UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2022

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

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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 November 1, 2022, there were 70,505,394 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, 2021 and Part II, Item 1A, of this Quarterly Report, which we encourage you to carefully read, and include the following:

- 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, and may not fully reflect the underlying performance of our business and may result in decreases in the price of our common stock;
- 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;
- 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;
- we have established, and are continuing to increase, our network of master agents and resellers to sell our solution; our failure to effectively develop, manage, and maintain this network could materially harm our revenues;
- the markets in which we participate involve a high number of competitors that is 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;

- 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 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 solutions in order to maintain and grow our business;
- the effects of the COVID-19 pandemic have materially affected how we, our clients and business partners are operating, and the duration and extent to which it will impact our future results of operations and overall financial performance remain uncertain;
- 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)

	September 30, 2022 (Unaudited)	December 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents	$ 129,492	$ 90,878
Marketable investments	447,612	378,980
Accounts receivable, net	88,225	83,731
Prepaid expenses and other current assets	32,600	30,342
Deferred contract acquisition costs, net	43,587	33,295
Total current assets	741,516	617,226
Property and equipment, net	101,969	77,785
Operating lease right-of-use assets	44,941	48,703
Intangible assets, net	31,081	39,897
Goodwill	165,420	165,420
Marketable investments	1,961	147,377
Other assets	11,963	11,871
Deferred contract acquisition costs, net — less current portion	107,961	84,663
Total assets	$ 1,206,812	$ 1,192,942
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 21,153	$ 20,510
Accrued and other current liabilities	63,122	78,577
Operating lease liabilities	10,201	9,826
Accrued federal fees	439	2,282
Sales tax liabilities	2,485	2,660
Deferred revenue	53,834	43,720
Convertible senior notes	176	—
Total current liabilities	151,410	157,575
Convertible senior notes — less current portion	737,429	768,599
Sales tax liabilities — less current portion	894	877
Operating lease liabilities — less current portion	42,487	47,088
Other long-term liabilities	5,147	7,671
Total liabilities	937,367	981,810
Commitments and contingencies (Note 10)		
Stockholders' equity:		
Common stock	71	68
Additional paid-in capital	582,908	439,787
Accumulated other comprehensive loss	(4,101)	(287)
Accumulated deficit	(309,433)	(228,436)
Total stockholders' equity	269,445	211,132
Total liabilities and stockholders' equity	$ 1,206,812	$ 1,192,942

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		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Revenue	$ 198,342	$ 154,328	$ 570,501	$ 435,992
Cost of revenue	94,111	67,137	271,207	191,335
Gross profit	104,231	87,191	299,294	244,657
Operating expenses:				
Research and development	34,113	29,680	104,929	76,449
Sales and marketing	67,353	49,712	196,062	140,535
General and administrative	24,496	26,790	72,634	71,944
Total operating expenses	125,962	106,182	373,625	288,928
Loss from operations	(21,731)	(18,991)	(74,331)	(44,271)
Other (expense) income, net:				
Interest expense	(1,879)	(1,947)	(5,606)	(6,003)
Interest income and other	982	213	2,107	35
Total other (expense) income, net	(897)	(1,734)	(3,499)	(5,968)
Loss before income taxes	(22,628)	(20,725)	(77,830)	(50,239)
Provision for (benefit from) income taxes	579	(188)	3,167	(840)
Net loss	$ (23,207)	$ (20,537)	$ (80,997)	$ (49,399)
Net loss per share:				
Basic and diluted	$ (0.33)	$ (0.30)	$ (1.16)	$ (0.73)
Shares used in computing net loss per share:				
Basic and diluted	70,232	67,800	69,656	67,278
Comprehensive Loss:				
Net loss	$ (23,207)	$ (20,537)	$ (80,997)	$ (49,399)
Other comprehensive income (loss)	433	(74)	(3,814)	(110)
Comprehensive loss	$ (22,774)	$ (20,611)	$ (84,811)	$ (49,509)

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 June 30, 2021	67,684	$ 68	$ 366,637	$ 299	$ (204,298)	$ 162,706
Issuance of common stock upon partial conversion of the 2023 convertible senior notes	24	—	(12)	—	—	(12)
Partial unwind of capped calls and retirement of common stock related to the 2023 convertible senior notes	(4)	—	—	—	—	—
Issuance of common stock upon exercise of stock options	87	—	1,592	—	—	1,592
Issuance of common stock upon vesting of restricted stock units	243	—	—	—	—	—
Stock-based compensation	—	—	27,395	—	—	27,395
Other comprehensive loss	—	—	—	(74)	—	(74)
Net loss	—	—	—	—	(20,537)	(20,537)
Balance as of September 30, 2021	68,034	$ 68	$ 395,612	$ 225	$ (224,835)	$ 171,070
Balance as of June 30, 2022	70,090	$ 70	$ 535,592	$ (4,534)	$ (286,226)	$ 244,902
Issuance of common stock upon partial conversion of the 2023 convertible senior notes	—	—	(16)	—	—	(16)
Partial unwind of capped calls and retirement of common stock related to the 2023 convertible senior notes	—	—	5	—	—	5
Issuance of common stock upon exercise of stock options	68	—	2,353	—	—	2,353
Issuance of common stock upon vesting of restricted stock units	345	1	—	—	—	1
Stock-based compensation	—	—	44,974	—	—	44,974
Other comprehensive income	—	—	—	433	—	433
Net loss	—	—	—	—	(23,207)	(23,207)
Balance as of September 30, 2022	70,503	$ 71	$ 582,908	$ (4,101)	$ (309,433)	$ 269,445

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 31, 2020	66,496	$	67	$	476,941	$	335	$	(198,179)	$	279,164
Cumulative effect adjustment due to adoption of ASU 2020-06[(1)]	—		—		(168,412)		—		22,743		(145,669)
Issuance of common stock upon partial conversion of the 2023 convertible senior notes	348		—		(285)		—		—		(285)
Partial unwind of capped calls and retirement of common stock related to the 2023 convertible senior notes	(50)		—		7		—		—		7
Issuance of common stock upon exercise of stock options	333		—		6,029		—		—		6,029
Issuance of common stock upon vesting of restricted stock units	839		1		—		—		—		1
Issuance of common stock under ESPP	68		—		8,128		—		—		8,128
Stock-based compensation	—		—		73,204		—		—		73,204
Other comprehensive loss	—		—		—		(110)		—		(110)
Net loss	—		—		—		—		(49,399)		(49,399)
Balance as of September 30, 2021	68,034	$	68	$	395,612	$	225	$	(224,835)	$	171,070
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	574		—		(275)		—		—		(275)
Partial unwind of capped calls and retirement of common stock related to the 2023 convertible senior notes	(119)		—		8		—		—		8
Issuance of common stock upon exercise of stock options	419		1		5,357		—		—		5,358
Issuance of common stock upon vesting of restricted stock units	1,044		2		—		—		—		2
Issuance of common stock under ESPP	97		—		8,338		—		—		8,338
Stock-based compensation	—		—		129,693		—		—		129,693
Other comprehensive loss	—		—		—		(3,814)		—		(3,814)
Net loss	—		—		—		—		(80,997)		(80,997)
Balance as of September 30, 2022	70,503	$	71	$	582,908	$	(4,101)	$	(309,433)	$	269,445

(1) Effective January 1, 2021, the Company adopted ASU 2020-06, Debt-Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging-Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity. Accordingly, the Company recorded a net reduction to opening accumulated deficit of $22.7 million and a net reduction to opening additional paid-in capital of $168.4 million as of January 1, 2021 due to the cumulative impact of adopting this new standard.

See accompanying notes to the unaudited condensed consolidated financial statements.

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

	Nine Months Ended	
	September 30, 2022	September 30, 2021
Cash flows from operating activities:		
Net loss	$ (80,997)	$ (49,399)
Adjustments to reconcile net loss to net cash provided by operating activities:		
Depreciation and amortization	33,650	28,194
Amortization of operating lease right-of-use assets	7,491	6,445
Amortization of deferred contract acquisition costs	29,245	18,358
Amortization of premium on marketable investments	1,006	5,114
Provision for doubtful accounts	812	502
Stock-based compensation	128,682	73,204
Amortization of discount and issuance costs on convertible senior notes	2,796	2,960
Deferred taxes	2,076	—
Change in fair of value of contingent consideration	260	5,260
Payment of contingent consideration liability in excess of acquisition-date fair value	(5,900)	—
Other	503	211
Changes in operating assets and liabilities:		
Accounts receivable	(5,337)	(12,181)
Prepaid expenses and other current assets	(2,228)	(13,665)
Deferred contract acquisition costs	(62,835)	(51,765)
Other assets	(213)	(2,196)
Accounts payable	1,008	5,319
Accrued and other current liabilities	796	20,528
Accrued federal fees and sales tax liabilities	(2,001)	(3,363)
Deferred revenue	9,519	4,006
Other liabilities	(2,208)	(17,183)
Net cash provided by operating activities	56,125	20,349
Cash flows from investing activities:		
Purchases of marketable investments	(250,278)	(543,544)
Proceeds from sales of marketable investments	600	2,369
Proceeds from maturities of marketable investments	321,311	419,922
Purchases of property and equipment	(46,028)	(28,478)
Capitalization of software development costs	(2,420)	—
Payments of initial direct costs	(282)	—
Cash paid for an equity investment in a privately-held company	(2,000)	—
Net cash provided by (used in) investing activities	20,903	(149,731)
Cash flows from financing activities:		
Repurchase of a portion of 2023 convertible senior notes, net of costs	(34,057)	(18,870)
Proceeds from exercise of common stock options	5,358	6,029
Proceeds from sale of common stock under ESPP	8,338	8,128
Payment of contingent consideration liability up to acquisition-date fair value	(18,100)	—
Payment of holdback related to an acquisition	—	(3,200)
Payments of finance leases	—	(612)
Net cash used in financing activities	(38,461)	(8,525)
Net increase (decrease) in cash, cash equivalents and restricted cash	38,567	(137,907)
Cash, cash equivalents and restricted cash:		
Beginning of period	91,391	220,372
End of period	$ 129,958	$ 82,465
Supplemental disclosures of cash flow data:		
Cash paid for interest	$ 1,870	$ 1,913
Cash paid for income taxes	$ 932	$ 47
Non-cash investing and financing activities:		
Equipment purchased and unpaid at period-end	$ 13,372	$ 13,705
Capitalization of leasehold improvements and furniture and fixtures through non-cash lease incentive	$ 109	$ 5,065
Stock-based compensation included in capitalized software development costs	$ 1,011	$ —
Reconciliation of Cash, Cash Equivalents and Restricted Cash to the Condensed Consolidated Balance Sheets - Beginning of Period:		
Cash and cash equivalents	$ 90,878	$ 220,372
Restricted cash in other assets	513	—
Total cash, cash equivalents and restricted cash	$ 91,391	$ 220,372
Reconciliation of Cash, Cash Equivalents and Restricted Cash to the Condensed Consolidated Balance Sheets - End of Period:		
Cash and cash equivalents	$ 129,492	$ 82,465
Restricted cash in other assets	466	—
Total cash, cash equivalents and restricted cash	$ 129,958	$ 82,465

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, 2021. 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

Except for the below significant accounting policy, which updates the significant accounting policies previously disclosed in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 as filed with the SEC on February 28, 2022, 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, 2021.

Internal-use software development costs

The Company capitalizes certain qualifying costs incurred during the development stage of internal-use software. Costs related to preliminary project activities and post-implementation activities are expensed in research and development as incurred. Preliminary project activities include conceptual formulation, evaluation and final selection of alternatives, planning, proof of concept and requirement analysis of the selected alternative. Post-implementation stage begins when the internal-use software is ready for its intended use, and includes all internal and external training and application maintenance activities. Capitalized internal-use software costs are included within property and equipment, net on the condensed consolidated balance sheets, and are amortized over the estimated useful life of the software, which is three years. The related amortization expense is recognized in cost of revenue.

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 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):

	September 30, 2022	December 31, 2021
Accounts receivable, net	$ 88,225	$ 83,731
Deferred contract acquisition costs, net:		
Current	$ 43,587	$ 33,295
Non-current	107,961	84,663
Total deferred contract acquisition costs, net	$ 151,548	$ 117,958
Contract assets and contract liabilities:		
Contract assets (included in prepaid expenses and other current assets)	$ 3,202	$ 2,593
Contract liabilities (deferred revenue)	53,834	43,720
Noncurrent contract liabilities (deferred revenue) (included in other long-term liabilities)	1,502	2,097
Net contract liabilities	$ (52,134)	$ (43,224)

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 and nine months ended September 30, 2022, the Company recognized revenue of $2.9 million and $35.9 million, respectively, related to its contract liabilities at December 31, 2021.

Remaining Performance Obligations

As of September 30, 2022, 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 $750.9 million. The Company expects to recognize revenue on approximately three-fourths of the remaining performance obligations over the next 24 months, with the balance recognized thereafter. The Company has elected the optional exemption, which allows for the exclusion of the 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 September 30, 2022 and December 31, 2021 were as follows (in thousands):

	September 30, 2022			
Short-Term Marketable Investments	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Certificates of deposit	$ 747	$ —	$ (18)	$ 729
U.S. treasury	179,222	3	(2,092)	177,133
U.S. agency securities	159,026	11	(2,355)	156,682
Commercial paper	14,746	—	—	14,746
Municipal bonds	93,088	—	(391)	92,697
Corporate bonds	5,659	—	(34)	5,625
Total	$ 452,488	$ 14	$ (4,890)	$ 447,612

	September 30, 2022			
Long-term Marketable Investments	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. agency securities	$ 1,996	$ —	$ (35)	$ 1,961
Total	$ 1,996	$ —	$ (35)	$ 1,961

	December 31, 2021			
Short-Term Marketable Investments	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Certificates of deposit	$ 1,615	$ —	$ —	$ 1,615
U.S. treasury	83,237	—	(24)	83,213
U.S. agency securities	159,070	—	(65)	159,005
Commercial paper	47,555	—	—	47,555
Municipal bonds	75,337	—	(96)	75,241
Corporate bonds	12,355	2	(6)	12,351
Total	$ 379,169	$ 2	$ (191)	$ 378,980

	December 31, 2021			
Long-term Marketable Investments	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Certificates of deposit	$ 746	$ —	$ (2)	$ 744
U.S. treasury	63,566	—	(251)	63,315
U.S. agency securities	63,960	—	(254)	63,706
Municipal bonds	18,655	—	(64)	18,591
Corporate bonds	1,026	—	(5)	1,021
Total	$ 147,953	$ —	$ (576)	$ 147,377

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 September 30, 2022 and December 31, 2021 (in thousands):

	September 30, 2022		December 31, 2021	
	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value
Certificates of deposit	$ (18)	$ 729	$ (2)	$ 2,010
U.S. treasury	(2,092)	164,904	(275)	140,527
U.S. agency securities	(2,390)	151,280	(320)	222,710
Municipal bonds	(391)	92,697	(160)	87,184
Corporate bonds	(34)	5,625	(10)	9,428
Total	$ (4,925)	$ 415,235	$ (767)	$ 461,859

Although the Company had certain available-for-sale debt securities in an unrealized loss position as of September 30, 2022, 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):

	September 30, 2022			
	Level 1	Level 2	Level 3	Total
Assets				
Cash equivalents				
Money market funds	$ 23,880	$ —	$ —	$ 23,880
Certificates of deposit	—	249	—	249
U.S. treasury	14,555	—	—	14,555
Total cash equivalents	$ 38,435	$ 249	$ —	$ 38,684
Marketable investments (short and long term)				
Certificates of deposit	$ —	$ 729	$ —	$ 729
U.S. treasury	177,133	—	—	177,133
U.S. agency securities and government sponsored securities	—	158,643	—	158,643
Commercial paper	—	14,746	—	14,746
Municipal bonds	—	92,697	—	92,697
Corporate bonds	—	5,625	—	5,625
Total marketable investments	$ 177,133	$ 272,440	$ —	$ 449,573
Liabilities				
Contingent consideration	$ —	$ —	$ —	$ —

	December 31, 2021			
	Level 1	Level 2	Level 3	Total
Assets				
Cash equivalents				
Money market funds	$ 31,380	$ —	$ —	$ 31,380
Certificates of deposit	—	747	—	747
Total cash equivalents	$ 31,380	$ 747	$ —	$ 32,127
Marketable investments (short and long-term)				
Certificates of deposit	$ —	$ 2,359	$ —	$ 2,359
U.S. treasury	146,528	—	—	146,528
U.S. agency and government sponsored securities	—	222,711	—	222,711
Commercial paper	—	47,555	—	47,555
Municipal bonds	—	93,832	—	93,832
Corporate bonds	—	13,372	—	13,372
Total marketable investments	$ 146,528	$ 379,829	$ —	$ 526,357
Liabilities				
Contingent consideration	$ —	$ —	$ 23,740	$ 23,740

As of September 30, 2022 and December 31, 2021, the estimated fair value of the Company's outstanding 2023 convertible senior notes was $0.3 million and $114.9 million, respectively. As of September 30, 2022 and December 31, 2021, the estimated fair value of the Company's outstanding 2025 convertible senior notes was $680.7 million and $917.3 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.

As part of the agreement to acquire Inference Solutions Inc. ("Inference") in November 2020, the Company was obligated to pay contingent earn out consideration of up to $24.0 million based upon achievement of certain milestones and relative thresholds during the earn out measurement period which ended on December 31, 2021. The fair value of the contingent consideration arrangement was classified within Level 3 and was determined using a probability-based scenario analysis approach. The resulting probability-weighted contingent consideration amounts were discounted based on the Company's estimated cost of debt. During the three months ended March 31, 2022, the Company concluded that the final contingent consideration amount was $24.0 million and recognized an additional $0.3 million of contingent consideration expense to adjust the fair value from $23.7 million at December 31, 2021 to $24.0 million at March 31, 2022. The Company paid the $24.0 million contingent consideration amount in April 2022.

A reconciliation of the beginning and ending balance for contingent consideration consisted of the following (in thousands):

	Nine Months Ended September 30, 2022
Balance, beginning of period	$ 23,740
Change in fair value of contingent consideration	260
Less: payment	(24,000)
Balance, end of period	$ —

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 transaction 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 September 30, 2022 and December 31, 2021.

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):

	September 30, 2022	December 31, 2021
Cash	$ 90,808	$ 58,751
Certificates of deposit	249	747
Money market funds	23,880	31,380
U.S. treasury	14,555	—
Total cash and cash equivalents	$ 129,492	$ 90,878

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

	September 30, 2022	December 31, 2021
Trade accounts receivable	$ 76,577	$ 75,970
Unbilled trade accounts receivable, net of advance client deposits	11,910	7,981
Allowance for doubtful accounts	(262)	(220)
Accounts receivable, net	$ 88,225	$ 83,731

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

	September 30, 2022	December 31, 2021
Prepaid expenses	$ 22,040	$ 21,306
Other current assets	7,358	6,443
Contract assets	3,202	2,593
Prepaid expenses and other current assets	$ 32,600	$ 30,342

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

	September 30, 2022	December 31, 2021
Computer and network equipment	$ 147,409	$ 116,701
Computer software	50,300	44,268
Internal-use software development costs	3,931	500
Furniture and fixtures	3,352	3,953
Leasehold improvements	5,471	5,914
Property and equipment	210,463	171,336
Accumulated depreciation and amortization	(108,494)	(93,551)
Property and equipment, net	$ 101,969	$ 77,785

Depreciation and amortization expense associated with property and equipment was $8.3 million and $24.8 million for the three and nine months ended September 30, 2022, respectively. Depreciation and amortization expense associated with property and equipment was $6.8 million and $19.4 million for the three and nine months ended September 30, 2021, respectively.

Property and equipment capitalized under finance lease obligations consists primarily of computer and network equipment and was as follows (in thousands):

	September 30, 2022	December 31, 2021
Gross	$ 37,561	$ 42,541
Less: accumulated depreciation and amortization	(37,392)	(41,689)
Total	$ 169	$ 852

Other assets consisted of the following (in thousands):

	September 30, 2022	December 31, 2021
Other assets	$ 5,293	$ 4,964
Equity investment in a privately-held company	2,000	—
Deferred tax assets	4,670	6,907
Total	$ 11,963	$ 11,871

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

	September 30, 2022	December 31, 2021
Accrued expenses	$ 23,984	$ 20,108
Accrued compensation and benefits	39,138	34,729
Contingent consideration	—	23,740
Accrued and other current liabilities	$ 63,122	$ 78,577

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

	September 30, 2022	December 31, 2021
Deferred revenue	$ 1,502	$ 2,097
Other long-term liabilities	3,645	5,574
Other long-term liabilities	$ 5,147	$ 7,671

5. Goodwill and Intangible Assets

Goodwill

There was no activity in the Company's goodwill balance during the nine months ended September 30, 2022.

Intangible Assets

The following table summarizes the activity in the Company's intangible assets balance during the three and nine months ended September 30, 2022 (in thousands):

	Three Months Ended September 30, 2022	Nine Months Ended September 30, 2022
Beginning of the period	$ 34,015	$ 39,897
Amortization	(2,934)	(8,816)
End of the period	$ 31,081	$ 31,081

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

	September 30, 2022				December 31, 2021			
	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	$ (26,116)	$ 30,098	3.4	$ 56,214	$ (17,821)	$ 38,393	4.0
Acquired workforce	470	(452)	18	0.2	470	(334)	136	0.9
Customer relationships	1,600	(661)	939	3.0	1,600	(421)	1,179	3.7
Trademarks	500	(474)	26	0.2	500	(311)	189	0.9
Total	$ 58,784	$ (27,703)	$ 31,081	3.4	$ 58,784	$ (18,887)	$ 39,897	4.0

Amortization expense for intangible assets was $2.9 million and $8.8 million during the three and nine months ended September 30, 2022, respectively. Amortization expense for intangible assets was $2.9 million and $8.8 million during the three and nine months ended September 30, 2021, respectively.

As of September 30, 2022, the expected future amortization expense for intangible assets was as follows (in thousands):

Period	Expected Future Amortization Expense
Remaining 2022	$ 2,889
2023	10,870
2024	7,527
2025	5,595
2026	4,200
Thereafter	—
Total	$ 31,081

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.

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 $74.98 per share on September 30, 2022, the last trading day during the three months ended September 30, 2022, 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, September 30, 2022, was not greater than or equal to 130% of the initial conversion price. As such, during the three months ended September 30, 2022, 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 December 31, 2022.

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 September 30, 2022 and as of December 31, 2021 was as follows (in thousands):

	September 30, 2022	December 31, 2021
Principal	$ 747,500	$ 747,500
Unamortized issuance costs	(10,071)	(12,835)
Net carrying amount	$ 737,429	$ 734,665

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

	Three Months Ended		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Contractual interest expense	$ 935	$ 934	$ 2,804	$ 2,990
Amortization of issuance costs	944	935	2,765	2,737
Total interest expense	$ 1,879	$ 1,869	$ 5,569	$ 5,727

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.

Maturity of the Company's 2025 convertible senior notes as of September 30, 2022 was as follows (in thousands):

Period	Amount to Mature
2025 (Maturity date of June 1, 2025)	$ 747,500
Total	$ 747,500

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.

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 September 30, 2022, 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 are 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. On or after November 1, 2022 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 September 30, 2022, and are also currently convertible between October 1, 2022 to December 31, 2022. Whether the 2023 convertible senior notes will be convertible after December 31, 2022 will depend on the continued satisfaction of this condition or other conversion conditions in the future. During the nine months ended September 30, 2022, the Company paid $34.1 million in cash and issued 573,633 shares of its common stock to settle aggregate principal amount of $34.0 million of its 2023 convertible senior notes. As of September 30, 2022, approximately $0.2 million aggregate principal amount of the Company's 2023 convertible senior notes remained outstanding. The conversions that occurred during the nine months ended September 30, 2022 were subject to ASU 2020-06 and such conversions were accounted for as contractual conversions, which did not result in any gain or loss upon their settlement.

During the nine months ended September 30, 2022, the Company received 119,492 shares from the partial unwind of capped calls resulting from the settlement of its 2023 convertible senior notes. The receipt of the shares reduced the number of shares of common stock outstanding.

In addition, on or prior to September 30, 2022, the Company received elections to convert aggregate principal amount of $0.1 million of its 2023 convertible senior notes that remain unsettled as of the end of the third quarter of 2022. The Company expects to settle these conversions in cash or a combination of cash and shares during the fourth quarter of 2022. The Company has the option to settle any future election conversion notices in cash, shares, or a combination of cash and shares.

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 September 30, 2022 and as of December 31, 2021 was as follows (in thousands):

	September 30, 2022	December 31, 2021
Principal	$ 177	$ 34,225
Unamortized issuance costs	(1)	(291)
Net carrying amount	$ 176	$ 33,934

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

	Three Months Ended		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Contractual interest expense	$ —	$ 11	$ 6	$ 34
Amortization of issuance costs	—	66	31	223
Total interest expense	$ —	$ 77	$ 37	$ 257

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.

Maturity of the Company's 2023 convertible senior notes as of September 30, 2022 was as follows (in thousands):

Period	Amount to Matur
2023 (Maturity date of May 1, 2023)	$
Total	$

See Note 6 of the notes to consolidated financial statements in the Company's Annual Report on Form 10-K for the year ended December 31, 2021 filed with the Securities and Exchange Commission on February 28, 2022 for further description of the convertible senior notes.

Adoption of ASU 2020-06

On January 1, 2021, the Company elected to early adopt ASU 2020-06 based on a modified retrospective transition method. Under such transition, prior-period information was not retrospectively adjusted.

Prior to the adoption of ASU 2020-06, the 2025 and 2023 convertible senior notes were separated into liability and equity components. The carrying amount of the liability component was calculated by measuring the fair value of a similar debt instrument that does not have an associated conversion feature. The equity component was recorded in additional paid-in-capital and was not re-measured as long as it continued to meet the conditions for equity classification. The excess of the principal amount of the liability component over its carrying amount (the "Debt Discount") was amortized to interest expense over the contractual term of the 2025 and 2023 convertible senior notes at an effective interest rate of 5.76% and 6.39%, respectively.

Prior to the adoption of ASU 2020-06, the debt issuance costs related to the 2025 and 2023 convertible senior notes were allocated to the liability and equity components based on their relative values. Issuance costs attributable to the liability component were amortized to interest expense using the effective interest method over the contractual term of the 2025 and 2023 convertible senior notes. Issuance costs attributable to the equity component were netted with the equity component in additional paid-in-capital.

In accounting for the 2025 and 2023 convertible senior notes after adoption of ASU 2020-06, the 2025 convertible senior notes are accounted for as a single liability, and the issuance costs related to the 2025 and 2023 convertible senior notes are being amortized to interest expense over the contractual term at an effective interest rate of 1.0% and 0.76%, respectively.

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 September 30, 2022 and December 31, 2021, the Company had 70,502,734 and 68,488,337 shares of common stock issued and outstanding, respectively. During the three and nine months ended September 30, 2022, the Company issued 0 and 573,633 shares, respectively, of common stock in connection with 2023 convertible senior note settlements. During the three and nine months ended September 30, 2022, the Company also received 0 and 119,492 shares, respectively, from the partial unwind of capped calls resulting from the settlement of its 2023 convertible senior notes. The receipt of the shares during the nine months ended September 30, 2022 reduced the number of shares of common stock outstanding.

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 September 30, 2022 and December 31, 2021, 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 were as follows (in thousands):

	September 30, 2022
Stock options outstanding	1,626
RSUs (including PRSUs) outstanding	2,879
Shares available for future grant under 2014 Plan	15,375
Shares available for future issuance under ESPP	3,664
Total shares of common stock reserved	23,544

Stock Options

A summary of the Company's stock option activity during the nine months ended September 30, 2022 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, 2021	1,982	$ 38.65		
Options granted (weighted average grant date fair value of $50.44 per share)	81	110.55		
Options exercised	(419)	12.78		
Options forfeited or expired	(18)	112.37		
Outstanding as of September 30, 2022	1,626	$ 48.09	5.0	$ 64,670

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 $74.98 per share as of September 30, 2022 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 during the nine months ended September 30, 2022 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, 2021	2,560	$ 125.65
RSUs granted[(1)]	1,576	110.65
RSUs vested and released	(1,044)	111.77
RSUs forfeited or canceled	(213)	125.92
Outstanding as of September 30, 2022	2,879	121.73

(1) Includes 120,346 PRSUs granted during the nine months ended September 30, 2022.

Performance-Based Restricted Stock Units

In February 2022, the Company granted 59,383 performance-based restricted stock units ("PRSUs"), which are subject to market and service conditions and have a weighted average grant date fair value of $8.3 million as part of its annual grant of equity incentive awards to certain executives. 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 consisting of the Company's 2022, 2023 and 2024 fiscal years. 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 2022 and 2023 is limited to 100% of the target amount for the year, and any PRSUs resulting from above-target performance in those years will be paid following the end of 2024, 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 2024 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 at the target level. 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.

In June 2022, the Company granted 60,963 shares of PRSUs, subject to performance and service conditions, with a grant date fair value of $6.3 million as a retention award to an executive. The amount of PRSUs that may be earned will be determined based on achievement of two quarterly revenue goals, which can be achieved through the fourth fiscal quarter of 2023. One third of the 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 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 PRSUs are otherwise on the Company's standard award terms from the February 2022 PRSU grants. The Company began recognizing the fair value of these PRSUs ratably over the requisite service period since it concluded that the performance conditions were probable of achievement at June 30, 2022, and continued to be probable of achievement at September 30, 2022. 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		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Cost of revenue	$ 8,329	$ 3,994	$ 24,659	$ 10,880
Research and development	10,603	9,101	32,567	20,016
Sales and marketing	15,761	8,304	44,148	23,282
General and administrative	9,810	5,996	27,308	19,026
Total stock-based compensation expense	44,503	27,395	128,682	73,204

As of September 30, 2022, unrecognized stock-based compensation expense by award type and their 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	$ 16,410	$ 315,466	$ 11,028	$ 545
Weighted-average amortization period	2.3 years	2.6 years	1.9 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		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Expected term (years)	—	6.0	6.0	6.0
Volatility	—	47.0 %	46.0 %	47.0 %
Risk-free interest rate	—	1.0 %	1.8 %	1.0 %
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		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Closing price of common stock as of grant date (February 28, 2022)	—	—	$110.00	—
Expected term (years)	—	—	2.84	—
Volatility	—	—	48.8 %	—
Risk-free interest rate	—	—	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 and nine months ended September 30, 2022 and 2021, 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		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Net loss	$ (23,207)	$ (20,537)	$ (80,997)	$ (49,399)
Weighted-average shares used in computing basic and diluted net loss per share	70,232	67,800	69,656	67,278
Basic and diluted net loss per share	$ (0.33)	$ (0.30)	$ (1.16)	$ (0.73)

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		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Stock options	1,626	2,035	1,626	2,035
RSUs (includes PRSUs)	2,879	2,090	2,879	2,090
Convertible senior notes	5,569	6,573	5,725	6,721
Total	10,074	10,698	10,230	10,846

The Company used the if-converted method for calculating any potential dilutive effect of its convertible senior notes for the three and nine months ended September 30, 2022 and 2021. 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 and nine months ended September 30, 2022 and 2021 because the effect would have been anti-dilutive.

9. Income Taxes

The provision for income taxes for the three and nine months ended September 30, 2022 was approximately $0.6 million and $3.2 million, respectively. The benefit from income taxes for the three and nine months ended September 30, 2021 was approximately $(0.2) million and $(0.8) million, respectively.

The provision for income taxes for the three and nine months ended September 30, 2022 consisted primarily of foreign deferred income tax expense from the intercompany sale of the Company's Australian intellectual property to the United States, domestic state current income tax expense and foreign current income tax expense. The benefit from income taxes for the three and nine months ended September 30, 2021 consisted primarily of a foreign income tax benefit offset by domestic state minimum taxes.

For the three and nine months ended September 30, 2022, the provision for income taxes differed from the statutory amount primarily due to state and 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 and nine months ended September 30, 2021, the benefit from income taxes differed from the statutory amount primarily due to state and 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 September 30, 2022 and December 31, 2021. 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 and nine months ended September 30, 2022, 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 agreements, and agreements with third parties to provide co-location hosting, telecommunication usage and equipment maintenance services. These commitments as of December 31, 2021 are disclosed in the Company’s Annual Report on Form 10-K for the year ended December 31, 2021, and material updates to these commitments during the nine months ended September 30, 2022 are disclosed herein, including in Note 12.

As of September 30, 2022, the Company’s commitment under various hosting and telecommunications agreements totaled $15.8 million for terms ranging up to 48 months. These agreements require the Company to make monthly payments over the service term in exchange for certain network services.

As of September 30, 2022, the Company had outstanding cloud service agreement commitments totaling $46.7 million, of which $5.5 million is expected to be paid in the remainder of 2022, $26.9 million is expected in 2023, and the remaining $14.3 million is expected in 2024.

As of September 30, 2022, $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 sheet, consolidated statement 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		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
United States	$ 179,306	$ 140,739	$ 517,537	$ 397,882
International	19,036	13,589	52,964	38,110
Total revenue	$ 198,342	$ 154,328	$ 570,501	$ 435,992

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

	September 30, 2022	December 31, 2021
United States	$ 94,519	$ 68,674
International	7,450	9,111
Property and equipment, net	$ 101,969	$ 77,785

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 ten years, some of the leases include a Company option to extend the leases for up to three to five years, and some of the leases include the option to terminate the leases upon 30-days notice. The Company has elected the practical expedient to 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		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Operating lease cost	$ 2,969	$ 2,403	$ 8,738	$ 7,588
Finance lease cost:				
Amortization of right-of-use assets	$ 141	$ 215	$ 609	$ 1,476
Interest on finance lease liabilities	—	1	—	18
Total finance lease cost	$ 141	$ 216	$ 609	$ 1,494

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

	Three Months Ended		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Cash paid for amounts included in the measurement of lease liabilities:				
Operating cash used in operating leases	$ (2,951)	$ (1,334)	$ (8,489)	$ (4,532)
Financing cash used in finance leases	—	(36)	—	(612)
Right of use assets obtained in exchange for lease obligations:				
Operating leases	3,899	1,033	4,483	43,462
Finance leases	—	—	—	—

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

	September 30, 2022	December 31, 2021
Operating leases		
Operating lease right-of-use assets	$ 44,941	$ 48,703
Operating lease liabilities	$ 10,201	$ 9,826
Operating lease liabilities — less current portion	42,487	47,088
Total operating lease liabilities	$ 52,688	$ 56,914
Finance leases		
Property and equipment, gross	$ 37,561	$ 42,541
Less: accumulated depreciation and amortization	(37,392)	(41,689)
Property and equipment, net	$ 169	$ 852

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

	September 30, 2022	December 31, 2021
Weighted average remaining lease term		
Operating leases	6.7	7.3

Weighted average discount rates were as follows:

	September 30, 2022	December 31, 2021
Weighted average discount rate		
Operating leases	3.3 %	3.2 %

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

Year Ending December 31,	Operating Leases
Remaining 2022	$ 3,284
2023	11,404
2024	9,116
2025	6,478
2026	5,679
Thereafter	22,798
Total future minimum lease payments	58,759
Less: imputed interest	(6,071)
Total	$ 52,688

As of September 30, 2022, the Company entered into additional facility operating leases that had not yet commenced, representing a total commitment over their terms of approximately $2.1 million. These operating leases are expected to commence during the fourth quarter of 2022 and first quarter of 2023 with lease terms of two to three years. The Company also entered into an additional internet access operating lease that is expected to commence during the fourth quarter of 2022 with a lease term of three years, representing a total commitment over its term of approximately $0.3 million.

13. Subsequent Event

Resignation of Chief Executive Officer

On October 7, 2022, Rowan Trollope informed the Company of his decision to resign as Chief Executive Officer of the Company and from the Company's Board of Directors (the "Board") as a Class II director, effective November 28, 2022.

Appointment of Chief Executive Officer

On October 10, 2022, the Company announced that the Board appointed its Chairman and former Chief Executive Officer, Michael Burkland, as the Company's Chief Executive Officer, effective November 28, 2022.

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, 2021.

Overview

We are a pioneer and leading provider of intelligent cloud software for contact centers, facilitating more than nine billion call minutes between our more than 2,500 clients and their customers per year. 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 and nine months ended September 30, 2022, subscription and related usage fees accounted for 90% and 91% of our revenue, respectively. For each of the three and nine months ended September 30, 2021, subscription and related usage fees accounted for 92% of our revenue. 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 increased inflation, increased interest rates, supply chain disruptions, decreased economic output and fluctuations in currency exchange rates, all of which caused and will likely continue to cause our existing clients to add seats at a slower growth rate than past years. 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, our installed base business is facing macroeconomic headwinds and other client-specific business challenges. We have experienced a slower growth rate in agent seats within our installed base, particularly in five verticals: financial services, consumer, healthcare, outsourcers and real estate. There has also been some adverse impact on the mid-market portion of our net new clients side of our business but this has been offset by our strategic and international businesses over performing.

In March 2022 we decided to close our Russia office and to establish a new European development center in Porto, Portugal, in part due to the growing uncertainty arising from the Russia-Ukraine conflict. During the three and nine months ended September 30, 2022, we incurred approximately $0.7 million and $4.6 million in costs related to the closure and relocation of our Russian operations, of which $0.1 million and $0.5 million was recorded in cost of revenue, $0.6 million and $3.2 million was recorded in research and development expense, $0.1 million and $1.3 million was recorded in general and administrative expense and $(0.1) million and $(0.4) million was recorded in interest income and other, respectively, 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 $198.3 million and $570.5 million for the three and nine months ended September 30, 2022 from $154.3 million and $436.0 million for the three and nine months ended September 30, 2021. 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 and nine months ended September 30, 2022 and 2021, no single client accounted for more than 10% of our total revenue. As of September 30, 2022, we had over 2,500 clients across multiple industries with a wide range of seat sizes. We had a net loss of $23.2 million and $81.0 million in the three and nine months ended September 30, 2022, compared to a net loss of $20.5 million and $49.4 million in the three and nine months ended September 30, 2021.

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 the global economic downturn, 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	
	September 30, 2022	September 30, 2021
Annual Dollar-Based Retention Rate	118%	123%

Our Dollar-Based Retention Rate decreased year-over-year primarily due to the initial benefit that we previously experienced in 2021 from the COVID-19 pandemic and macroeconomic headwinds.

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) acquisition-related transaction and one-time integration costs, (6) contingent consideration expense, (7) exit costs related to the closure and relocation of our Russian operations, (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		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Net loss	$ (23,207)	$ (20,537)	$ (80,997)	$ (49,399)
Non-GAAP adjustments:				
Depreciation and amortization (1)	11,215	9,780	33,650	28,194
Stock-based compensation (2)	44,503	27,395	128,682	73,204
Interest expense	1,879	1,947	5,606	6,003
Interest (income) and other	(982)	(213)	(2,107)	(35)
Exit costs related to closure and relocation of Russian operations (3)	774	—	4,215	—
Acquisition-related transaction and one-time integration costs	1,944	9,158	5,296	11,225
Contingent consideration expense	—	60	260	5,260
Refund for prior year overpayment of USF fees	—	—	(3,511)	—
Provision for (benefit from) income taxes	579	(188)	3,167	(840)
Adjusted EBITDA	$ 36,705	$ 27,402	$ 94,261	$ 73,612

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

	Three Months Ended		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Cost of revenue	$ 8,904	$ 7,658	$ 26,152	$ 22,570
Research and development	768	1,004	2,396	2,329
Sales and marketing	1	1	3	3
General and administrative	1,542	1,117	5,099	3,292
Total depreciation and amortization	$ 11,215	$ 9,780	$ 33,650	$ 28,194

(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 and $4.6 million during the three and nine months ended September 30, 2022, respectively. The $0.8 million and $4.2 million adjustments presented above were net of $0.0 million and $0.8 million included in "Depreciation and amortization" and $(0.1) million and $(0.4) 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.

We expect that adverse economic conditions will continue to have an adverse impact on our revenue in future periods. For example, our installed base business, which typically contributes approximately half of our revenue growth, is facing increased macroeconomic headwinds and other client-specific business challenges.

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 the 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 and Nine Months Ended September 30, 2022 and 2021

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		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Revenue	100 %	100 %	100 %	100 %
Cost of revenue	47 %	44 %	48 %	44 %
Gross profit	53 %	56 %	52 %	56 %
Operating expenses:				
Research and development	17 %	19 %	18 %	18 %
Sales and marketing	34 %	32 %	34 %	31 %
General and administrative	13 %	17 %	13 %	17 %
Total operating expenses	64 %	68 %	65 %	66 %
Loss from operations	(11)%	(12)%	(13)%	(10)%
Other (expense) income, net:				
Interest expense	(1)%	(1)%	(1)%	(1)%
Interest income and other	— %	— %	— %	(1)%
Total other (expense) income, net	(1)%	(1)%	(1)%	(2)%
Loss before income taxes	(12)%	(13)%	(14)%	(12)%
Provision for (benefit from) income taxes	— %	— %	— %	(1)%
Net loss	(12)%	(13)%	(14)%	(11)%

Revenue

	Three Months Ended				Nine Months Ended			
	September 30, 2022	September 30, 2021	$ Change	% Change	September 30, 2022	September 30, 2021	$ Change	% Change
	(in thousands, except percentages)							
Revenue	$ 198,342	$ 154,328	$ 44,014	29 %	$ 570,501	$ 435,992	$ 134,509	31 %

The increase in revenue for the three and nine months ended September 30, 2022 compared to the same periods of 2021 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				Nine Months Ended			
	September 30, 2022	September 30, 2021	$ Change	% Change	September 30, 2022	September 30, 2021	$ Change	% Change
	(in thousands, except percentages)							
Cost of revenue	$ 94,111	$ 67,137	$ 26,974	40 %	$ 271,207	$ 191,335	$ 79,872	42 %
% of Revenue	47 %	44 %			48%	44%		

The increase in cost of revenue for the three and nine months ended September 30, 2022 compared to the same periods of 2021 was primarily due to a $8.8 million and $32.9 million increase in personnel costs, including stock-based compensation costs, driven mainly by increased headcount and higher salaries, a $7.8 million and $23.0 million increase in depreciation, data center and public cloud costs to support our growing capacity needs, a $5.0 million and $14.8 million increase in third-party hosted software costs driven by increased client activities, a $0.3 million and $4.1 million increase in usage and carrier costs due to increased volume, a $1.5 million and $3.8 million increase in consulting costs for global expansion, a $0.9 million and $3.4 million increase in staff augmentation costs related to implementation of our solutions, and a $2.7 million increase in USF contributions and other federal telecommunication service fees for the three months ended September 30, 2022 due primarily to increased client usage and a $3.7 million decrease in USF contributions and other federal telecommunication service fees for the nine months ended September 30, 2022 due primarily to a change in methodology, which resulted in a $3.5 million refund for 2020 and a decrease in the USF contribution rate, offset in part by increased client usage.

Gross Profit

	Three Months Ended				Nine Months Ended			
	September 30, 2022	September 30, 2021	$ Change	% Change	September 30, 2022	September 30, 2021	$ Change	% Change
	(in thousands, except percentages)							
Gross profit	$ 104,231	$ 87,191	$ 17,040	20 %	$299,294	$244,657	$54,637	22%
% of Revenue	53 %	56 %			52%	56%		

The increase in gross profit for the three and nine months ended September 30, 2022 compared to the same periods of 2021 was primarily due to increases in subscription and related revenues. The decrease in gross margin for the three and nine months ended September 30, 2022 compared to the same periods of 2021 was primarily due to increased cost of revenue as described above, which grew slightly more than our growth in revenue. 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.

Operating Expenses

Research and Development

	Three Months Ended				Nine Months Ended			
	September 30, 2022	September 30, 2021	$ Change	% Change	September 30, 2022	September 30, 2021	$ Change	% Change
	(in thousands, except percentages)							
Research and development	$ 34,113	$ 29,680	$ 4,433	15 %	$104,929	$76,449	$28,480	37%
% of Revenue	17 %	19 %			18%	18%		

The increase in research and development expenses for the three and nine months ended September 30, 2022 compared to the same periods of 2021 was primarily due to a $5.1 million and $27.4 million increase in personnel-related costs including stock-based compensation costs, driven mainly by increased headcount and higher salaries.

Sales and Marketing

	Three Months Ended				Nine Months Ended			
	September 30, 2022	September 30, 2021	$ Change	% Change	September 30, 2022	September 30, 2021	$ Change	% Change
	(in thousands, except percentages)							
Sales and marketing	$ 67,353	$ 49,712	$ 17,641	35 %	$196,062	$140,535	$55,527	40%
% of Revenue	34 %	32 %			34%	31%		

The increase in sales and marketing expenses for the three and nine months ended September 30, 2022 compared to the same periods of 2021 was primarily due to a $10.8 million and $33.7 million increase in personnel-related costs, including stock-based compensation costs driven mainly by increased headcount and higher salaries, a $4.3 million and $11.5 million increase in sales commission expenses driven by the growth in sales and bookings of our solution, a $1.9 million and $4.3 million increase in travel costs and an in-person user conference as business travel increased as COVID-19 restrictions decreased, and a $0.7 million and $1.9 million increase in office, facilities and related costs. 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				Nine Months Ended			
	September 30, 2022	September 30, 2021	$ Change	% Change	September 30, 2022	September 30, 2021	$ Change	% Change
	(in thousands, except percentages)							
General and administrative	$ 24,496	$ 26,790	$ (2,294)	(9)%	$72,634	$71,944	$690	1%
% of Revenue	13 %	17 %			13%	17%		

The decrease in general and administrative expenses for the three months ended September 30, 2022 compared to the same period of 2021 was primarily due to a $7.1 million decrease in legal and other professional service costs due to a decline in M&A activities and by a $0.1 million decrease in contingent consideration expense for the Inference acquisition, partially offset by a $4.3 million increase in personnel costs including stock-based compensation costs, driven mainly by increased headcount and higher salaries. The increase in general and administrative expenses for the nine months ended September 30, 2022 compared to the same period of 2021 was primarily due to a $10.8 million increase in personnel costs including stock-based compensation costs, driven mainly by increased headcount and higher salaries. partially offset by a $5.4 million decrease in legal and other professional service costs due to a decline in M&A activities and by a $5.0 million decrease in contingent consideration expense for the Inference acquisition.

Other (Expense) Income, Net

	Three Months Ended				Nine Months Ended			
	September 30, 2022	September 30, 2021	$ Change	% Change	September 30, 2022	September 30, 2021	$ Change	% Change
	(in thousands, except percentages)							
Interest expense	$ (1,879)	$ (1,947)	$ 68	(3)%	$ (5,606)	$ (6,003)	$ 397	(7)%
Interest income and other	982	213	769	361 %	2,107	35	2,072	5,920 %
Total other (expense) income, net	$ (897)	$ (1,734)	$ 837	(48)%	$ (3,499)	$ (5,968)	$ 2,469	(41)%
% of Revenue	(1)%	(1)%			(1)%	(2)%		

The decrease in interest expense for the three and nine months ended September 30, 2022 compared to the same periods of 2021 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 and nine months ended September 30, 2022 compared to the same periods of 2021 was primarily due to higher interest income on our marketable investments and an increase in foreign currency remeasurement gains.

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 September 30, 2022, we had $590.1 million in working capital, which included $129.5 million in cash and cash equivalents and $447.6 million in short-term marketable investments, and excluded long-term marketable investments of $2.0 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, 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 Porto, Portugal and any operational disruptions due to this transition, and the impact of the Russia-Ukraine conflict and the COVID-19 pandemic on these or other factors, the global economy, or our business. 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 engage in 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):

	Nine Months Ended	
	September 30, 2022	September 30, 2021
Net cash provided by operating activities	$ 56,125	$ 20,349
Net cash provided by (used in) investing activities	20,903	(149,731)
Net cash used in financing activities	(38,461)	(8,525)
Net increase (decrease) in cash, cash equivalents and restricted cash	$ 38,567	$ (137,907)

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 $56.1 million during the nine months ended September 30, 2022. Net cash provided by operating activities resulted from our net loss of $81.0 million, adjustments to reconcile net loss to net cash provided by operating activities of $200.6 million, primarily consisting of $128.7 million of stock-based compensation, $33.7 million of depreciation and amortization, $29.2 million of amortization of commission costs, $2.8 million of amortization of issuance costs on our convertible senior notes, and $(5.9) million payment for the Inference contingent consideration in excess of its acquisition-date fair value, offset by use of cash for operating assets and liabilities of $(63.5) million primarily due to the timing of cash payments to vendors and cash receipts from customers.

Net cash provided by operating activities was $20.3 million during the nine months ended September 30, 2021. Net cash provided by operating activities resulted from our net loss of $49.4 million adjusted for non-cash items of $140.2 million, primarily consisting of $73.2 million of stock-based compensation, $28.2 million of
depreciation and amortization, $18.4 million of amortization of commission costs, $5.3 million of contingent consideration expense and $3.0 million of amortization of issuance costs on our convertible senior notes, offset by use of cash for operating assets and liabilities of $(70.5) million primarily due to the timing of cash payments to vendors and cash receipts from customers.

Cash Flows from Investing Activities

Net cash provided by investing activities of $20.9 million in the nine months ended September 30, 2022 was comprised of $321.9 million related to cash proceeds from sales and maturities of marketable investments, offset in part by $250.3 million related to purchases of marketable investments, $46.0 million in capital expenditures, $2.0 million in connection with an equity investment in a privately-held company and $2.4 million in capitalized software development costs.

Net cash used in investing activities of $(149.7) million in the nine months ended September 30, 2021 was comprised of $543.5 million related to purchases of marketable investments and $28.5 million in capital expenditures, offset in part by $422.3 million related to cash proceeds from sales and maturities of marketable investments.

Cash Flows from Financing Activities

Net cash used in financing activities of $(38.5) million in the nine months ended September 30, 2022 related to $34.1 million of cash paid in connection with other 2023 convertible senior note settlements and $24.0 million of cash paid in connection with the contingent consideration payment related to the Inference acquisition, of which $18.1 million represented the acquisition-date fair value and was disclosed as a financing activity and $5.9 million represented the amount of payment in excess of the acquisition-date fair value and was disclosed as an adjustment to operating activity, partially offset by $8.3 million from the sale of common stock under our employee stock purchase plan, and cash proceeds of $5.4 million from exercise of stock options.

Net cash used in financing activities of $(8.5) million in the nine months ended September 30, 2021 related to $18.9 million of cash paid in connection with other 2023 convertible senior note settlements, $3.2 million holdback payment related to the Virtual Observer acquisition and $0.6 million of payments related to finance leases, partially offset by $8.1 million from the sale of common stock under our employee stock purchase plan, and cash proceeds of $6.0 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, 2021 filed with the SEC on February 28, 2022.

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 September 30, 2022, 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 September 30, 2022, 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 ten years. Some of the leases include an option to extend the leases for up to three 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 $58.8 million as of September 30, 2022, with $3.3 million payable in the remainder of 2022, $20.5 million payable in 2023 and 2024, $12.2 million payable in 2025 and 2026, and $22.8 million after 2026. See Note 12 to the consolidated financial statements included in this report for further details.

Cloud Services

As of September 30, 2022, we had outstanding cloud service agreement commitments totaling $46.7 million, of which $5.5 million is expected to be paid in the remainder of 2022, $26.9 million is expected in 2023, and the remaining $14.3 million in 2024.

Hosting and Telecommunication Usage Services

We have agreements with third parties to provide co-location hosting and telecommunication usage 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 September 30, 2022, we had outstanding hosting and telecommunication usage services obligations of $15.8 million, with $2.1 million payable in the remainder of 2022, $13.3 million payable in 2023 and 2024, and $0.4 million payable in 2025 and 2026.

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 Disclosure 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, 2021. Our exposure to market risk has not changed materially since December 31, 2021.

We had cash and cash equivalents, and marketable securities totaling $579.1 million as of September 30, 2022. Cash equivalents and marketable securities were invested primarily in U.S. agency securities, U.S. treasury, 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 September 30, 2022, 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.

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 is 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 Porto, 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 nine months ended September 30, 2022, the effect of a hypothetical 10% change in foreign currency exchange rates applicable to our business would have a maximum impact of $4.1 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 September 30, 2022.

Based on management's evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of September 30, 2022, 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 September 30, 2022, 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

Except for the below risk factors, which updates that previously disclosed in our Annual Report on Form 10-K as filed with the SEC on February 28, 2022, 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, 2021. In addition to the other information set forth in this report, including the below update to Risk Factors, 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.

We are undergoing changes to our management team; we depend on our senior management team, and the loss of one or more of our senior leadership team or other key employees or an inability to attract and retain highly skilled leaders and other employees could harm our business and results of operations.

On October 7, 2022, our Chief Executive Officer resigned as our Chief Executive Officer and from our Board of Directors, effective November 28, 2022. On October 10, 2022, we announced the appointment, effective as of November 28, 2022, of Michael Burkland as our new Chief Executive Officer. Mr. Burkland previously served as our Chief Executive Officer from 2008 until he resigned due to personal health reasons in 2017, and has remained on our Board of Directors either as Executive Chairman or Chairman since that time. Our Chief Executive Officer transition may be disruptive to, or cause uncertainty in, our business and our relationships with clients, business partners, stockholders and employees, and could lead to attrition of management and key employees. If we are unable to execute an orderly transition and successfully integrate Mr. Burkland back into our management team, our business could be harmed.

Our success depends, in part, upon the performance and continued services of our senior leadership team, including our new Chief Executive Officer. If our senior leadership team, including our new Chief Executive Officer, fails to perform effectively or if we fail to attract or retain key executives, senior management or other key employees, our business, financial condition or results of operations could be harmed. We also rely on our leadership team and key employees in all of our functional areas, including engineering, research and development, cloud operations, marketing, sales, services and general and administrative functions, including mission-critical individual contributors. The loss of one or more of our leadership team or key employees could harm our business. We currently do not maintain key person life insurance policies on any of our employees.

To execute our growth plan, we must attract and retain highly qualified personnel and we may incur significant costs, including stock-based compensation expense, to do so. Competition for these personnel is intense, especially for senior executives, engineers highly experienced in designing and developing cloud software and for senior sales personnel. We have, from time to time, experienced, and we expect to continue to experience, difficulty in hiring and retaining employees with appropriate qualifications, and this difficulty could be further exacerbated by our Chief Executive Officer transition and any other senior leadership or other key employee transitions we experience. We invest significant time and expense in training our employees, which increases their value to competitors who may seek to recruit them and increases our costs.

We believe that our corporate culture is a critical component to our ability to attract and retain employees. As we grow, we will need to continually enhance our efforts to maintain our corporate culture, which is more difficult due to our policies that continue to allow limited work from home flexibility stemming from the COVID-19 pandemic. We may experience increased attrition of employees to other opportunities, as certain employees may seek more flexible work alternatives than we offer, may seek positions with companies outside of the geographic area in which they live that offer remote work opportunities, or may decide to scale back their work life for personal reasons. Many of the companies with which we compete for experienced personnel have greater resources than we have and may offer more flexible work alternatives such as permanent remote work or work from home. If we fail to attract new personnel or fail to retain and motivate our current personnel, particularly our senior leadership team and our other key employees, our business and future growth prospects would be harmed. In addition, if we hire employees from competitors or other companies, their former employers may attempt to assert that these employees or we have breached legal obligations, resulting in a diversion of our time and resources and, potentially, damages.

Volatility or lack of performance in the trading price of our common stock, including the declines in our trading price over the past 15 months, as well as recently, may also affect our ability to attract and retain qualified personnel because job candidates and existing employees often emphasize the value of stock awards when considering whether to accept or continue employment. If the perceived value of our stock awards is low or declines, it may harm our ability to recruit and retain highly skilled employees.

Adverse economic conditions may harm our business.

Our business depends on the overall demand for cloud contact center software solutions, the economic health of our current and prospective clients and worldwide economic conditions. In addition to the United States, Canada, Europe, Latin America and Australia, we plan in the future to market and sell our solution in Asia and other international markets. Adverse economic conditions in these markets, including declining worldwide economic conditions, increased inflation rates, increased interest rates, supply chain disruptions, decreased economic output and fluctuations in currency exchange rates, has and will likely continue to reduce overall demand for our solution, particularly in our installed base. These factors could also delay our clients' implementation of our solution, delay or lengthen sales cycles, delay international expansion, lower prices for our solution, and may also lead to longer collection cycles for payments due from our clients, as well as result in an increase in client bad debt. While the implications of macroeconomic events on our business, results of operations and overall financial position remain uncertain over the long term, our installed base business is facing macroeconomic headwinds and other client-specific business challenges. Our installed base business typically contributes approximately half of our revenue growth. We have experienced a slower growth rate in agent seats within our installed base, particularly in five verticals: financial services, consumer, healthcare, outsourcers and real estate. There has also been some adverse impact on the mid-market portion of our net new clients side of our business but this has been offset by our strategic and international businesses over performing. All of these potential circumstances could lead to slower growth, or even a decline in, our revenues, operating results and cash flows.

We continue to expand our international operations, which exposes us to significant risks.

To date, we have not generated significant revenues outside of the U.S., Canada, the U.K., Latin America and Australia. However, we already have significant operations outside these countries and regions, and we expect to grow our international presence in the future. Our international employees are primarily located in the Philippines, where technical support, training and other professional services are performed, Portugal, where we are transitioning portions of engineering and operations that were previously performed in Russia, and Australia, where additional portions of engineering and operations are now performed. In March 2022, we made a decision to close our Russia office and to establish a new European development center in Porto, Portugal. While approximately half of our Russian-citizen employees have received visas and are moving to work in Portugal, it was not feasible to retain all of them and, in connection with growing our overall operations presence in Portugal, we have expanded recruiting and employment-related efforts in Portugal to further enhance our operations. We have and will continue to incur costs in connection with this transition, and during the transition we have and may continue to experience operational disruptions. There can be no assurance that our new European operations will be as effective or as efficient as our prior Russian operations, which could harm our business and results of operations. The future success of our business will depend, in part, on our ability to expand our operations and customer base to other countries, including our new location in Porto, Portugal.

Operating in international markets requires significant resources and management attention and will subject us to regulatory, economic, and political risks that are different from those in the U.S. In addition, in order to effectively market and sell our solution in international markets, we often must localize our solution, including the language in which our solution is offered, which increases our costs, could result in delays in offering our solution in these markets and may decrease the effectiveness of our sales efforts. Due to our limited experience with international operations and developing and managing sales and distribution channels in international markets, our international expansion efforts may not be successful.

We also will continue to incur additional compliance costs associated with our international operations, including costs associated with expanding and rapidly changing sanctions and other trade controls. In addition, we may be unaware or unable to keep current with changes in foreign government requirements and laws as they change from time to time, which often occurs with minimal or no advance notice. Failure to comply with these regulations could harm our business. In many countries outside the United States, it is common for others to engage in business practices that are prohibited by our internal policies and procedures or United States or international laws and regulations applicable to us. Although we have implemented policies and procedures designed to ensure compliance with these laws and policies, there can be no assurance that all of our employees, contractors, strategic partners and agents will comply with these laws and policies. Violations of laws or key control policies by our employees, contractors, strategic partners or agents could result in delays in revenue recognition, financial reporting misstatements, fines, delays in filing financial reports required as a public company, penalties, harm to our reputation or prohibitions on selling our solution, any of which could harm our business.

While we have worked to avoid and mitigate any effects of the Russia-Ukraine conflict on our business, employees and clients, the conflict is ongoing, and its ultimate scope and broader impacts cannot be predicted with certainty. For example, while the conflict has not yet had a negative impact on our employees, business, or operations outside these regions, it could, and if the conflict or related geopolitical tensions extend to other countries, such negative impacts could expand. Our business and operations could be harmed and our costs could increase if our or our clients' or other partners' manufacturing, logistics or other operations, costs or financial performance are disrupted or adversely affected. The Russia-Ukraine conflict has also had an adverse impact on the global economy, including on the inflation rate, and has contributed to significant fluctuation in global stock markets, including The NASDAQ Stock Market. All of these risks and conditions could harm our future sales, business and operating results.

Our stock price has been volatile, may continue to be volatile and may decline, including due to factors beyond our control.

The market price of our common stock has been volatile in the past and may fluctuate significantly in the future in response to numerous factors, many of which are beyond our control. During the twelve months ended September 30, 2022, the sale price per share of our common stock ranged from a low of $74.98 to a high of $167.26. Factors that may contribute to continuing volatility in the price of our common stock include:

- actual or anticipated fluctuations in our operating results;
- the impact of 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;
- any major change in our board of directors or management, including in connection with our recent CEO transition;
- loss of key personnel;
- the impacts of the COVID-19 pandemic and related matters on the equity capital markets and economy in general, or on us or our industry in particular;
- the financial projections we provide to the public, any changes in these projections, our failure to meet these projections, or our failure to exceed these projections by amounts or percentages expected by our investors and analysts;
- failure of securities analysts to initiate or maintain coverage of our company, changes in financial estimates by any securities analysts who follow our company, or our failure to meet these estimates or the expectations of investors;
- ratings changes by any securities analysts who follow our company;
- sales of our common stock (or securities that convert to our common stock) by us or our significant stockholders, or the public announcement of same;
- the assessment of our business or position in our market published in research and other reports;
- announcements by us or our competitors of significant product or technical innovations, financings, acquisitions, strategic partnerships, joint ventures or capital commitments;
- entry into the market by new competitors, or the introduction of new products or the generation of new sales by us or our competitors;
- changes in operating performance and stock market valuations of other technology companies generally, or those in the software as a service industry in particular;
- price and volume fluctuations in the overall stock market, including as a result of trends in the U.S. or global economy;
- lawsuits threatened or filed against us;
- security breaches or incidents impacting our clients or their customers and security breaches of companies that provide solutions similar to our solution, which could negatively impact our industry as a whole;
- legislation or regulation of our business, the internet and/or contact centers;
- new entrants into and consolidations of the contact center market, including the transition by providers of legacy on-premise contact center systems to cloud solutions;
- acquisitions by us or our competitors, and our ability to effectively integrate and achieve the desired benefits from acquisitions by us;
- the perceived or real impact of events that harm our competitors;
- developments with respect to patents or proprietary rights; and
- other events or factors, including those resulting from war, incidents of terrorism or responses to these events, which would be unrelated to our business and industry, and outside of our control.

In addition, stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many technology companies, particularly in connection with the continued macroeconomic deterioration, including increased inflation, increased interest rates, supply chain disruptions, decreased economic output and fluctuations in currency rates, the Russia-Ukraine conflict and the

COVID-19 pandemic. Stock prices of many technology companies have recently declined, including in some cases in a manner unrelated or disproportionate to the operating performance of those companies. These and other factors may disproportionately impact the trading price of our common stock. In the past, stockholders have instituted securities class action litigation following periods of volatility. If we were to become involved in such securities litigation, it could subject us to substantial costs, divert resources and the attention of management from our business and harm our business, results of operations, financial condition, reputation and cash flows.

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
10.1	Offer Letter, dated October 10, 2022, by and between the Company and Michael Burkland (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on October 11, 2022 (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.

+ 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: November 7, 2022

By: /s/ Rowan Trollope
Rowan Trollope
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, Rowan Trollope, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Five9, Inc. for the quarter ended September 30, 2022;
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: November 7, 2022

By: /s/ Rowan Trollope
Rowan Trollope
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 September 30, 2022;
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: November 7, 2022

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, Rowan Trollope, 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 September 30, 2022 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: November 7, 2022

By: /s/ Rowan Trollope
Rowan Trollope
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 September 30, 2022 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: November 7, 2022

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.