, including as a result of the timing and success of new product and feature introductions by us, may not fully reflect the underlying performance of our business and may result in decreases in the price of our common stock;
- our recent rapid growth may not be indicative of our future growth, and even if we continue to grow rapidly, we may fail to manage our growth effectively;
- our recent Chief Executive Officer transition could disrupt our operations, result in additional executive and personnel transitions and make it more difficult for us to hire and retain employees;
- failure to adequately retain and expand our sales force will impede our growth;
- if we fail to manage our technical operations infrastructure, our existing clients may experience service outages, our new clients may experience delays in the deployment of our solution and we could be subject to, among other things, claims for credits or damages;
- our growth depends in part on the success of our strategic relationships with third parties and our failure to successfully maintain, grow and manage these relationships could harm our business;
- the markets in which we participate involve a high number of competitors that are continuing to increase, and if we do not compete effectively, our operating results could be harmed;
- we continue to expand our international operations, which exposes us to significant macroeconomic and other risks;
- security breaches and improper access to or disclosure of our data or our clients’ data, or other cyber attacks on our systems, could result in litigation and regulatory risk, harm our reputation and our business;
- we may acquire other companies, or technologies or be the target of strategic transactions, or be impacted by transactions by other companies, which could divert our management’s attention, result in additional dilution to our stockholders or use a significant amount of our cash resources and otherwise disrupt our operations and harm our operating results;
- we sell our solution to larger organizations that require longer sales and implementation cycles and often demand more configuration and integration services or customized features and functions that we may not

offer, any of which could delay or prevent these sales and harm our growth rates, business and operating results;

- we rely on third-party telecommunications and internet service providers to provide our clients and their customers with telecommunication services and connectivity to our cloud contact center software and any failure by these service providers to provide reliable services could cause us to lose clients and subject us to claims for credits or damages, among other things;
- we have a history of losses and we may be unable to achieve or sustain profitability;
- the contact center software solutions market is subject to rapid technological change, and we must develop and sell incremental and new cloud contact center solutions, which we refer to as our solution, in order to maintain and grow our business;
- our stock price is volatile;
- we may not be able to secure additional financing on favorable terms, or at all, to meet our future capital needs;
- failure to comply with laws and regulations could harm our business and our reputation; and
- we may not have sufficient cash to service our convertible senior notes and repay such notes, if required.

The foregoing factors should not be construed as exhaustive and should be read together with the other cautionary statements included in, or incorporated into, this report. If one or more of these or other risks or uncertainties materialize, or if our underlying assumptions prove to be incorrect, our actual results may differ materially from what we anticipate. You should not place undue reliance on our forward-looking statements. Any forward-looking statements you read in this report reflect our views only as of the date of this report with respect to future events and are subject to these and other risks, uncertainties and assumptions relating to our operations, results of operations, growth strategy and liquidity. We undertake no obligation to update any forward-looking statements made in this report to reflect events or circumstances after the date of this report or to reflect new information or the occurrence of unanticipated events, except as required by law.

PART I. FINANCIAL INFORMATION

ITEM 1. Financial Statements

FIVE9, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS

(In thousands, except per share data)

	March 31, 2023	December 31, 2022
	(Unaudited)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 141,359	$ 180,520
Marketable investments	488,381	433,743
Accounts receivable, net	88,085	87,494
Prepaid expenses and other current assets	32,018	29,711
Deferred contract acquisition costs, net	50,566	47,242
Total current assets	800,409	778,710
Property and equipment, net	101,057	101,221
Operating lease right-of-use assets	45,339	44,120
Intangible assets, net	25,346	28,192
Goodwill	165,420	165,420
Marketable investments	13,498	885
Other assets	15,240	11,057
Deferred contract acquisition costs, net — less current portion	119,799	114,880
Total assets	$ 1,286,108	$ 1,244,485
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 22,461	$ 23,629
Accrued and other current liabilities	62,196	53,092
Operating lease liabilities	11,739	10,626
Accrued federal fees	3,360	2,471
Sales tax liabilities	2,209	2,973
Deferred revenue	58,082	57,816
Convertible senior notes	169	169
Total current liabilities	160,216	150,776
Convertible senior notes — less current portion	739,284	738,376
Sales tax liabilities — less current portion	906	899
Operating lease liabilities — less current portion	41,703	41,389
Other long-term liabilities	4,913	3,080
Total liabilities	947,022	934,520
Commitments and contingencies (Note 10)		
Stockholders' equity:		
Common stock	72	71
Additional paid-in capital	690,309	635,668
Accumulated other comprehensive loss	(961)	(2,688)
Accumulated deficit	(350,334)	(323,086)
Total stockholders' equity	339,086	309,965
Total liabilities and stockholders' equity	$ 1,286,108	$ 1,244,485

See accompanying notes to the unaudited condensed consolidated financial statements.

FIVE9, INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

(Unaudited, in thousands, except per share data)

	Three Months Ended	
	March 31, 2023	**March 31, 2022**
Revenue	$ 218,439	$ 182,777
Cost of revenue	104,756	88,867
Gross profit	113,683	93,910
Operating expenses:		
Research and development	38,108	35,824
Sales and marketing	76,314	64,611
General and administrative	28,258	24,314
Total operating expenses	142,680	124,749
Loss from operations	(28,997)	(30,839)
Other (expense) income, net:		
Interest expense	(1,845)	(1,870)
Interest income and other	4,121	845
Total other income (expense), net	2,276	(1,025)
Loss before income taxes	(26,721)	(31,864)
Provision for income taxes	527	2,256
Net loss	$ (27,248)	$ (34,120)
Net loss per share:		
Basic and diluted	$ (0.38)	$ (0.49)
Shares used in computing net loss per share:		
Basic and diluted	71,259	68,974
Comprehensive Loss:		
Net loss	$ (27,248)	$ (34,120)
Other comprehensive income (loss)	1,727	(3,083)
Comprehensive loss	$ (25,521)	$ (37,203)

See accompanying notes to the unaudited condensed consolidated financial statements.

FIVE9, INC.

CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY
(Unaudited, in thousands)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance as of December 30, 2021	68,488	$ 68	$ 439,787	$ (287)	$ (228,436)	$ 211,132
Issuance of common stock upon partial conversion of the 2023 convertible senior notes	540	—	(244)	—	—	(244)
Partial unwind of capped calls and retirement of common stock related to the 2023 convertible senior notes	(111)	—	2	—	—	2
Issuance of common stock upon exercise of stock options	281	1	1,276	—	—	1,277
Issuance of common stock upon vesting of restricted stock units	323	1	—	—	—	1
Stock-based compensation	—	—	39,394	—	—	39,394
Other comprehensive loss	—	—	—	(3,083)	—	(3,083)
Net loss	—	—	—	—	(34,120)	(34,120)
Balance as of March 31, 2022	69,521	$ 70	$ 480,215	$ (3,370)	$ (262,556)	$ 214,359
Balance as of December 31, 2022	71,047	$ 71	$ 635,668	$ (2,688)	$ (323,086)	$ 309,965
Issuance of common stock upon exercise of stock options	139	—	3,125	—	—	3,125
Issuance of common stock upon vesting of restricted stock units	358	1	—	—	—	1
Stock-based compensation	—	—	51,516	—	—	51,516
Other comprehensive income	—	—	—	1,727	—	1,727
Net loss	—	—	—	—	(27,248)	(27,248)
Balance as of March 31, 2023	71,544	$ 72	$ 690,309	$ (961)	$ (350,334)	$ 339,086

See accompanying notes to the unaudited condensed consolidated financial statements.

FIVE9, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited, in thousands)

	Three Months Ended	
	March 31, 2023	March 31, 2022
Cash flows from operating activities:		
Net loss	$ (27,248)	$ (34,120)
Adjustments to reconcile net loss to net cash provided by operating activities:		
Depreciation and amortization	11,347	10,795
Amortization of operating lease right-of-use assets	2,934	2,403
Amortization of deferred contract acquisition costs	12,423	8,678
(Accretion of discount) amortization of premium on marketable investments	(1,863)	700
Provision for credit losses	317	222
Stock-based compensation	50,743	39,394
Amortization of discount and issuance costs on convertible senior notes	908	930
Deferred taxes	59	1,889
Other	439	470
Changes in operating assets and liabilities:		
Accounts receivable	(908)	5,566
Prepaid expenses and other current assets	(2,307)	(2,162)
Deferred contract acquisition costs	(20,665)	(20,160)
Other assets	(4,231)	234
Accounts payable	1,557	11,133
Accrued and other current liabilities	7,599	2,096
Accrued federal fees and sales tax liabilities	133	(1,239)
Deferred revenue	181	2,659
Other liabilities	1,994	(764)
Net cash provided by operating activities	33,412	28,724
Cash flows from investing activities:		
Purchases of marketable investments	(140,892)	(105,277)
Proceeds from sales of marketable investments	—	600
Proceeds from maturities of marketable investments	76,940	130,821
Purchases of property and equipment	(9,928)	(12,398)
Capitalization of software development costs	(1,806)	(569)
Cash paid for an equity investment in a privately-held company	—	(2,000)
Net cash (used in) provided by investing activities	(75,686)	11,177
Cash flows from financing activities:		
Repurchase of a portion of 2023 convertible senior notes, net of costs	—	(31,905)
Proceeds from exercise of common stock options	3,125	1,277
Net cash provided by (used in) financing activities	3,125	(30,628)
Net (decrease) increase in cash, cash equivalents and restricted cash	(39,149)	9,273
Cash, cash equivalents and restricted cash:		
Beginning of period	180,987	90,878
End of period	$ 141,838	$ 100,151
Supplemental disclosures of cash flow data:		
Cash paid for interest	$ 2	$ —
Cash paid for income taxes	$ 32	$ 337
Non-cash investing and financing activities:		
Equipment and software purchased and unpaid at period-end	$ 8,310	$ 22,365
Stock-based compensation included in capitalized software development costs	$ 773	$ —
Reconciliation of Cash, Cash Equivalents and Restricted Cash to the Condensed Consolidated Balance Sheets - Beginning of Period:		
Cash and cash equivalents	$ 180,520	$ 90,878
Restricted cash in other assets	467	—
Total cash, cash equivalents and restricted cash	$ 180,987	$ 90,878
Reconciliation of Cash, Cash Equivalents and Restricted Cash to the Condensed Consolidated Balance Sheets - End of Period:		
Cash and cash equivalents	$ 141,359	$ 100,151
Restricted cash in other assets	479	—
Total cash, cash equivalents and restricted cash	$ 141,838	$ 100,151

See accompanying notes to the unaudited condensed consolidated financial statements.

FIVE9, INC.

Notes to Condensed Consolidated Financial Statements (Unaudited)

1. Description of Business and Summary of Significant Accounting Policies

Five9, Inc. and its wholly-owned subsidiaries (the "Company") is a provider of cloud software for contact centers. The Company was incorporated in Delaware in 2001 and is headquartered in San Ramon, California. The Company has offices in Europe, Asia and Australia, which primarily provide research, development, sales, marketing, and client support services.

Basis of Presentation

The accompanying condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States ("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 financial statements prepared in accordance with 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 for the year ended December 31, 2022. In the opinion of management, the condensed consolidated financial statements reflect all adjustments, which are normal and recurring in nature, necessary for fair financial statement presentation. All intercompany transactions and balances have been eliminated in consolidation.

Use of Estimates

The preparation of condensed consolidated financial statements in accordance with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the condensed consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. The significant estimates made by management affect revenue and related reserves, as well as the fair value of liabilities assumed through business combinations. Management periodically evaluates such estimates and they are adjusted prospectively based upon such periodic evaluation. Actual results could differ from those estimates.

Significant Accounting Policies

There have been no material changes from the significant accounting policies previously disclosed in Part II, Item 8, of the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2022 as filed with the SEC on February 24, 2023.

Recent Accounting Pronouncements Not Yet Effective

The Company has reviewed or is in the process of evaluating all issued, but not yet effective, accounting pronouncements and does not believe the future adoption of any such accounting pronouncements will cause a material impact on its condensed consolidated financial position, operating results or statements of cash flows.

2. Revenue

Contract Balances

The following table provides information about accounts receivable, net, deferred contract acquisition costs, net, contract assets and contract liabilities from contracts with customers (in thousands):

	March 31, 2023	December 31, 2022
Accounts receivable, net	$ 88,085	$ 87,494
Deferred contract acquisition costs, net:		
Current	$ 50,566	$ 47,242
Non-current	119,799	114,880
Total deferred contract acquisition costs, net	$ 170,365	$ 162,122
Contract assets and contract liabilities:		
Contract assets (included in prepaid expenses and other current assets)	$ 3,209	$ 3,401
Contract liabilities (deferred revenue)	(58,082)	(57,816)
Noncurrent contract liabilities (deferred revenue) (included in other long-term liabilities)	(1,093)	(1,178)
Net contract liabilities	$ (55,966)	$ (55,593)

The Company receives payments from customers based upon billing cycles. Invoice payment terms are usually 30 days or less. Accounts receivable are recorded when the right to consideration becomes unconditional.

Deferred contract acquisition costs are recorded when incurred and are amortized over an estimated customer benefit period of five years.

The Company's contract assets consist of unbilled amounts typically resulting from professional services revenue recognition when it exceeds the total amounts billed to the customer. The Company's contract liabilities consist of advance payments and billings in excess of revenue recognized.

In the three months ended March 31, 2023, the Company recognized revenue of $31.4 million related to its contract liabilities at December 31, 2022.

Remaining Performance Obligations

As of March 31, 2023, the aggregate amount of the total transaction price allocated in contracts with original duration of greater than one year to the remaining performance obligations was $918.3 million. The Company expects to recognize revenue on approximately three-fifths of the remaining performance obligations over the next 24 months, with the balance recognized thereafter. The Company excludes amounts for remaining performance obligations that are part of contracts with an original expected duration of one year or less. Such remaining performance obligations represent unsatisfied or partially unsatisfied performance obligations.

3. Investments and Fair Value Measurements

Marketable Investments

The Company's marketable investments have been classified and accounted for as available-for-sale. The Company's marketable investments as of March 31, 2023 and December 31, 2022 were as follows (in thousands):

	March 31, 2023			
Short-Term Marketable Investments	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Certificates of deposit	$ 2,201	$ —	$ (8)	$ 2,193
U.S. treasury	169,888	35	(668)	169,255
U.S. agency securities	267,338	50	(1,019)	266,369
Commercial paper	35,327	1	(39)	35,289
Municipal bonds	12,719	—	(97)	12,622
Corporate bonds	2,663	—	(10)	2,653
Total	$ 490,136	$ 86	$ (1,841)	$ 488,381

	March 31, 2023			
Long-term Marketable Investments	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. agency securities	$ 11,478	$ 14	$ (1)	$ 11,491
Corporate bonds	2,013	—	(6)	2,007
Total	$ 13,491	$ 14	$ (7)	$ 13,498

	December 31, 2022			
Short-Term Marketable Investments	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Certificates of deposit	$ 747	$ —	$ (13)	$ 734
U.S. treasury securities	186,776	8	(1,382)	185,402
U.S. agency and government-sponsored securities	197,597	29	(1,660)	195,966
Commercial paper	25,386	—	—	25,386
Municipal bonds	22,764	—	(145)	22,619
Corporate bonds	3,658	—	(22)	3,636
Total	$ 436,928	$ 37	$ (3,222)	$ 433,743

	December 31, 2022			
Long-term Marketable Investments	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. agency securities	$ 885	$ —	$ —	$ 885
Total	$ 885	$ —	$ —	$ 885

The following table presents the gross unrealized losses and the fair value for those marketable investments that were in an unrealized loss position for less than 12 months as of March 31, 2023 and December 31, 2022 (in thousands):

	March 31, 2023		December 31, 2022	
	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value
Certificates of deposit	$ (8)	$ 490	$ (13)	$ 734
U.S. treasury securities	(668)	90,248	(1,382)	126,534
U.S. agency securities	(1,020)	203,987	(1,660)	172,458
Commercial paper	(39)	28,874	—	—
Municipal bonds	(97)	12,622	(145)	12,623
Corporate bonds	(16)	4,660	(22)	3,636
Total	$ (1,848)	$ 340,881	$ (3,222)	$ 315,985

Although the Company had certain available-for-sale debt securities in an unrealized loss position as of March 31, 2023, no impairment loss was recorded since it did not intend to sell them, did not anticipate a need to sell them, and the decline in fair value was not due to any credit-related factors.

Fair Value Measurements

The Company carries cash equivalents and marketable investments at fair value. Fair value is based on the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value is estimated by applying the following hierarchy, which prioritizes the inputs used to measure fair value into three levels and bases the categorization within the hierarchy upon the lowest level of input that is available and significant to the fair value measurement:

Level 1 — Observable inputs, which include unadjusted quoted prices in active markets for identical assets or liabilities.

Level 2 — Observable inputs other than Level 1 inputs, such as quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 — Unobservable inputs that are supported by little or no market activity and that are based on management’s assumptions, including fair value measurements determined by using pricing models, discounted cash flow methodologies or similar techniques.

The Company determined the fair value of its Level 1 financial instruments, which are traded in active markets, using quoted market prices for identical instruments.

Marketable investments classified within Level 2 of the fair value hierarchy are valued based on other observable inputs, including broker or dealer quotations or alternative pricing sources. When quoted prices in active markets for identical assets or liabilities are not available, the Company relies on non-binding quotes from its investment managers, which are based on proprietary valuation models of independent pricing services. These models generally use inputs such as observable market data, quoted market prices for similar instruments, historical pricing trends of a security as relative to its peers. To validate the fair value determination provided by its investment managers, the Company reviews the pricing movement in the context of overall market trends and trading information from its investment managers. The Company performs routine procedures such as comparing prices obtained from independent source to ensure that appropriate fair values are recorded.

The following tables set forth the Company’s assets measured at fair value by level within the fair value hierarchy (in thousands):

	March 31, 2023			
	Level 1	Level 2	Level 3	Total
Assets				
Cash equivalents				
Money market funds	$ 17,296	$ —	$ —	$ 17,296
Total cash equivalents	$ 17,296	$ —	$ —	$ 17,296
Marketable investments (short and long term)				
Certificates of deposit	$ —	$ 2,193	$ —	$ 2,193
U.S. treasury	169,255	—	—	169,255
U.S. agency securities and government sponsored securities	—	277,860	—	277,860
Commercial paper	—	35,289	—	35,289
Municipal bonds	—	12,622	—	12,622
Corporate bonds	—	4,660	—	4,660
Total marketable investments	$ 169,255	$ 332,624	$ —	$ 501,879

	December 31, 2022			
	Level 1	Level 2	Level 3	Total
Assets				
Cash equivalents				
Money market funds	$ 37,560	$ —	$ —	$ 37,560
U.S. treasury securities	19,700	—	—	19,700
Total cash equivalents	$ 57,260	$ —	$ —	$ 57,260
Marketable investments (short and long-term)				
Certificates of deposit	$ —	$ 734	$ —	$ 734
U.S. treasury securities	185,402	—	—	185,402
U.S. agency and government-sponsored securities	—	196,851	—	196,851
Commercial paper	—	25,386	—	25,386
Municipal bonds	—	22,619	—	22,619
Corporate bonds	—	3,636	—	3,636
Total marketable investments	$ 185,402	$ 249,226	$ —	$ 434,628

As of March 31, 2023 and December 31, 2022, the estimated fair value of the Company’s outstanding 2023 convertible senior notes was $0.3 million for each of the periods. As of March 31, 2023 and December 31, 2022, the estimated fair value of the Company's outstanding 2025 convertible senior notes was $700.7 million and $687.1 million, respectively. The fair values were determined based on the quoted price of the convertible senior notes in an inactive market on the last trading day of the reporting period and have been classified as Level 2 in the fair value hierarchy. See Note 6 for further information on the Company’s convertible senior notes.

In February 2022, the Company made a $2.0 million equity investment in a privately-held company that it does not have the ability to exercise significant influence over. The Company elected the measurement alternative for an equity security without a readily determinable fair value. Accordingly, this investment will be accounted for at its cost minus impairment, if any, and is classified within Level 3. If the Company identifies observable price changes in orderly transactions for such investment or a similar investment, it will measure the investment at fair value as of the date that the observable transactions or events occurred.

Except for the $2.0 million equity investment described above, there were no assets or liabilities measured at fair value on a non-recurring basis as of March 31, 2023 and December 31, 2022.

The fair value of the Company’s other financial instruments, including accounts receivable, accounts payable and other current liabilities, approximate their carrying value due to the relatively short maturity of those instruments. The carrying amounts of the Company’s operating leases approximate their fair value, which is the present value of expected future cash payments based on assumptions about current interest rates and the creditworthiness of the Company.

4. Financial Statement Components

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

	March 31, 2023	December 31, 2022
Cash	$ 124,063	$ 123,260
Money market funds	17,296	37,560
U.S. treasury	—	19,700
Total cash and cash equivalents	$ 141,359	$ 180,520

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

	March 31, 2023	December 31, 2022
Trade accounts receivable	$ 77,712	$ 77,621
Unbilled trade accounts receivable, net of advance client deposits	10,614	10,135
Allowance for credit losses	(241)	(262)
Accounts receivable, net	$ 88,085	$ 87,494

Prepaid expenses and other current assets consisted of the following (in thousands):

	March 31, 2023	December 31, 2022
Prepaid expenses	$ 22,149	$ 17,151
Other current assets	6,660	9,159
Contract assets	3,209	3,401
Prepaid expenses and other current assets	$ 32,018	$ 29,711

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

	March 31, 2023	December 31, 2022
Computer and network equipment	$ 142,408	$ 148,789
Computer software	54,183	50,955
Internal-use software development costs	8,690	6,111
Furniture and fixtures	3,990	3,326
Leasehold improvements	6,003	6,574
Property and equipment	215,274	215,755
Accumulated depreciation and amortization	(114,217)	(114,534)
Property and equipment, net	$ 101,057	$ 101,221

Depreciation and amortization expense associated with property and equipment was $8.5 million and $7.8 million for the three months ended March 31, 2023 and 2022, respectively.

Property and equipment capitalized under finance lease obligations consists primarily of computer and network equipment and was immaterial as of March 31, 2023 and December 31, 2022.

Other assets consisted of the following (in thousands):

	March 31, 2023	December 31, 2022
Other assets	$ 9,275	$ 5,081
Equity investment in a privately-held company	2,000	2,000
Deferred tax assets	3,965	3,976
Total	$ 15,240	$ 11,057

Accrued and other current liabilities consisted of the following (in thousands):

	March 31, 2023	December 31, 2022
Accrued expenses	$ 21,964	$ 19,343
Accrued compensation and benefits	40,232	33,749
Accrued and other current liabilities	$ 62,196	$ 53,092

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

	March 31, 2023	December 31, 2022
Deferred revenue	$ 1,093	$ 1,178
Deferred tax liabilities	206	157
Other long-term liabilities	3,614	1,745
Other long-term liabilities	$ 4,913	$ 3,080

5. Goodwill and Intangible Assets

Goodwill

There was no activity in the Company's goodwill balance during the three months ended March 31, 2023.

Intangible Assets

The following table summarizes the activity in the Company's intangible assets balance during the three months ended March 31, 2023 (in thousands):

	Three Months Ended March 31, 2023
Beginning of the period	$ 28,192
Amortization	(2,846)
End of the period	$ 25,346

The components of intangible assets were as follows (in thousands):

	March 31, 2023				December 31, 2022			
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Weighted Average Remaining Amortization period (Years)	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Weighted Average Remaining Amortization period (Years)
Developed technology	$ 56,214	$ (31,647)	$ 24,567	3.0	$ 56,214	$ (28,881)	$ 27,333	3.2
Acquired workforce	470	(470)	—	0.0	470	(470)	0	0.0
Customer relationships	1,600	(821)	779	2.5	1,600	(741)	859	2.7
Trademarks	500	(500)	—	0.0	500	(500)	—	0.0
Total	$ 58,784	$ (33,438)	$ 25,346	3.0	$ 58,784	$ (30,592)	$ 28,192	3.2

Amortization expense related to intangible assets was $2.8 million and $2.9 million for the three months ended March 31, 2023 and 2022, respectively.

As of March 31, 2023, the expected future amortization expense for intangible assets was as follows (in thousands):

Period	Expected Future Amortization Expense
Remaining 2023	$ 8,024
2024	7,527
2025	5,595
2026	4,200
2027	—
Thereafter	—
Total	$ 25,346

6. Debt

2025 Convertible Senior Notes and Related Capped Call Transactions

In May and June 2020, the Company issued $747.5 million aggregate principal amount of 2025 convertible senior notes in a private offering, which aggregate principal amount included the exercise in full of the initial purchasers’ option to purchase up to an additional $97.5 million principal amount of the 2025 convertible senior notes. The 2025 convertible senior notes mature on June 1, 2025 and bear interest at a fixed rate of 0.500% per annum, payable semiannually in arrears on June 1 and December 1 of each year, beginning on December 1, 2020. The total net proceeds from the issuance of the 2025 convertible senior notes, after deducting initial purchasers' discounts and commissions and estimated debt issuance costs, were approximately $728.8 million.

Each $1,000 principal amount of the 2025 convertible senior notes is initially convertible into 7.4437 shares of the Company's common stock (the "2025 Conversion Option"), which is equivalent to an initial conversion price of approximately $134.34 per share of common stock, subject to adjustment upon the occurrence of specified events. The initial conversion price represents a premium of approximately 30% to the $103.34 per share closing price of the Company's common stock on The Nasdaq Global Market on May 21, 2020. The 2025 convertible senior notes are convertible, in multiples of $1,000 principal amount, at the option of the holders prior to the close of business on the business day immediately preceding March 1, 2025, only under the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on September 30, 2020 (and only during such calendar quarter), if the last reported sale price of the Company's common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day; (2) during the five business day period after any five consecutive trading day period (the "2025 Measurement Period") in which the trading price (as defined in the 2025 Indenture governing the 2025 convertible senior notes) per $1,000 principal amount of the 2025 convertible senior notes for each trading day of the 2025 Measurement Period was less than 98% of the product of the last reported sale price of the Company's common stock and the conversion rate in effect on each such trading day; (3) if the Company calls any or all of the 2025 convertible senior notes for redemption, at any time prior to the close of business on the second scheduled trading day immediately preceding the redemption date; or (4) upon the occurrence of specified corporate events. On or after March 1, 2025 until the close of business on the second scheduled trading day immediately preceding the maturity date, holders may convert all or any portion of their 2025 convertible senior notes, in multiples of $1,000 principal amount, at the option of the holder regardless of the foregoing circumstances.

Upon conversion, the Company will pay or deliver, as the case may be, cash, shares of the Company's common stock or a combination of cash and shares of the Company's common stock, at the Company's election. If the Company undergoes a fundamental change (as defined in the indenture governing the 2025 convertible senior notes), subject to certain conditions, holders may require the Company to repurchase for cash all or any portion of their 2025 convertible senior notes, in principal amounts of $1,000 or a multiple thereof, at a fundamental change repurchase price equal to 100% of the principal amount of the 2025 convertible senior notes to be repurchased, plus accrued and unpaid interest, if any, to, but excluding, the fundamental change repurchase date. In addition, following certain corporate events or if the Company issues a notice of redemption, it will, under certain circumstances, increase the conversion rate for holders who elect to convert their notes in connection with such corporate event or during the relevant redemption period.

There have been no changes to the initial conversion price of the 2025 convertible senior notes since issuance. The closing market price of the Company's common stock of $72.29 per share on March 31, 2023, the last trading day during the three months ended March 31, 2023, was below $174.64 per share, which represents 130% of the initial conversion price of $134.34 per share. Additionally, the last reported sale price of the Company's common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day, March 31, 2023, was not greater than or equal to 130% of the initial conversion price. As such, during the three months ended March 31, 2023, the conditions allowing holders of the 2025 convertible senior notes to convert were not met. The 2025 convertible senior notes are therefore not convertible during the three months ending June 30, 2023.

The Company may not redeem the 2025 convertible senior notes prior to June 6, 2023. The Company may redeem for cash all or any portion of the 2025 convertible senior notes, at its option, on or after June 6, 2023 and prior to March 1, 2025 if the last reported sale price of its 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 day period (including the last trading day of such period) ending not more than two trading days immediately preceding the date on which the Company provides notice of redemption at a redemption price equal to 100% of the principal amount of the 2025 convertible senior notes to be redeemed, plus accrued and unpaid interest, if any, to, but excluding, the redemption date. No sinking fund is provided for the 2025 convertible senior notes.

The 2025 convertible senior notes are the Company's senior unsecured obligations and rank senior in right of payment to any of the Company's indebtedness that is expressly subordinated in right of payment to the 2025 convertible senior notes; equal in right of payment to any of the Company's unsecured indebtedness that is not so subordinated (including the 2023 convertible senior notes); effectively junior in right of payment 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 the Company's subsidiaries.

The net carrying amount of the 2025 convertible senior notes as of March 31, 2023 and as of December 31, 2022 was as follows (in thousands):

	March 31, 2023	December 31, 2022
Principal	$ 747,500	$ 747,500
Unamortized issuance costs	(8,216)	(9,124)
Net carrying amount	$ 739,284	$ 738,376

Interest expense related to the 2025 convertible senior notes was as follows (in thousands):

	Three Months Ended	
	March 31, 2023	March 31, 2022
Contractual interest expense	$ 934	$ 934
Amortization of issuance costs	908	899
Total interest expense	$ 1,842	$ 1,833

In connection with the issuance of the 2025 convertible senior notes, the Company entered into privately negotiated capped call transactions (the "2025 Capped Call Transactions") with certain financial institutions. The initial cap price of the 2025 Capped Call Transactions was $206.68 per share and is subject to certain adjustments under the terms of the 2025 Capped Call Transactions. The 2025 Capped Call Transactions cover, subject to anti-dilution adjustments, approximately 5.6 million shares of the Company's common stock.

2023 Convertible Senior Notes and Related Capped Call Transactions

In May 2018, the Company issued $258.8 million aggregate principal amount of the 2023 convertible senior notes in a private offering. The 2023 convertible senior notes mature on May 1, 2023 and bear interest at a fixed rate of 0.125% per annum, payable semiannually in arrears on May 1 and November 1 of each year. The total net proceeds from the offering, after deducting initial purchasers' discounts and commissions and estimated debt issuance costs, was approximately $250.8 million.

In May 2020, the Company used part of the net proceeds from the issuance of the 2025 convertible senior notes to repurchase, exchange or otherwise retire approximately $181.0 million aggregate principal amount of the 2023 convertible senior notes in privately-negotiated transactions for aggregate consideration of $449.6 million, consisting of $181.0 million in cash and 2,723,581 shares of the Company's common stock (the "2023 Note Repurchase Transactions").

As of March 31, 2023, after giving effect to the 2023 Note Repurchase Transactions and other settlements upon conversion requests, approximately $0.2 million aggregate principal amount of 2023 convertible senior notes remained outstanding.

Each $1,000 principal amount of the 2023 convertible senior notes was initially convertible into 24.4978 shares of the Company's common stock (the "2023 Conversion Option"), which is equivalent to an initial conversion price of approximately $40.82 per share of common stock, subject to adjustment upon the occurrence of specified events. The 2023 convertible senior notes were convertible, in multiples of $1,000 principal amount, at the option of the holders at any time prior to the close of business on the business day immediately preceding November 1, 2022, only under the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ended on September 30, 2018 (and only during such calendar quarter), if the last reported sale price of the Company's common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day; (2) during the five business day period after any five consecutive trading day period (the "2023 Measurement Period") in which the trading price (as defined in the indenture governing the 2023 convertible senior notes) per $1,000 principal amount of the 2023 convertible senior notes for each trading day of the 2023 Measurement Period was less than 98% of the product of the last reported sale price of the Company's common stock and the conversion rate in effect on each such trading day; (3) if the Company calls any or all of the 2023 convertible senior notes for redemption, at any time prior to the close of business on the second scheduled trading day immediately preceding the redemption date; or (4) upon the occurrence of specified corporate events. Commencing on November 1, 2022, and until the close of business on the second scheduled trading day immediately preceding the maturity date, holders may convert all or any portion of their 2023 convertible senior notes, in multiples of $1,000 principal amount, at the option of the holder regardless of the foregoing circumstances.

Upon conversion, the Company will pay or deliver, as the case may be, cash, shares of the Company’s common stock or a combination of cash and shares of the Company’s common stock, at the Company’s election. If the Company undergoes a fundamental change (as defined in the indenture governing the 2023 convertible senior notes), subject to certain conditions, holders may require the Company to repurchase for cash all or any portion of their 2023 convertible senior notes, in principal amounts of $1,000 or a multiple thereof, at a fundamental change repurchase price equal to 100% of the principal amount of the 2023 convertible senior notes to be repurchased, plus accrued and unpaid interest, if any, to, but excluding, the fundamental change repurchase date. In addition, following certain corporate events that occur prior to the maturity date or if the Company issues a notice of redemption, it will, under certain circumstances, increase the conversion rate for holders who elect to convert their 2023 convertible senior notes in connection with such corporate event or during the relevant redemption period.

There have been no changes to the initial conversion price of the 2023 convertible senior notes since issuance. During each of the quarters from the third quarter of 2019 through the third quarter of 2022, one of the triggers for convertibility of the 2023 convertible senior notes was triggered as the last reported sale price of the Company’s common stock was greater than $53.07 per share, which represents 130% of the initial conversion price of $40.82 per share, for at least 20 trading days in the period of 30 consecutive trading days ended on, and including, the last trading day of the quarter for each quarter of 2020 and 2021 and for the first three quarters of 2022. As a result, the 2023 convertible senior notes were convertible, in multiples of $1,000 principal amount, at the option of the 2023 convertible senior note holders between October 1, 2019 to October 31, 2022. The 2023 convertible senior notes continue to be convertible from November 1, 2022 until the close of business on the second scheduled trading day immediately preceding the maturity date. There were no conversions of the 2023 convertible senior notes during the three months ended March 31, 2023. As of March 31, 2023, approximately $0.2 million aggregate principal amount of the Company's 2023 convertible senior notes remained outstanding.

The 2023 convertible senior notes are the Company’s senior unsecured obligations and rank senior in right of payment to any of the Company’s indebtedness that is expressly subordinated in right of payment to the 2023 convertible senior notes; equal in right of payment to any of the Company’s unsecured indebtedness that is not so subordinated (including the 2025 convertible senior notes); effectively junior in right of payment 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 the Company’s subsidiaries.

The net carrying amount of the 2023 convertible senior notes as of March 31, 2023 and as of December 31, 2022 was as follows (in thousands):

	March 31, 2023	December 31, 2022
Principal	$ 169	$ 169
Unamortized issuance costs	—	—
Net carrying amount	$ 169	$ 169

Interest expense related to the 2023 convertible senior notes was as follows (in thousands):

	Three Months Ended	
	March 31, 2023	March 31, 2022
Contractual interest expense	$ —	$ 6
Amortization of issuance costs	—	31
Total interest expense	$ —	$ 37

In connection with the issuance of the 2023 convertible senior notes, the Company entered into privately negotiated capped call transactions (the “2023 Capped Call Transactions”) with certain financial institutions. The initial cap price of the 2023 Capped Call Transactions was $62.80 per share, and is subject to certain adjustments under the terms of the 2023 Capped Call Transactions. The 2023 Capped Call Transactions cover, subject to anti-dilution adjustments, approximately 6.3 million shares of the Company’s common stock.

7. Stockholders' Equity

Capital Structure

Common Stock

The Company is authorized to issue 450,000,000 shares of common stock with a par value of $0.001 per share. As of March 31, 2023 and December 31, 2022, the Company had 71,544,294 and 71,047,179 shares of common stock issued and outstanding, respectively.

Preferred Stock

The Company is authorized to designate and issue up to 5,000,000 shares of preferred stock with a par value of $0.001 per share in one or more series without stockholder approval and to fix the rights, preferences, privileges and restrictions thereof. As of March 31, 2023 and December 31, 2022, there were no shares of preferred stock issued and outstanding.

Common Stock Reserved for Future Issuance

Shares of common stock reserved for future issuance related to outstanding equity awards and employee equity incentive plans as of March 31, 2023 were as follows (in thousands):

	March 31, 2023
Stock options outstanding	1,303
RSUs (including PRSUs) outstanding	4,842
Shares available for future grant under 2014 Plan	16,339
Shares available for future issuance under ESPP	4,281
Total shares of common stock reserved	26,765

Stock Options

A summary of the Company's stock option activity during the three months ended March 31, 2023 is as follows (in thousands, except years and per share data):

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value
Outstanding as of December 31, 2022	1,481	$ 47.75		
Options granted	—	—		
Options exercised	(139)	22.49		
Options forfeited or expired	(39)	139.87		
Outstanding as of March 31, 2023	1,303	$ 47.66	4.5	$ 49,139

The aggregate intrinsic value amounts are computed based on the difference between the exercise price of the stock options and the fair market value of the Company's common stock of $72.29 per share as of March 31, 2023 for all in-the-money stock options outstanding.

Restricted Stock Units (including Performance-Based Restricted Stock Units)

A summary of the Company’s restricted stock unit ("RSU") activity (including PRSUs) during the three months ended March 31, 2023 is as follows (in thousands, except per share data):

	Number of Shares	Weighted Average Grant Date Fair Value Per Share
Outstanding as of December 31, 2022	3,718	$ 103.55
RSUs granted(1)	1,673	71.33
RSUs vested and released	(358)	114.70
RSUs forfeited or canceled	(191)	111.80
Outstanding as of March 31, 2023	4,842	90.00

(1) Includes 35,921 PRSUs granted during the three months ended March 31, 2023.

PRSUs with Market and Service Conditions In 2022, the Company granted 284,282 PRSUs subject to market and service conditions (“market-based PRSUs”) with a grant date fair value of $30.6 million as part of its annual grant of equity incentive awards to certain executives and in connection with the appointment of Michael Burkland as its new Chief Executive Officer. During the first quarter of 2023, the Company granted an additional 35,921 market-based PRSUs with a grant date fair value of $3.1 million. The amount that may be earned pursuant to the PRSUs ranges from 0% to 200% of the target number based on the Company’s relative total shareholder return (“RTSR”) performance as compared to the companies in the S&P Software and Services Select Index during three one-year performance periods. One-third of the total PRSUs may be earned and settled in shares following the end of each one-year performance period based on RTSR performance and subject to continued employment through the payment date, but the amount initially paid for the first two one-year performance periods is limited to 100% of the target amount for such years, and any PRSUs resulting from above-target performance in those first two years will be paid following the end of final one-year performance period, subject to the executive’s continued employment through the payment date. If the Company’s absolute total shareholder return for any performance period is negative, then no more than 100% of the target amount of PRSUs for such period may be earned. If an executive's employment with the Company terminates before the end of the final one-year performance period due to death or disability, 100% (if due to death) or 50% (if due to disability) of the unvested PRSUs may be earned subject to ultimate RTSR performance in each remaining performance period. Upon a qualifying termination of employment in connection with a change in control of the Company, the unvested PRSUs will vest on a double-trigger basis (i) at the target level for the market-based PRSUs granted to certain executives, excluding Michael Burkland, subject to the 2022-2024 performance period, and (ii) for the market-based PRSUs granted to certain executives, including Michael Burkland, subject to the 2023-2025 performance period, (a) at the target level for the uncompleted portions of the performance periods and (b) at the actual level of performance measured through the date of the change in control of the Company, based on the price per share paid in such change in control. The fair value of the PRSUs are determined on their grant date using a Monte Carlo Simulation model based upon assumptions presented below. The Company recognizes the fair value of the PRSUs ratably over their requisite service period.

During the first quarter of 2023, the Company certified the performance results for the 2022 measurement period for the PRSUs subject to the 2022-2024 performance period. Under the PRSU agreements, the TSR payout percentage ranges from 0% to 200%, with a 50% payout at the 25th TSR percentile (threshold), 100% payout at the 55th TSR percentile (target), 200% payout at the 90th percentile or greater (maximum) and no payout below the threshold performance level. The Company determined that its actual total shareholder return was -52.64% for 2022, and that its relative total shareholder return ranking was in the 30.2 percentile relative to companies in the S&P Software & Services Select Index, which resulted in a payout percentage of 58.7% of target.

PRSUs with Revenue and Service Conditions In 2022, the Company granted 66,167 PRSUs subject to revenue-based performance and service conditions (“revenue-based PRSUs”) with a grant date fair value of $6.6 million. The amount of revenue-based PRSUs that may be earned will be determined based on achievement of two quarterly revenue goals. One third of the revenue-based PRSUs may be earned based on achievement of the first revenue target and, if achieved, will vest in four quarterly installments, with the first installment occurring on the date such achievement is certified, subject to the executive's continuous service through the applicable vesting dates. Two thirds of the revenue-based PRSUs may be earned based on achievement of the second revenue target and, if achieved, will vest in eight quarterly installments, with the first installment occurring on the date such achievement is certified, subject to the executive's continuous service through the applicable vesting dates. The revenue-based PRSUs are otherwise on the Company's standard award terms for its market-based PRSUs. The Company concluded that the first revenue target was probable of achievement at March 31, 2023, and thus recognized the related stock-based compensation expense through this period. The Company, however, concluded that, as of March 31, 2023, the second revenue target was not probable of achievement, and thus did not recognize related stock-based compensation expense through this period. The Company will reassess the probability of the achievement of the performance conditions at each reporting period and a cumulative catch-up adjustment will be recorded to stock-based compensation cost for any change in the probability assessment.

Stock-Based Compensation

Stock-based compensation expense was as follows (in thousands):

	Three Months Ended	
	March 31, 2023	March 31, 2022
Cost of revenue	$ 9,333	$ 7,793
Research and development	12,382	10,145
Sales and marketing	17,045	13,424
General and administrative	11,983	8,032
Total stock-based compensation expense	$ 50,743	$ 39,394

As of March 31, 2023, unrecognized stock-based compensation expense by award type and expected weighted-average recognition periods are summarized in the following table (in thousands, except years).

	Stock Option	RSU (excluding PRSUs)	PRSU	ESPP
Unrecognized stock-based compensation expense	$ 9,144	$ 375,880	$ 22,462	$ 1,086
Weighted-average amortization period	2.0 years	2.8 years	2.2 years	0.1 years

The weighted-average assumptions used to value stock options granted during the periods presented were as follows:

Stock Options	Three Months Ended	
	March 31, 2023	March 31, 2022
Expected term (years)	—	6.0
Volatility	—	46.0 %
Risk-free interest rate	—	1.8 %
Dividend yield (1)	—	—

The weighted-average assumptions used to value PRSUs with market conditions granted during the periods presented were as follows:

PRSUs (Market Conditions)	Three Months Ended	
	March 31, 2023	March 31, 2022
Closing price of common stock as of grant date	$ 68.15	$ 110.00
Expected term (years)	2.84	2.84
Volatility	51.1 %	48.8 %
Risk-free interest rate	4.5 %	1.6 %
Dividend yield (1)	—	—

(1) The Company has not paid, and does not anticipate paying, cash dividends on its shares of common stock. Accordingly, the expected dividend yield is zero.

8. Net Loss Per Share

Basic net loss per share is calculated by dividing net loss by the weighted average number of shares of common stock outstanding during the period, and excludes any dilutive effects of employee stock-based awards and potential shares upon conversion of the convertible senior notes. Diluted net loss per share is computed giving effect to all potentially dilutive shares of common stock, including common stock issuable upon exercise of stock options, vesting of RSUs and PRSUs, and shares of common stock issuable upon conversion of convertible senior notes. As the Company had net losses for the three months ended March 31, 2023 and 2022, all potentially issuable shares of common stock were determined to be anti-dilutive.

The following table presents the calculation of basic and diluted net loss per share (in thousands, except per share data):

	Three Months Ended	
	March 31, 2023	March 31, 2022
Net loss	$ (27,248)	$ (34,120)
Weighted-average shares used in computing basic and diluted net loss per share	71,259	68,974
Basic and diluted net loss per share	$ (0.38)	$ (0.49)

The following securities were excluded from the calculation of diluted net loss per share because their effect would have been anti-dilutive (in thousands):

	Three Months Ended	
	March 31, 2023	March 31, 2022
Stock options	1,303	1,768
RSUs (includes PRSUs)	4,842	3,236
Convertible senior notes	5,568	6,042
Total	11,713	11,046

The Company used the if-converted method for calculating any potential dilutive effect of its convertible senior notes for the three months ended March 31, 2023 and 2022. Under this method, the Company calculates diluted earnings per share under both the cash and share settlement assumptions to determine which is more dilutive. If share settlement is more dilutive, the Company calculates diluted earnings per share assuming that all of the convertible senior notes were converted solely into shares of common stock at the beginning of the reporting period. The potential impact upon the conversion of the convertible senior notes were excluded from the calculation of diluted net loss per share for the three months ended March 31, 2023 and 2022 because the effect would have been anti-dilutive.

9. Income Taxes

The provision for income taxes for the three months ended March 31, 2023 and 2022 was approximately $0.5 million and $2.3 million, respectively. The provision for income taxes for the three months ended March 31, 2023 consisted primarily of state and foreign current income tax expense. The provision for income taxes for the three months ended March 31, 2022 consisted primarily of foreign income tax expense from the intercompany sale of the Company's Australian intellectual property to the United States.

For the three months ended March 31, 2023, the provision for income taxes differed from the statutory amount primarily due to domestic state income taxes, foreign income taxes and the Company realizing no benefit for current year domestic losses due to maintaining a full valuation allowance against its domestic net deferred tax assets. For the three months ended March 31, 2022, the provision for income taxes differed from the statutory amount primarily due to foreign income taxes and the Company realizing no benefit for current year domestic losses due to maintaining a full valuation allowance against its domestic net deferred tax assets.

The realization of tax benefits of deferred tax assets is dependent upon future levels of taxable income, of an appropriate character, in the periods the items are expected to be deductible or taxable. Based on the available objective evidence, the Company does not believe it is more likely than not that the net deferred tax assets will be realizable. Accordingly, the Company has provided a full valuation allowance against the domestic net deferred tax assets as of March 31, 2023 and December 31, 2022. The Company intends to maintain the remaining valuation allowance until sufficient positive evidence exists to support a reversal of, or decrease in, the valuation allowance. During the three months ended March 31, 2023, there were no material changes to the total amount of unrecognized tax benefits.

10. Commitments and Contingencies

Commitments

The Company’s principal commitments consist of future payment obligations under its convertible senior notes, operating leases for office facilities, cloud services and software and maintenance agreements, and agreements with third parties to provide co-location hosting and telecommunication services. These commitments as of December 31, 2022 are disclosed in the Company’s Annual Report on Form 10-K for the year ended December 31, 2022, and material updates to these commitments during the three months ended March 31, 2023 are disclosed herein, including in this Note 10 and in Note 12.

As of March 31, 2023, the Company’s commitments under various co-location hosting and telecommunications agreements totaled $15.3 million for terms ranging up to 60 months. These agreements require the Company to make monthly payments over the service term in exchange for certain network services.

As of March 31, 2023, the Company had outstanding cloud services and software and maintenance agreement commitments totaling $46.3 million, of which $25.2 million is expected to be paid in the remainder of 2023, $17.1 million is expected to be paid in 2024, and the remaining $4.0 million is expected to be paid in 2025.

As of March 31, 2023, $747.7 million of aggregate principal of the convertible senior notes were outstanding. The 2023 convertible senior notes and the 2025 convertible senior notes are due on May 1, 2023 and June 1, 2025, respectively. See Note 6 for more information concerning the convertible senior notes.

Legal Matters

The Company is involved in various legal and regulatory matters arising in the normal course of business. In management’s opinion, resolution of these matters is not expected to have a material impact on the Company’s consolidated results of operations, cash flows, or its financial position. However, due to the uncertain nature of legal matters, an unfavorable resolution of a matter could materially affect the Company’s future consolidated results of operations, cash flows or financial position in a particular period. The Company expenses legal fees as incurred.

Indemnification Agreements

In the ordinary course of business, the Company enters into agreements of varying scope and terms pursuant to which it agrees to indemnify clients, vendors, lessors, business partners and other parties with respect to certain matters, including, but not limited to, losses arising out of breach of such agreements, including breach of security, services to be provided by the Company or from intellectual property infringement claims made by third parties. In addition, the Company has entered into indemnification agreements with its directors, officers and certain employees that requires it, among other things, to indemnify them against certain liabilities that may arise by reason of their status or service as directors, officers or employees. There are no claims that the Company is aware of that could have a material effect on the consolidated balance sheets, consolidated statements of operations and comprehensive loss, or consolidated statements of cash flows.

11. Geographical Information

The following table summarizes revenues by geographic region based on client billing address (in thousands):

	Three Months Ended	
	March 31, 2023	March 31, 2022
United States	$ 195,363	$ 167,247
International	23,076	15,530
Total revenue	$ 218,439	$ 182,777

The following table summarizes total property and equipment, net in the respective locations (in thousands):

	March 31, 2023	December 31, 2022
United States	$ 93,001	$ 92,659
International	8,056	8,562
Property and equipment, net	$ 101,057	$ 101,221

12. Leases

The Company has leases for offices, data centers and computer and networking equipment that expire at various dates through 2031. The Company's leases have remaining terms of one to eight years, some of the leases include a Company option to extend the leases for up to one to five years, and some of the leases include the option to terminate the leases upon 30-days' notice. The Company does not separate lease and non-lease components for real estate operating leases.

The components of lease expenses were as follows (in thousands):

	Three Months Ended	
	March 31, 2023	March 31, 2022
Operating lease cost	$ 3,382	$ 2,900
Finance lease cost:		
Amortization of right-of-use assets	$ 63	$ 333
Total finance lease cost	$ 63	$ 333

Supplemental cash flow information related to leases was as follows (in thousands):

	Three Months Ended	
	March 31, 2023	March 31, 2022
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash used in operating leases	$ (3,275)	$ (2,709)
Right of use assets obtained in exchange for lease obligations:		
Operating leases	4,153	236

Supplemental balance sheet information related to leases was as follows (in thousands):

	March 31, 2023	December 31, 2022
Operating leases		
Operating lease right-of-use assets	$ 45,339	$ 44,120
Operating lease liabilities	$ 11,739	$ 10,626
Operating lease liabilities — less current portion	41,703	41,389
Total operating lease liabilities	$ 53,442	$ 52,015
Finance leases		
Property and equipment, gross	$ 30,015	$ 36,282
Less: accumulated depreciation and amortization	(29,999)	(36,203)
Property and equipment, net	$ 16	$ 79

Weighted average remaining terms were as follows (in years):

	March 31, 2023	December 31, 2022
Weighted average remaining lease term		
Operating leases	6.1	6.4

Weighted average discount rates were as follows:

	March 31, 2023	December 31, 2022
Weighted average discount rate		
Operating leases	3.6 %	3.4 %

Maturities of lease liabilities were as follows (in thousands):

Year Ending December 31,	**Operating Leases**
Remaining 2023	$ 10,155
2024	11,379
2025	8,436
2026	6,541
2027	5,733
Thereafter	17,081
Total future minimum lease payments	59,325
Less: imputed interest	(5,883)
Total	$ 53,442

13. Subsequent Event

The 2023 convertible senior notes matured on May 1, 2023 and were settled in a combination of cash and shares of the Company's common stock. Upon maturity, the outstanding capped calls associated with the repurchase and early settlements of $194.7 million 2023 convertible senior notes were settled, which resulted in the Company receiving 370,877 shares and $74.5 million.

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

You should read the following discussion in conjunction with the condensed consolidated financial statements and notes thereto included elsewhere in this Quarterly Report on Form 10-Q and our Annual Report on Form 10-K for the year ended December 31, 2022.

Overview

We are a pioneer and leading provider of intelligent cloud contact centers with more than 2,500 clients. We believe we achieved this leadership position through our expertise and technology, which has empowered us to help organizations of all sizes transition from legacy on-premise contact center systems to our cloud solution. Our solution, comprised of our Virtual Contact Center, or VCC, cloud platform and applications, allows simultaneous management and optimization of customer interactions across voice, chat, email, web, social media and mobile channels, either directly or through our application programming interfaces, or APIs. Our VCC cloud platform matches each customer interaction with an appropriate agent resource and delivers relevant customer data to the agent in real-time through integrations with adjacent enterprise applications, such as customer relationship management, or CRM, software, to optimize the customer experience and improve agent productivity. Unlike legacy on-premise contact center systems, our solution requires minimal up-front investment, can be rapidly deployed and adjusted depending on our client's requirements.

Since founding our business in 2001, we have focused exclusively on delivering cloud contact center software. We initially targeted smaller contact center opportunities with our telesales team and, over time, invested in expanding the breadth and depth of the functionality of our cloud platform to meet the evolving requirements of our clients. In 2009, we made a strategic decision to expand our market opportunity to include larger contact centers. This decision drove further investments in research and development and the establishment of our field sales team to meet the requirements of these larger contact centers. We believe this shift has helped us diversify our client base, while significantly enhancing our opportunity for future revenue growth. To complement these efforts, we have also focused on building client awareness and driving adoption of our solution through marketing activities, which include internet advertising, digital marketing campaigns, social media, trade shows, industry events, telemarketing and out of home campaigns.

We provide our solution through a SaaS business model with recurring subscriptions. We offer a comprehensive suite of applications delivered on our VCC cloud platform that are designed to enable our clients to manage and optimize interactions across inbound and outbound contact centers. We primarily generate revenue by selling subscriptions and related usage of our VCC cloud platform. We charge our clients monthly subscription fees for access to our solution, primarily based on the number of agent seats, as well as the specific functionalities and applications our clients deploy. We define agent seats as the maximum number of named agents allowed to concurrently access our solution. Our clients typically have more named agents than agent seats, and multiple named agents may use an agent seat, though not simultaneously. Substantially all of our clients purchase both subscriptions and related telephony usage from us. A small percentage of our clients subscribe to our platform but purchase telephony usage directly from wholesale telecommunications service providers. We do not sell telephony usage on a stand-alone basis to any client. The related usage fees are based on the volume of minutes for inbound and outbound interactions. We also offer bundled plans, generally for smaller deployments, where the client is charged a single monthly fixed fee per agent seat that includes both subscription and unlimited usage in the contiguous 48 states and, in some cases, Canada. We offer monthly, annual and multiple-year contracts to our clients, generally with 30 days' notice required for reductions in the number of agent seats. Increases in the number of agent seats can be provisioned almost immediately. Our clients, therefore, are able to adjust the number of agent seats used to meet their changing contact center volume needs. Our larger clients typically choose annual contracts, which generally include an implementation and ramp period of several months. Fixed subscription fees, including bundled plans, are generally billed monthly in advance, while related usage fees are billed in arrears. For the three months ended March 31, 2023 and 2022, subscription and related usage fees accounted for 92% and 91% of our revenue, respectively. The remainder was comprised of professional services revenue from the implementation and optimization of our solution.

Macroeconomic and Other Factors

We are subject to risks and exposures, including those caused by adverse economic conditions, including macroeconomic deterioration, the Russia-Ukraine conflict and the COVID-19 pandemic.

Macroeconomic factors include the global economic slowdown, increased inflation, increased interest rates, supply chain disruptions, decreased economic output and fluctuations in currency exchange rates. We continuously monitor the direct and indirect impacts of these circumstances on our business and financial results, as well as the overall global economy and geopolitical landscape. While the implications of macroeconomic events on our business, results of operations and overall financial position remain uncertain over the long term, we expect that adverse economic conditions will continue to have an adverse impact on our revenue in future periods. For example, we continue to experience macroeconomic headwinds on our installed base business, which typically contributes approximately half of our annual revenue growth. Since the third quarter of 2022, we have been experiencing macroeconomic headwinds in our installed base within a number of verticals. In the first quarter of 2023, we experienced the largest macroeconomic headwind within our second largest installed base vertical, financial services.

In March 2022 we decided to close our Russia office and to establish a new European development center in Portugal, in part due to the growing uncertainty arising from the Russia-Ukraine conflict. During the three months ended March 31, 2023 and 2022, we incurred approximately $0.7 million and $2.7 million in costs related to the closure and relocation of our Russian operations, of which $0.0 million and $0.4 million was recorded in cost of revenue, $0.5 million and $2.6 million was recorded in research and development expense, $0.1 million and $0.3 million was recorded in general and administrative expense, and $0.1 million and $(0.6) million was recorded in interest income and other in our condensed consolidated statements of operations and comprehensive loss. We currently do not believe that this decision will have a material effect on our business, results of operations or financial condition.

The COVID-19 pandemic had a moderately positive impact on our financial results due to the shift from brick-and-mortar to virtual. The severity and duration of the COVID-19 pandemic, and its continuing impact on the U.S. and global economy remains uncertain, but we believe that most of this benefit has now dissipated.

Key GAAP Operating Results

Our revenue increased to $218.4 million for the three months ended March 31, 2023 from $182.8 million for the three months ended March 31, 2022. Revenue growth was primarily attributable to our larger clients, driven by an increase in our sales and marketing activities and our improved brand awareness. For each of the three months ended March 31, 2023 and 2022, no single client accounted for more than 10% of our total revenue. As of March 31, 2023, we had over 2,500 clients across multiple industries with a wide range of seat sizes. We had a net loss of $27.2 million in the three months ended March 31, 2023, compared to a net loss of $34.1 million in the three months ended March 31, 2022.

We have continued to make significant expenditures and investments, including in sales and marketing, research and development and infrastructure. We primarily evaluate the success of our business based on revenue growth and the efficiency and effectiveness of our investments. The growth of our business and our future success depend on many factors, including our ability to continue to expand our base of larger clients, grow revenue from our existing clients, innovate and expand internationally. While these areas represent significant opportunities for us, they also pose risks and challenges that we must successfully address, including the impact of macroeconomic deterioration, the Russia-Ukraine conflict and the COVID-19 pandemic, in order to successfully grow our business and improve our operating results.

Key Operating and Non-GAAP Financial Performance Metrics

In addition to measures of financial performance presented in our condensed consolidated financial statements, we monitor the key metrics set forth below to help us evaluate growth trends, establish budgets, measure the effectiveness of our sales and marketing efforts and assess operational efficiencies.

Annual Dollar-Based Retention Rate

We believe that our Annual Dollar-Based Retention Rate provides insight into our ability to retain and grow revenue from our clients, and is a measure of the long-term value of our client relationships. Our Annual Dollar-Based Retention Rate is calculated by dividing our Retained Net Revenue by our Retention Base Net Revenue on a monthly basis, which we then average using the rates for the trailing twelve months for the period presented. We define Retention Base Net Revenue as recurring net revenue from all clients in the comparable prior year period, and we define Retained Net Revenue as recurring net revenue from that same group of clients in the current period. We define recurring net revenue as net subscription and related usage revenue.

The following table shows our Annual Dollar-Based Retention Rate based on Net Revenue for the periods presented:

	Twelve Months Ended	
	March 31, 2023	March 31, 2022
Annual Dollar-Based Retention Rate	114%	120%

Our Dollar-Based Retention Rate decreased year-over-year primarily due to the macroeconomic headwinds we started experiencing in 2022 and continued to experience in the first quarter of 2023.

Adjusted EBITDA

We monitor adjusted EBITDA, a non-GAAP financial measure, to analyze our financial results and believe that it is useful to investors, as a supplement to U.S. GAAP measures, in evaluating our ongoing operational performance and enhancing an overall understanding of our past financial performance. We believe that adjusted EBITDA helps illustrate underlying trends in our business that could otherwise be masked by the effect of the income or expenses that we exclude from adjusted EBITDA. Furthermore, we use this measure to establish budgets and operational goals for managing our business and evaluating our performance. We also believe that adjusted EBITDA provides an additional tool for investors to use in comparing our recurring core business operating results over multiple periods with other companies in our industry.

Adjusted EBITDA should not be considered in isolation from, or as a substitute for, financial information prepared in accordance with U.S. GAAP, and our calculation of adjusted EBITDA may differ from that of other companies in our industry. We compensate for the inherent limitations associated with using adjusted EBITDA through disclosure of these limitations, presentation of our financial statements in accordance with U.S. GAAP and reconciliation of adjusted EBITDA to the most directly comparable U.S. GAAP measure, net loss. We calculate adjusted EBITDA as net loss before (1) depreciation and amortization, (2) stock-based compensation, (3) interest expense, (4) interest (income) and other, (5) exit costs related to the closure and relocation of Russian operations, (6) acquisition-related transaction and one-time integration costs, (7) contingent consideration expense, (8) provision for (benefit from) income taxes, and (9) other items that do not directly affect what we consider to be our core operating performance.

The following table shows a reconciliation of net loss to adjusted EBITDA for the periods presented (in thousands):

	Three Months Ended	
	March 31, 2023	March 31, 2022
Net loss	$ (27,248)	$ (34,120)
Non-GAAP adjustments:		
Depreciation and amortization (1)	11,347	10,795
Stock-based compensation (2)	50,743	39,394
Interest expense	1,845	1,870
Interest (income) and other	(4,121)	(845)
Exit costs related to closure and relocation of Russian operations (3)	596	3,227
Acquisition-related transaction and one-time integration costs	1,455	1,638
Contingent consideration expense	—	260
Provision for income taxes	527	2,256
Adjusted EBITDA	$ 35,144	$ 24,475

(1) Depreciation and amortization expenses included in our results of operations for the periods presented are as follows (in thousands):

	Three Months Ended	
	March 31, 2023	March 31, 2022
Cost of revenue	$ 8,907	$ 8,500
Research and development	872	825
Sales and marketing	1	1
General and administrative	1,567	1,469
Total depreciation and amortization	$ 11,347	$ 10,795

(2) See Note 7 to the condensed consolidated financial statements for stock-based compensation expense included in our results of operations for the periods presented.

(3) Exit costs related to the closure and relocation of our Russian operations was $0.7 million during the three months ended March 31, 2023. The $0.6 million adjustment presented above was net of $0.1 million included in “Interest (income) and other.” Exit costs related to the closure and relocation of our Russian operations was $2.7 million during the three months ended March 31, 2022. The $3.2 million adjustment presented above was net of $0.1 million included in “Depreciation and amortization” and $(0.6) million included in “Interest (income) and other.”

Key Components of Our Results of Operations

Revenue

Our revenue consists of subscription and related usage as well as professional services. We consider our subscription and related usage to be recurring revenue. This recurring revenue includes fixed subscription fees for the delivery and support of our VCC cloud platform, as well as related usage fees. The related usage fees are generally based on the volume of minutes for inbound and outbound client interactions. We also offer bundled plans, generally for smaller deployments, where the client is charged a single monthly fixed fee per agent seat that includes both subscription and unlimited usage in the contiguous 48 states and, in some cases, Canada. We offer monthly, annual and multiple-year contracts for our clients, generally with 30 days’ notice required for reductions in the number of agent seats. Increases in the number of agent seats can be provisioned almost immediately. Our clients, therefore, are able to adjust the number of agent seats used to meet their changing contact center volume needs. Our larger clients typically choose annual contracts, which generally include an implementation and ramp period of several months.

Fixed subscription fees, including plans with bundled usage, are generally billed monthly in advance, while variable usage fees are billed in arrears. Fixed subscription fees are recognized on a straight-line basis over the applicable term, which is predominantly the monthly contractual billing period. Support activities include technical assistance for our solution and upgrades and enhancements on a when and if available basis, which are not billed separately. Variable subscription related usage fees for non-bundled plans are billed in arrears based on client-specific per minute rate plans and are recognized as actual usage occurs. We generally require advance deposits from clients based on estimated usage. All fees, except usage deposits, are non-refundable.

In addition, we generate professional services revenue from assisting clients in implementing our solution and optimizing use. These services include application configuration, system integration and education and training services. Professional services are primarily billed on a fixed-fee basis and are typically performed by us directly. In limited cases, our clients choose to perform these services themselves or engage their own third-party service providers to perform such services. Professional services are recognized as the services are performed using the proportional performance method, with performance measured based on labor hours, provided all other criteria for revenue recognition are met.

While the implications of macroeconomic events on our business, results of operations and overall financial position remain uncertain over the long term, we expect that adverse economic conditions will continue to have an adverse impact on our revenue in future periods. For example, we continue to experience macroeconomic headwinds on our installed base business, which typically contributes approximately half of our annual revenue growth. Since the third quarter of 2022, we have been experiencing macroeconomic headwinds in our installed base within a number of verticals. In the first quarter of 2023, we experienced the largest macroeconomic headwind within our second largest installed base vertical, financial services.

Cost of Revenue

Our cost of revenue consists primarily of personnel costs, including stock-based compensation, fees that we pay to telecommunications providers for usage, Universal Service Fund, or USF, contributions and other regulatory costs, depreciation and related expenses of our servers and equipment, costs to build out and maintain co-location data centers, costs of public cloud-based data centers, allocated office and facility costs, amortization of acquired technology and amortization of internal-use software costs. Cost of revenue can fluctuate based on a number of factors, including the fees we pay to telecommunications providers, which vary depending on our clients' usage of our VCC cloud platform, the timing of capital expenditures and related depreciation charges and changes in headcount. We expect to continue investing in professional services, public cloud, cloud operations, client support and network infrastructure to maintain high quality and availability of services, which we believe will result in absolute dollar increases in cost of revenue but percentage of revenue declines in the long-term through economies of scale.

Operating Expenses

We classify our operating expenses as research and development, sales and marketing, and general and administrative expenses.

Research and Development. Our research and development expenses consist primarily of salary and related expenses, including stock-based compensation, for personnel related to the development of improvements and expanded features for our services, as well as quality assurance, testing, product management and allocated overhead. We expense research and development expenses as they are incurred except for internal use software development costs that qualify for capitalization. We believe that continued investment in our solution is important for our future growth, and we expect our research and development expenses to increase in absolute dollars and fluctuate as a percentage of revenue in the near and longer term.

Sales and Marketing. Sales and marketing expenses consist primarily of salaries and related expenses, including stock-based compensation, for personnel in sales and marketing, sales commissions, as well as advertising, marketing, corporate communications, travel costs and allocated overhead. We believe it is important to continue investing in sales and marketing to continue to generate revenue growth, and we expect sales and marketing expenses to increase in absolute dollars and fluctuate as a percentage of revenue in the near and longer term as we continue to support our growth initiatives.

General and Administrative. General and administrative expenses consist primarily of salary and related expenses, including stock-based compensation, for management, finance and accounting, legal, information systems and human resources personnel, professional fees, compliance costs, other corporate expenses and allocated overhead. We expect that general and administrative expenses will fluctuate in absolute dollars and as a percentage of revenue in the near term, but to increase in absolute dollars and decline as a percentage of revenue in the longer term.

Results of Operations for the Three Months Ended March 31, 2023 and 2022

Based on the condensed consolidated statements of operations and comprehensive loss set forth in this Quarterly Report on Form 10-Q, the following table sets forth our operating results as a percentage of revenue for the periods indicated:

	Three Months Ended	
	March 31, 2023	March 31, 2022
Revenue	100 %	100 %
Cost of revenue	48 %	49 %
Gross profit	52 %	51 %
Operating expenses:		
Research and development	17 %	20 %
Sales and marketing	35 %	35 %
General and administrative	13 %	13 %
Total operating expenses	65 %	68 %
Loss from operations	(13)%	(17)%
Other (expense) income, net:		
Interest expense	(1)%	(1)%
Interest income and other	2 %	— %
Total other income (expense), net	1 %	(1)%
Loss before income taxes	(12)%	(18)%
Provision for income taxes	— %	1 %
Net loss	(12)%	(19)%

Revenue

	Three Months Ended			
	March 31, 2023	March 31, 2022	$ Change	% Change
	(in thousands, except percentages)			
Revenue	$ 218,439	$ 182,777	$ 35,662	20 %

The increase in revenue for the three months ended March 31, 2023 compared to the same period of 2022 was primarily attributable to our larger clients, driven by an increase in our sales and marketing activities and our improved brand awareness.

Cost of Revenue

	Three Months Ended			
	March 31, 2023	March 31, 2022	$ Change	% Change
	(in thousands, except percentages)			
Cost of revenue	$ 104,756	$ 88,867	$ 15,889	18 %
% of Revenue	48 %	49 %		

The increase in cost of revenue for the three months ended March 31, 2023 compared to the same period of 2022 was primarily due to a $6.2 million increase in third-party hosted software costs driven by increased client activities, a $5.2 million increase in depreciation, data center and public cloud costs to support our growing capacity needs, a $3.9 million increase in personnel costs driven mainly by increased headcount, higher salaries and increased stock-based compensation costs, a $2.1 million increase in USF costs due to increased client usage and a $0.2 million increase in consulting costs for global expansion, offset in part by a $1.2 million decrease in usage and carrier costs due to a rate reduction, partially offset by increased volume, and a $0.6 million decrease in staff augmentation costs related to implementation of our solutions.

Gross Profit

	Three Months Ended			
	March 31, 2023	March 31, 2022	$ Change	% Change
	(in thousands, except percentages)			
Gross profit	$ 113,683	$ 93,910	$ 19,773	21 %
% of Revenue	52 %	51 %		

The increase in gross profit for the three months ended March 31, 2023 compared to the same period of 2022 was primarily due to increases in subscription and related revenues. The increase in gross margin for the three months ended March 31, 2023 compared to the same period of 2022 was primarily due to our revenue growing at a higher rate than our increase in cost of revenue as described above. We expect gross margin to increase in the long term despite continued investments in professional services, public cloud, cloud operations, client support and network infrastructure, as we expect revenue growth in the long term to more than offset these increases.

Operating Expenses

Research and Development

	Three Months Ended			
	March 31, 2023	March 31, 2022	$ Change	% Change
	(in thousands, except percentages)			
Research and development	$ 38,108	$ 35,824	$ 2,284	6 %
% of Revenue	17 %	20 %		

The increase in research and development expenses for the three months ended March 31, 2023 compared to the same period of 2022 was primarily due to a $2.9 million increase in personnel-related costs driven mainly by an increase in stock-based compensation costs, a $0.5 million increase in one-time integration costs, a $0.3 million increase in office, facilities and related costs and a $0.3 million increase in staff augmentation costs, offset in part by a $2.0 million increase in research and development costs that qualified for capitalization, which will be amortized in cost of revenue over the estimated useful life of the software after it is ready for its intended use.

Sales and Marketing

	Three Months Ended			
	March 31, 2023	March 31, 2022	$ Change	% Change
	(in thousands, except percentages)			
Sales and marketing	$ 76,314	$ 64,611	$ 11,703	18 %
% of Revenue	35 %	35 %		

The increase in sales and marketing expenses for the three months ended March 31, 2023 compared to the same period of 2022 was primarily due to a $5.7 million increase in personnel costs driven by increased stock-based compensation costs, increased headcount and higher salaries, a $3.8 million increase in sales commission expenses driven by the growth in sales and bookings of our solution, and a $0.3 million increase in travel costs as a result of an increase in business travel as COVID-19 restrictions decreased. The remaining net increase in sales and marketing expenses was primarily due to the execution of our growth strategy to acquire new clients, increase the number of agent seats within our existing client base, and increased advertising and other marketing expenses to increase our brand awareness.

General and Administrative

	Three Months Ended			
	March 31, 2023	March 31, 2022	$ Change	% Change
	(in thousands, except percentages)			
General and administrative	$ 28,258	$ 24,314	$ 3,944	16 %
% of Revenue	13 %	13 %		

The increase in general and administrative expenses for the three months ended March 31, 2023 compared to the same period of 2022 was primarily due to a $5.2 million increase in personnel costs driven by increased stock-based compensation costs, increased headcount and higher salaries, offset in part by a $1.1 million decrease in legal and other professional service costs and by a $0.3 million decrease in contingent consideration expense for the Inference acquisition.

Other Income (Expense), Net

	Three Months Ended			
	March 31, 2023	March 31, 2022	$ Change	% Change
	(in thousands, except percentages)			
Interest expense	$ (1,845)	$ (1,870)	$ 25	(1)%
Interest income and other	4,121	845	3,276	388 %
Total other income (expense), net	$ 2,276	$ (1,025)	$ 3,301	(322)%
% of Revenue	1 %	(1)%		

The decrease in interest expense for the three months ended March 31, 2023 compared to the same period of 2022 was primarily due to the reduction in the aggregate outstanding principal amount of our 2023 convertible senior notes. See Note 6 to the consolidated financial statements for further details.

The increase in interest income and other for the three months ended March 31, 2023 compared to the same period of 2022 was primarily due to higher interest income on our marketable investments, offset in part by an increase in foreign currency remeasurement losses.

Liquidity and Capital Resources

To date, we have financed our operations primarily through sales of our solution, net proceeds from our equity and debt financings, including the issuance of our 2025 convertible senior notes in May and June 2020 and of our 2023 convertible senior notes in May 2018, and lease facilities. As of March 31, 2023, we had $640.2 million in working capital, which included $141.4 million in cash and cash equivalents and $488.4 million in short-term marketable investments, and excluded long-term marketable investments of $13.5 million. The 2023 convertible senior notes matured on May 1, 2023 and were settled in a combination of cash and shares of our common stock. Upon maturity, the outstanding capped calls associated with the repurchase and early settlements of $194.7 million 2023 convertible senior notes were settled, which resulted in us receiving 370,877 shares and $74.5 million. We believe our existing cash and cash equivalents will be sufficient to meet our working capital and capital expenditure needs for at least the next 12 months.

We plan to continue to finance our operations in the future primarily through sales of our solution, net proceeds from equity and debt financings, and lease facilities. Our future capital requirements will depend on many factors including our growth rate, continuing market acceptance of our solution, the strength of the global economy, client retention, growth within our installed base, our ability to gain new clients, the timing and extent of spending to support research and development efforts, the outcome of any pending or future litigation or other claims by third parties or governmental entities, the expansion of sales and marketing activities and personnel, the introduction of new and enhanced offerings, expenses incurred in closing our Russia operations and expanding our new office in Portugal and any operational disruptions due to this transition, and the effect of the length and severity of the current economic downturn, the Russia-Ukraine conflict and the COVID-19 pandemic on these or other factors. We may also acquire or invest in complementary businesses, technologies and intellectual property rights, which may increase our use of cash and future capital requirements, both to pay acquisition costs and to support our combined operations. We may raise additional capital through equity or debt financings at any time to fund these or other requirements. However, we may not be able to raise additional capital through equity or debt financings when needed on terms acceptable to us or at all, depending on our financial performance, economic and market conditions, the trading price of our common stock, and other factors, including the length and severity of the current economic downturn and fluctuations in the financial markets, including due to the Russia-Ukraine conflict and the ongoing COVID-19 pandemic. If we are unable to raise additional capital as needed, our business, operating results and financial condition could be harmed. In addition, if our operating performance during the next twelve months is below our expectations, our liquidity and ability to operate our business also could be harmed.

If we raise additional funds by issuing equity or equity-linked securities, the ownership of our existing stockholders would be diluted. If we raise additional funds through the incurrence of additional indebtedness, we will be subject to increased debt service obligations and could also be subject to restrictive covenants and other operating restrictions that could negatively impact our ability to operate our business.

Cash Flows

The following table summarizes our cash flows for the periods presented (in thousands):

	Three Months Ended	
	March 31, 2023	**March 31, 2022**
Net cash provided by operating activities	$ 33,412	$ 28,724
Net cash (used in) provided by investing activities	(75,686)	11,177
Net cash provided by (used in) financing activities	3,125	(30,628)
Net (decrease) increase in cash, cash equivalents and restricted cash	$ (39,149)	$ 9,273

Cash Flows from Operating Activities

Cash provided by operating activities is primarily influenced by our personnel-related expenditures, data center and telecommunications carrier costs, office and facility related costs, USF contributions and other regulatory costs and the amount and timing of client payments. If we continue to improve our financial results, we expect net cash provided by operating activities to increase. Our largest source of operating cash inflows is cash collections from our clients for subscription and related usage services. Payments from clients for these services are typically received monthly.

Net cash provided by operating activities was $33.4 million during the three months ended March 31, 2023. Net cash provided by operating activities resulted from our net loss of $27.2 million, adjustments to reconcile net loss to net cash provided by operating activities of $77.3 million, primarily consisting of $50.7 million of stock-based compensation, $12.4 million of amortization of commission costs, $11.3 million of depreciation and amortization, $2.9 million of amortization of operating lease right-of-use assets and $0.9 million of amortization of issuance costs on our convertible senior notes, partially offset by use of cash for operating assets and liabilities of $(16.6) million primarily due to the timing of cash payments to vendors and cash receipts from customers.

Net cash provided by operating activities was $28.7 million during the three months ended March 31, 2022. Net cash provided by operating activities resulted from our net loss of $34.1 million adjusted for non-cash items of $65.5 million, primarily consisting of $39.4 million of stock-based compensation, $10.8 million of depreciation and amortization, $8.7 million of amortization of commission costs, $0.9 million of amortization of issuance costs on our convertible senior notes and $0.3 million of contingent consideration expense, offset by use of cash for operating assets and liabilities of $(2.6) million primarily due to the timing of cash payments to vendors and cash receipts from customers.

Cash Flows from Investing Activities

Net cash used in investing activities of $(75.7) million in the three months ended March 31, 2023 was comprised of $76.9 million related to cash proceeds from sales and maturities of marketable investments, offset in part by $140.9 million related to purchases of marketable investments, $9.9 million in capital expenditures and $1.8 million in capitalized software development costs.

Net cash provided by investing activities of $11.2 million in the three months ended March 31, 2022 was comprised of $131.4 million related to cash proceeds from sales and maturities of marketable investments, offset in part by $105.3 million related to purchases of marketable investments, $12.4 million in capital expenditures, $2.0

million in connection with an equity investment in a privately-held company and $0.6 million in capitalized software development costs.

Cash Flows from Financing Activities

Net cash provided by financing activities of $3.1 million in the three months ended March 31, 2023 was related to cash proceeds of $3.1 million from the exercise of stock options.

Net cash used in financing activities of $(30.6) million in the three months ended March 31, 2022 was related to $31.9 million of cash paid in connection with other 2023 convertible senior note settlements, partially offset by cash proceeds of $1.3 million from exercise of stock options.

Critical Accounting Policies and Estimates

Our condensed consolidated financial statements are prepared in accordance with U.S. GAAP. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, expenses and related disclosures. On an ongoing basis, we evaluate our estimates and assumptions. Our actual results may differ from these estimates under different assumptions or conditions.

There have been no material changes to our critical accounting policies and estimates from those disclosed in our Annual Report on Form 10-K for the fiscal year ended December 31, 2022 filed with the SEC on February 24, 2023.

Recent Accounting Pronouncements

Refer to Note 1 of the notes to condensed consolidated financial statements included in this report.

Contractual and Other Obligations

Our material cash requirements include the following contractual and other obligations.

Convertible Senior Notes

In May and June 2020, we issued $747.5 million aggregate principal amount of our 2025 convertible senior notes in a private offering. The 2025 convertible senior notes mature on June 1, 2025 and are our senior unsecured obligations. The 2025 convertible senior notes bear interest at a fixed rate of 0.50% per annum, payable semiannually in arrears on June 1 and December 1 of each year, beginning December 1, 2020. The total net proceeds from the offering, after deducting initial purchasers' discounts and commissions and estimated debt issuance costs, were approximately $728.8 million. As of March 31, 2023, the aggregate principal amount outstanding of our 2025 convertible senior notes was $747.5 million.

In May 2018, we issued $258.8 million aggregate principal amount of our 2023 convertible senior notes in a private offering. The 2023 convertible senior notes mature on May 1, 2023 and are our senior unsecured obligations. The 2023 convertible senior notes bear interest at a fixed rate of 0.125% per annum, payable semiannually in arrears on May 1 and November 1 of each year. The total net proceeds from the offering, after deducting the initial purchasers' discounts and estimated debt issuance costs, were approximately $250.8 million. As of March 31, 2023, after giving effect to the 2023 Note Repurchase Transactions and other settlements upon conversion requests, approximately $0.2 million aggregate principal amount of 2023 convertible senior notes remained outstanding.

For additional information regarding the convertible senior notes, see Note 6 to the consolidated financial statements included in this report.

Leases

We have leases for offices, data centers and computer and networking equipment that expire at various dates through 2031. Our leases have remaining terms of one to eight years. Some of the leases include an option to extend the leases for up to one to five years, and some of the leases include the option to terminate the leases upon 30-days' notice. We had outstanding operating lease obligations of $59.3 million as of March 31, 2023, with $10.1 million payable in the remainder of 2023, $19.8 million payable in 2024 and 2025, $12.3 million payable in 2026 and 2027, and $17.1 million after 2027. See Note 12 to the consolidated financial statements included in this report for further details.

Cloud Services and Software and Maintenance

As of March 31, 2023, we had outstanding cloud services and software and maintenance agreement commitments totaling $46.3 million, of which $25.2 million is expected to be paid in the remainder of 2023, $17.1 million is expected to be paid in 2024, and the remaining $4.0 million is expected to be paid in 2025.

Hosting and Telecommunication Usage Services

We have agreements with third parties to provide co-location hosting and telecommunication services. The agreements require payments per month for a fixed period of time in exchange for certain guarantees of network and telecommunication availability. As of March 31, 2023, we had outstanding co-location hosting and telecommunication obligations of $15.3 million, with $5.7 million payable in the remainder of 2023, $8.4 million payable in 2024 and 2025, $1.1 million payable in 2026 and 2027, and $0.1 million payable in 2028.

Indemnification Agreements

In the ordinary course of business, we enter into agreements of varying scope and terms pursuant to which we agree to indemnify clients, vendors, lessors, business partners and other parties with respect to certain matters, including, but not limited to, losses arising out of breach of such agreements, services to be provided by us or from intellectual property infringement claims made by third parties. In addition, we have entered into indemnification agreements with our directors, officers and certain employees that will require us, among other things, to indemnify them against certain liabilities that may arise by reason of their status or service as directors, officers or employees. There are no claims that we are aware of that could have a material effect on our consolidated balance sheet, consolidated statements of operations and comprehensive loss, or consolidated statements of cash flows.

Contingencies — Legal and Regulatory

We are subject to certain legal and regulatory proceedings, and from time to time may be involved in a variety of claims, lawsuits, investigations, and proceedings relating to contractual disputes, intellectual property rights, employment matters, regulatory compliance matters, and other litigation matters relating to various claims that arise in the normal course of business. We determine whether an estimated loss from a contingency should be accrued by assessing whether a loss is deemed probable and can be reasonably estimated. We assess our potential liability by analyzing specific litigation and regulatory matters using reasonably available information. We develop our views on estimated losses in consultation with inside and outside counsel, which involves a subjective analysis of potential results and outcomes, assuming various combinations of appropriate litigation and settlement strategies. Legal fees are expensed in the period in which they are incurred. See Note 10 to the consolidated financial statements for more details.

ITEM 3. Quantitative and Qualitative Disclosures about Market Risk

We are exposed to market risk in the ordinary course of our business. Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily a result of fluctuations in interest rates and foreign currency exchange rates. We do not hold or issue financial instruments for trading purposes. For a discussion of market risk, see “Quantitative and Qualitative Disclosure about Market Risk” in Item 7A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2022. Our exposure to market risk has not changed materially since December 31, 2022.

Interest Rate Sensitivity

We had cash and cash equivalents, and marketable securities (short and long-term) totaling $643.2 million as of March 31, 2023. Cash equivalents and marketable securities were invested primarily in U.S. agency and government sponsored securities, U.S. treasury securities, municipal bonds, commercial paper, corporate bonds, certificates of deposit and money market funds. Our investment policy is focused on the preservation of capital and supporting our liquidity needs. Under this policy, we invest in highly rated securities, while limiting the amount of credit exposure to any one issuer other than the U.S. government. We do not invest in financial instruments for trading or speculative purposes, nor do we use leveraged financial instruments. We utilize external investment managers who adhere to the guidelines of our investment policy. A hypothetical 100 basis point change in interest rates would not have a material impact on the value of our cash and cash equivalents or marketable investments.

As of March 31, 2023, aggregate principal amount outstanding of our 2025 convertible senior notes and 2023 convertible senior notes was $747.5 million and $0.2 million, respectively. The fair value of the convertible senior notes are subject to interest rate risk, market risk and other factors due to their conversion features. The fair value of the convertible senior notes will generally increase as our common stock price increases and will generally decrease as our common stock price declines. The interest and market value changes affect the fair value of the convertible senior notes but do not impact our financial position, cash flows or results of operations due to the fixed nature of the debt obligations. Additionally, we carry the convertible senior notes at face value less unamortized discount on our condensed consolidated balance sheets, and we present the fair value for required disclosure purposes only.

Our convertible senior notes bear fixed interest rates and, therefore, are not subject to interest rate risk. We have not utilized derivative financial instruments, derivative commodity instruments or other market risk sensitive instruments, positions or transactions in any material fashion, except for the privately negotiated capped call transactions entered into in May and June 2020 and May 2018 related to the issuance of our 2025 convertible senior notes and our 2023 convertible senior notes, respectively.

Foreign Currency Risk

The functional currency of our foreign subsidiaries is the U.S. dollar. Our sales are primarily denominated in U.S. dollars and, therefore, our revenue is not directly subject to foreign currency risk. However, we are indirectly exposed to foreign currency risk. A stronger U.S. dollar makes our solution more expensive outside the United States and therefore can reduce demand. A weaker U.S. dollar could have the opposite effects. Such economic exposure to currency fluctuations is difficult to measure or predict because our sales are influenced by many factors in addition to the impact of currency fluctuations. Our operating expenses are generally denominated in the currencies of the countries in which our operations are located, except for Russia where compensation of our employees was primarily denominated in the U.S. dollar. In March 2022, we made a decision to close our Russia office in June 2022 and to establish a new European development center in Portugal.

Our consolidated results of operations and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates and may be adversely affected in the future due to changes in foreign exchange rates. To date, we have not entered into any hedging arrangements with respect to foreign currency risk or other derivative financial instruments. During the three months ended March 31, 2023, the effect of a hypothetical 10% change in foreign currency exchange rates applicable to our business would have a maximum impact of $1.9 million on our operating expenses.

ITEM 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of 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 March 31, 2023.

Based on management's evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of March 31, 2023, our disclosure controls and procedures were designed, and were effective, to provide assurance at a reasonable level that the 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 rules and forms, and that such information is accumulated and communicated to our management as appropriate to allow timely decisions regarding required disclosures.

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

Changes in Internal Control over Financial Reporting

During the three months ended March 31, 2023, there was no change in our internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. Legal Proceedings

Information with respect to this Item may be found under the heading “Legal Matters” in Note 10 to the condensed consolidated financial statements in this Quarterly Report on Form 10-Q, which information is incorporated herein by reference.

ITEM 1A. Risk Factors

There have been no material changes from the Risk Factors previously disclosed in Part 1, Item 1A, of our Annual Report on Form 10-K for the fiscal year ended December 31, 2022. In addition to the other information set forth in this report, you should carefully consider the Risk Factors discussed in our Annual Report on Form 10-K as they could materially affect our business, financial condition and future results of operation.

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

Not applicable.

ITEM 3. Defaults Upon Senior Securities

None.

ITEM 4. Mine Safety Disclosures

Not applicable.

ITEM 5. Other Information

None.

ITEM 6. Exhibits

Exhibit Number	Description
10.1ø+	Five9, Inc. Performance-Based Restricted Stock Unit Grant Notice and Award Agreement for 2023-2025 Performance Period - 2014 Equity Incentive Plan (filed as Exhibit 10.21 to the Company's Annual Report on Form 10-K filed with the SEC on February 24, 2023 (File No. 001-36383) and incorporated by reference herein).
31.1*	Certification of Chief Executive Officer of Five9, Inc. Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Chief Financial Officer of Five9, Inc. Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	Certification of Chief Executive Officer and Chief Financial Officer of Five9, Inc. Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS*	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH*	XBRL Taxonomy Schema Linkbase Document
101.CAL*	XBRL Taxonomy Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Definition Linkbase Document
101.LAB*	XBRL Taxonomy Labels Linkbase Document
101.PRE*	XBRL Taxonomy Presentation Linkbase Document
104	Cover Page Interactive Data File. Formatted as inline XBRL and contained in Exhibit 101.

ø Previously filed.

+ Indicates management contract or compensatory plan.

* Filed herewith.

** Furnished herewith.

SIGNATURES

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

			Five9, Inc.
Date:	May 4, 2023	By:	/s/ Michael Burkland
			Michael Burkland Chief Executive Officer (Principal Executive Officer)
			/s/ Barry Zwarenstein
			Barry Zwarenstein Chief Financial Officer (Principal Financial Officer)
			/s/ Leena Mansharamani
			Leena Mansharamani Chief Accounting Officer (Principal Accounting Officer)

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002

I, Michael Burkland, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Five9, Inc. for the quarter ended March 31, 2023;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 4, 2023

By: /s/ Michael Burkland
Michael Burkland
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER

PURSUANT TO SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002

I, Barry Zwarenstein, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Five9, Inc. for the quarter ended March 31, 2023;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 4, 2023

By: /s/ Barry Zwarenstein
Barry Zwarenstein
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

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

I, Michael Burkland, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report of Five9, Inc. (the "Company") on Form 10-Q for the fiscal quarter ended March 31, 2023 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Quarterly Report on Form 10-Q fairly presents in all material respects the financial condition and results of operations of the Company.

Date:	May 4, 2023	By:	/s/ Michael Burkland
			Michael Burkland
			Chief Executive Officer

I, Barry Zwarenstein, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report of Five9, Inc. (the "Company") on Form 10-Q for the fiscal quarter ended March 31, 2023 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Quarterly Report on Form 10-Q fairly presents in all material respects the financial condition and results of operations of the Company.

Date:	May 4, 2023	By:	/s/ Barry Zwarenstein
			Barry Zwarenstein
			Chief Financial Officer

This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Five9, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.