UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2023

OR

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

For the transition period from to

Commission File Number: 001-39413

VERTEX, INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**23-2081753**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
2301 Renaissance Blvd King of Prussia, Pennsylvania	**19406**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (800) 355-3500

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

Title of each class	Trading symbol	Name of each exchange on which registered
Class A Common Stock, Par Value $0.001 Per Share	**VERX**	**The Nasdaq Stock Market LLC**

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

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

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

Large accelerated filer	☐	Accelerated filer	☒
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☒

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

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

As of August 4, 2023, the registrant had 55,245,904 shares of Class A common stock, $0.001 par value per share, and 96,839,000 shares of Class B common stock, $0.001 par value per share, outstanding.

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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 the Private Securities Litigation Reform Act of 1995. All statements made in this Quarterly Report on Form 10-Q that are not statements of historical fact, including statements about our beliefs and expectations and regarding future events or our future results of operations, financial condition, business, strategies, financial needs, and the plans and objectives of management, are forward-looking statements and should be evaluated as such. These statements often include words such as "anticipate," "believe," "expect," "suggests," "plans," "intend," "estimates," "targets," "projects," "should," "could," "would," "may," "will," "forecast," and other similar expressions or the negatives of those terms. We base these forward-looking statements on our current expectations, plans and assumptions that we have made in light of our experience in the industry, as well as our perceptions of historical trends, current conditions, expected future developments and other factors we believe are appropriate under the circumstances at such time. As you read and consider this Quarterly Report on Form 10-Q, you should understand that these statements are not guarantees of future performance or results. The forward-looking statements are subject to and involve risks, uncertainties and assumptions, and you should not place undue reliance on these forward-looking statements. Although we believe that these forward-looking statements are based on reasonable assumptions at the time they are made, you should be aware that many factors could affect our actual results or results of operations and could cause actual results to differ materially from those expressed in the forward-looking statements. Important factors that may materially affect such forward-looking statements include, but are not limited to:

- our ability to attract new customers on a cost-effective basis and the extent to which existing customers renew and upgrade their subscriptions;
- our ability to sustain and expand revenues, maintain profitability, and to effectively manage our anticipated growth;
- the timing of our introduction of new solutions or updates to existing solutions;
- our ability to successfully diversify our solutions by developing or introducing new solutions or acquiring and integrating additional businesses, products, services or content;
- our ability to maintain and expand our strategic relationships with third parties;
- risks related to our expanding international operations;
- our ability to deliver our solutions to customers without disruption or delay;
- our exposure to liability from errors, delays, fraud or system failures, which may not be covered by insurance;
- risks related to our determinations of customers' transaction tax and tax payments;
- risks related to changes in tax laws and regulations or their interpretation or enforcement;
- our ability to manage cybersecurity and data privacy risks;
- risks related to failures in information technology, infrastructure and third-party service providers;
- our ability to effectively protect, maintain and enhance our brand;
- global economic weakness and uncertainties, and disruption in the capital and credit markets;
- business disruptions related to natural disasters, epidemic outbreaks, terrorist acts, political events or other events outside of our control;
- the potential effects on our business from the existence of a global endemic or pandemic;
- our ability to comply with anti-corruption, anti-bribery and similar laws;
- changes in interest rates, security ratings and market perceptions of the industry in which we operate, or our ability to obtain capital on commercially reasonable terms or at all;
- any statements of belief and any statements of assumptions underlying any of the foregoing; and
- other factors beyond our control.

The risks included here are not exhaustive, and additional factors could adversely affect our business and financial performance, including factors and risks included in our Annual Report on Form 10-K for the year ended December 31, 2022, filed with the Securities and Exchange Commission (the “SEC”) on March 10, 2023 (the “2022 Annual Report”). Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time, and it is not possible for us to identify all such risk factors, nor can we assess the impact of all such risk factors on the business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. Given these risks and uncertainties, you should not place undue reliance on our forward-looking statements, and you should not rely on forward-looking statements as predictions of future events. The results, events, and circumstances reflected in the forward-looking statements may not be achieved or occur, and actual results, events, or circumstances could differ materially from those described in the forward-looking statements. The forward-looking statements made in this Quarterly Report on Form 10-Q speak only as of the date of this report. 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. If we update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect to those or other forward-looking statements.

PART I - FINANCIAL INFORMATION

Item 1. FINANCIAL STATEMENTS

Vertex, Inc. and Subsidiaries
Condensed Consolidated Balance Sheets
As of June 30, 2023 and December 31, 2022
(Amounts in thousands, except per share data)

	June 30, 2023 (unaudited)	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	$ 41,865	$ 91,803
Funds held for customers	30,156	14,945
Accounts receivable, net of allowance of $14,218 and $9,554, respectively	129,093	102,885
Prepaid expenses and other current assets	22,026	22,340
Investment securities available-for-sale, at fair value (amortized cost of $11,235 and $11,220, respectively)	11,201	11,173
Total current assets	234,341	243,146
Property and equipment, net of accumulated depreciation	98,912	101,090
Capitalized software, net of accumulated amortization	39,461	39,012
Goodwill and other intangible assets	259,587	257,023
Deferred commissions	16,726	15,463
Deferred income tax asset	42,855	30,938
Operating lease right-of-use assets	16,564	17,187
Other assets	16,624	15,333
Total assets	$ 725,070	$ 719,192
Liabilities and Stockholders' Equity		
Current liabilities:		
Current portion of long-term debt	$ 2,500	$ 2,188
Accounts payable	22,009	14,329
Accrued expenses	55,991	38,234
Customer funds obligations	26,594	12,121
Accrued salaries and benefits	12,332	10,790
Accrued variable compensation	15,027	23,729
Deferred compensation, current	—	2,809
Deferred revenue, current	274,094	268,847
Current portion of operating lease liabilities	4,454	4,086
Current portion of finance lease liabilities	59	103
Deferred purchase consideration, current	9,974	19,824
Purchase commitment and contingent consideration liabilities, current	7,866	6,149
Total current liabilities	430,900	403,209
Deferred revenue, net of current portion	2,959	10,289
Debt, net of current portion	45,478	46,709
Operating lease liabilities, net of current portion	18,330	20,421
Finance lease liabilities, net of current portion	—	10
Purchase commitment and contingent consideration liabilities, net of current portion	1,500	8,412
Deferred other liabilities	188	417
Total liabilities	499,355	489,467
Commitments and contingencies (Note 11)		
Stockholders' equity:		
Preferred shares, $0.001 par value, 30,000 shares authorized; no shares issued and outstanding	—	—
Class A voting common stock, $0.001 par value, 300,000 shares authorized; 54,054 and 50,014 shares issued and outstanding, respectively	54	50
Class B voting common stock, $0.001 par value, 150,000 shares authorized; 97,718 and 100,307 shares issued and outstanding, respectively	98	100
Additional paid in capital	262,095	244,820
(Accumulated deficit) retained earnings	(12,521)	12,507
Accumulated other comprehensive loss	(24,011)	(27,752)
Total stockholders' equity	225,715	229,725
Total liabilities and stockholders' equity	$ 725,070	$ 719,192

The accompanying notes are an integral part of these condensed consolidated financial statements.

Vertex, Inc. and Subsidiaries
Condensed Consolidated Statements of Comprehensive Loss
For the three and six months ended June 30, 2023 and 2022
(Amounts in thousands, except per share data)

	Three months ended June 30,		Six months ended June 30,	
	2023	2022	2023	2022
	(unaudited)		(unaudited)	
Revenues:				
Software subscriptions	$ 117,836	$ 101,088	$ 228,850	$ 198,219
Services	21,859	18,188	43,596	36,041
Total revenues	139,695	119,276	272,446	234,260
Cost of revenues:				
Software subscriptions	38,516	36,209	75,919	69,122
Services	15,363	11,920	29,707	23,873
Total cost of revenues	53,879	48,129	105,626	92,995
Gross profit	85,816	71,147	166,820	141,265
Operating expenses:				
Research and development	12,680	10,310	28,542	19,943
Selling and marketing	33,541	31,979	69,277	59,431
General and administrative	39,376	30,084	73,686	58,841
Depreciation and amortization	3,878	3,224	7,619	6,184
Other operating expense (income), net	413	(154)	697	694
Total operating expenses	89,888	75,443	179,821	145,093
Loss from operations	(4,072)	(4,296)	(13,001)	(3,828)
Interest (income) expense, net	(105)	724	(455)	718
Loss before income taxes	(3,967)	(5,020)	(12,546)	(4,546)
Income tax expense	2,929	500	12,482	1,308
Net loss	(6,896)	(5,520)	(25,028)	(5,854)
Other comprehensive (income) loss:				
Foreign currency translation adjustments and revaluations, net of tax	(609)	11,777	(3,731)	13,826
Unrealized (gain) loss on investments, net of tax	3	(2)	(10)	(2)
Total other comprehensive (income) loss, net of tax	(606)	11,775	(3,741)	13,824
Total comprehensive loss	$ (6,290)	$ (17,295)	$ (21,287)	$ (19,678)
Net loss attributable to Class A stockholders, basic	$ (2,447)	$ (1,598)	$ (8,633)	$ (1,679)
Net loss per Class A share, basic	$ (0.05)	$ (0.04)	$ (0.17)	$ (0.04)
Weighted average Class A common stock, basic	53,762	43,286	52,109	42,818
Net loss attributable to Class A stockholders, diluted	$ (2,447)	$ (1,598)	$ (8,633)	$ (1,679)
Net loss per Class A share, diluted	$ (0.05)	$ (0.04)	$ (0.17)	$ (0.04)
Weighted average Class A common stock, diluted	53,762	43,286	52,109	42,818
Net loss attributable to Class B stockholders, basic	$ (4,449)	$ (3,922)	$ (16,395)	$ (4,175)
Net loss per Class B share, basic	$ (0.05)	$ (0.04)	$ (0.17)	$ (0.04)
Weighted average Class B common stock, basic	97,718	106,203	98,969	106,505
Net loss attributable to Class B stockholders, diluted	$ (4,449)	$ (3,922)	$ (16,395)	$ (4,175)
Net loss per Class B share, diluted	$ (0.05)	$ (0.04)	$ (0.17)	$ (0.04)
Weighted average Class B common stock, diluted	97,718	106,203	98,969	106,505

The accompanying notes are an integral part of these condensed consolidated financial statements.

Vertex, Inc. and Subsidiaries
Condensed Consolidated Statements of Changes in Stockholders’ Equity
For the three and six months ended June 30, 2023 and 2022 (unaudited)
(Amounts in thousands)

	Outstanding Class A Shares	Class A Common Stock	Outstanding Class B Shares	Class B Common Stock	Additional Paid In Capital	(Accumulated Deficit) Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
Balance, January 1, 2023	50,014	$ 50	100,307	$ 100	$ 244,820	$ 12,507	$ (27,752)	$ 229,725
Exercise of stock options, net	592	1	—	—	1,279	—	—	1,280
Shares issued upon vesting of Restricted Stock Units, net	391	—	—	—	(3,471)	—	—	(3,471)
Shares issued upon vesting of Restricted Stock Awards, net	—	—	—	—	—	—	—	—
Stock-based compensation expense	—	—	—	—	10,938	—	—	10,938
Shares issued in connection with ESPP	—	—	—	—	—	—	—	—
Class B shares exchanged for Class A shares	2,589	2	(2,589)	(2)	—	—	—	—
Foreign currency translation adjustments and revaluations, net of tax	—	—	—	—	—	—	3,122	3,122
Unrealized gain from available-for-sale investments, net of tax	—	—	—	—	—	—	13	13
Net loss	—	—	—	—	—	(18,132)	—	(18,132)
Balance, March 31, 2023	53,586	53	97,718	98	253,566	(5,625)	(24,617)	223,475
Exercise of stock options, net	259	1	—	—	668	—	—	669
Shares issued upon vesting of Restricted Stock Units, net	22	—	—	—	(221)	—	—	(221)
Shares issued upon vesting of Restricted Stock Awards, net	106	—	—	—	—	—	—	—
Shares issued in connection with ESPP	81	—	—	—	1,178	—	—	1,178
Stock-based compensation expense	—	—	—	—	6,904	—	—	6,904
Foreign currency translation adjustments and revaluations, net of tax	—	—	—	—	—	—	609	609
Unrealized loss from available-for-sale investments, net of tax	—	—	—	—	—	—	(3)	(3)
Net loss	—	—	—	—	—	(6,896)	—	(6,896)
Balance, June 30, 2023	54,054	$ 54	97,718	$ 98	$ 262,095	$ (12,521)	$ (24,011)	$ 225,715

	Outstanding Class A Shares	Class A Common Stock	Outstanding Class B Shares	Class B Common Stock	Additional Paid In Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
Balance, January 1, 2022	42,286	$ 42	106,807	$ 107	$ 222,621	$ 24,811	$ (17,497)	$ 230,084
Exercise of stock options, net	272	—	—	—	278	—	—	278
Shares issued upon vesting of Restricted Stock Units, net	3	—	—	—	(15)	—	—	(15)
Stock-based compensation expense	—	—	—	—	4,867	—	—	4,867
Foreign currency translation adjustments and revaluations, net of tax	—	—	—	—	—	—	(2,049)	(2,049)
Net loss	—	—	—	—	—	(334)	—	(334)
Balance, March 31, 2022	42,561	42	106,807	107	227,751	24,477	(19,546)	232,831
Exercise of stock options, net	93	—	—	—	(34)	—	—	(34)
Shares issued upon vesting of Restricted Stock Awards, net	59	—	—	—	—	—	—	—
Stock-based compensation expense		—	—	—	4,166	—	—	4,166
Shares issued in connection with ESPP	103	—	—	—	967	—	—	967
Class B shares exchanged for Class A shares	5,500	6	(5,500)	(6)	—	—	—	—
Foreign currency translation adjustments and revaluations, net of tax	—	—	—	—	—	—	(11,777)	(11,777)
Unrealized gain from available for sale investments, net of tax	—	—	—	—	—	—	2	2
Net loss	—	—	—	—	—	(5,520)	—	(5,520)
Balance, June 30, 2022	48,316	$ 48	101,307	$ 101	$ 232,850	$ 18,957	$ (31,321)	$ 220,635

The accompanying notes are an integral part of these condensed consolidated financial statements.

Vertex, Inc. and Subsidiaries
Condensed Consolidated Statements of Cash Flows
For the six months ended June 30, 2023 and 2022
(Amounts in thousands)

	Six months ended June 30,	
	2023	2022
	(unaudited)	
Cash flows from operating activities:		
Net loss	$ (25,028)	$ (5,854)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:		
Depreciation and amortization	34,190	30,535
Amortization of cloud computing implementation costs	631	—
Provision for subscription cancellations and non-renewals	1,374	(611)
Amortization of deferred financing costs	126	118
Change in fair value of contingent consideration liability	449	700
Write-off of deferred financing costs	—	370
Stock-based compensation expense	18,456	9,127
Deferred income tax (benefit)	(12,331)	(88)
Non-cash operating lease costs	625	1,534
Other	(67)	552
Changes in operating assets and liabilities:		
Accounts receivable	(30,512)	(10,900)
Prepaid expenses and other current assets	355	(3,124)
Deferred commissions	(1,263)	387
Accounts payable	7,655	4,732
Accrued expenses	17,407	685
Accrued and deferred compensation	(10,705)	(17,550)
Deferred revenue	1,179	6,288
Operating lease liabilities	(1,722)	(1,868)
Other	(1,717)	(6,445)
Net cash (used in) provided by operating activities	(898)	8,588
Cash flows from investing activities:		
Acquisition of business, net of cash acquired	—	(474)
Property and equipment additions	(21,859)	(21,839)
Capitalized software additions	(9,042)	(5,926)
Purchase of investment securities, available-for-sale	(8,427)	(6,943)
Proceeds from maturities of investment securities, available-for-sale	8,600	—
Net cash used in investing activities	(30,728)	(35,182)
Cash flows from financing activities:		
Net increase (decrease) in customer funds obligations	14,473	(4,571)
Proceeds from term loan	—	50,000
Principal payments on long-term debt	(938)	(313)
Payments for deferred financing costs	—	(983)
Proceeds from purchases of stock under ESPP	1,178	967
Payments for taxes related to net share settlement of stock-based awards	(3,986)	(489)
Proceeds from exercise of stock options	2,243	718
Distributions under Tax Sharing Agreement	—	(536)
Payments for purchase commitment and contingent consideration liabilities	(6,424)	(255)
Payments of finance lease liabilities	(27)	(49)
Payments for deferred purchase commitments	(10,000)	(10,000)
Net cash (used in) provided by financing activities	(3,481)	34,489
Effect of exchange rate changes on cash, cash equivalents and restricted cash	380	(612)
Net (decrease) increase in cash, cash equivalents and restricted cash	(34,727)	7,283
Cash, cash equivalents and restricted cash, beginning of period	106,748	98,206
Cash, cash equivalents and restricted cash, end of period	$ 72,021	$ 105,489
Reconciliation of cash, cash equivalents and restricted cash to the Condensed Consolidated Balance Sheets, end of period:		
Cash and cash equivalents	$ 41,865	$ 85,554
Restricted cash—funds held for customers	30,156	19,935
Total cash, cash equivalents and restricted cash, end of period	$ 72,021	$ 105,489

The accompanying notes are an integral part of these condensed consolidated financial statements.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of Business

Vertex, Inc. ("Vertex") and its consolidated subsidiaries and variable interest entities ("VIE") (collectively, the "Company") operate as solutions providers of state, local and value added tax calculation, compliance and analytics, offering software products which are sold through software license and software as a service ("cloud") subscriptions. The Company also provides implementation and training services in connection with its software license and cloud subscriptions, transaction tax returns outsourcing, and other tax-related services. The Company sells to customers located throughout the United States of America ("U.S.") and internationally.

Basis of Consolidation

The condensed consolidated financial statements are prepared in accordance with accounting principles generally accepted in the U.S. ("U.S. GAAP") and include the accounts of the Company. All intercompany transactions have been eliminated in consolidation.

The Company has a 80% controlling equity interest in Systax Sistemas Fiscais LTDA ("Systax"), a provider of Brazilian transaction tax content and software. Systax was determined to be a VIE and the accounts are included in the condensed consolidated condensed financial statements. Vertex does not have full decision-making authority over Systax; however, Vertex is the entity that most significantly participates in the variability of the fair value of Systax's net assets and is considered the entity most closely associated to Systax. As such, Vertex is deemed the primary beneficiary of Systax and consolidates Systax into its condensed consolidated financial statements.

Unaudited Interim Financial Information

The accompanying unaudited interim condensed consolidated financial statements have been prepared pursuant to the rules and regulations of the Securities and Exchange Commission (the "SEC") for interim financial information and include the accounts of the Company. Certain information and disclosures normally included in consolidated financial statements prepared in accordance with U.S. GAAP have been condensed or omitted. Accordingly, these interim condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and the related notes for the year ended December 31, 2022 included in the Company's Annual Report on Form 10-K for the year ended December 31, 2022 (the "2022 Annual Report") filed with the SEC on March 10, 2023. The condensed consolidated balance sheet as of December 31, 2022 has been derived from audited financial statements included in the 2022 Annual Report. The accompanying interim condensed consolidated balance sheet as of June 30, 2023, the interim condensed consolidated statements of comprehensive loss and changes in stockholders' equity for the three and six months ended June 30, 2023 and 2022, and the interim condensed consolidated statements of cash flows for the six months ended June 30, 2023 and 2022 are unaudited. The unaudited interim condensed consolidated financial statements have been prepared on a basis consistent with that used to prepare the annual audited consolidated financial statements and include, in the opinion of management, all adjustments, consisting of normal and recurring items necessary for the fair presentation of the condensed consolidated financial statements. The operating results for the three and six months ended June 30, 2023 are not necessarily indicative of the results expected for the full year ending December 31, 2023.

Revision of Previously Issued Financial Statements

Certain prior period amounts on the condensed consolidated balance sheets and condensed consolidated statements of cash flows, reflected in the tables below, have been revised to correct for certain immaterial errors, as described below.

During the second quarter of 2023, management identified certain immaterial errors impacting previously issued financial statements beginning as of December 31, 2021, and subsequent annual and quarterly reporting periods through March 31, 2023. Specifically, management identified an error in financial statement presentation required to be corrected to correctly reflect Cloud Computing Arrangement ("CCA") software implementation costs in accordance with

(Amounts in thousands, except per share data)

Accounting Standards Codification ("ASC") 350-40, *Goodwill and Other, Internal-Use Software* ("ASC 350-40"). Management determined that these software implementation costs were subject to the internal-use software guidance under ASC 350-40 and appropriately capitalized these implementation costs in accordance with this guidance. Although the costs were correctly capitalized, they were incorrectly presented as property and equipment in the consolidated balance sheets, and as property and equipment additions in the consolidated statements of cash flows.

Management assessed the materiality of this presentation on prior period consolidated financial statements in accordance with the SEC Staff Accounting Bulletin No. 99, "Materiality," codified in ASC Topic 250, Accounting Changes and Error Corrections ("ASC 250"). Based on this assessment, management concluded that the error correction is not material to any previously presented interim or annual financial statements.

The effect on the consolidated balance sheets is as follows:

December 31, 2021		**As Reported**		**Revision**		**As Revised**
Property and equipment, net of accumulated depreciation	$	98,390	$	(1,680)	$	96,710
Other assets		1,900		1,680		3,580
March 31, 2022 (unaudited)						
Property and equipment, net of accumulated depreciation	$	102,228	$	(4,642)	$	97,586
Other assets		3,158		4,642		7,800
June 30, 2022 (unaudited)						
Property and equipment, net of accumulated depreciation	$	106,526	$	(7,668)	$	98,858
Other assets		2,592		7,668		10,260
September 30, 2022 (unaudited)						
Property and equipment, net of accumulated depreciation	$	109,123	$	(11,107)	$	98,016
Other assets		2,422		11,107		13,529
December 31, 2022						
Prepaid expenses and other current assets	$	20,383	$	1,957	$	22,340
Total current assets		241,189		1,957		243,146
Property and equipment, net of accumulated depreciation		115,768		(14,678)		101,090
Other assets		2,612		12,721		15,333
March 31, 2023 (unaudited)						
Prepaid expenses and other current assets	$	22,536	$	3,588	$	26,124
Total current assets		231,435		3,588		235,023
Property and equipment, net of accumulated depreciation		117,444		(17,942)		99,502
Other assets		2,621		14,354		16,975

(Amounts in thousands, except per share data)

The effect on the consolidated statements of cash flows are as follows:

	Twelve months ended December 31, 2021		
	As Reported	**Revision**	**As Revised**
Cash flows from operating activities:			
Other changes in operating assets and liabilities	$ 336	$ (1,680)	$ (1,344)
Net cash (used in) provided by operating activities	91,969	(1,680)	90,289
Cash flows from investing activities:			
Property and equipment additions	(33,386)	1,680	(31,706)
Net cash used in investing activities	(296,458)	1,680	(294,778)

	Three months ended March 31, 2022		
(unaudited)	**As Reported**	**Revision**	**As Revised**
Cash flows from operating activities:			
Other changes in operating assets and liabilities	$ (950)	$ (2,962)	$ (3,912)
Net cash (used in) provided by operating activities	2,595	(2,962)	(367)
Cash flows from investing activities:			
Property and equipment additions	(13,873)	2,962	(10,911)
Net cash used in investing activities	(17,259)	2,962	(14,297)

	Six months ended June 30, 2022		
(unaudited)	**As Reported**	**Revision**	**As Revised**
Cash flows from operating activities:			
Other changes in operating assets and liabilities	$ (457)	$ (5,988)	$ (6,445)
Net cash (used in) provided by operating activities	14,576	(5,988)	8,588
Cash flows from investing activities:			
Property and equipment additions	(27,827)	5,988	(21,839)
Net cash used in investing activities	(41,170)	5,988	(35,182)

	Nine months ended September 30, 2022		
(unaudited)	**As Reported**	**Revision**	**As Revised**
Cash flows from operating activities:			
Other changes in operating assets and liabilities	$ (349)	$ (9,427)	$ (9,776)
Net cash (used in) provided by operating activities	33,026	(9,427)	23,599
Cash flows from investing activities:			
Property and equipment additions	(42,973)	9,427	(33,546)
Net cash used in investing activities	(59,862)	9,427	(50,435)

	Twelve months ended December 31, 2022		
	As Reported	**Revision**	**As Revised**
Cash flows from operating activities:			
Prepaid expenses and other current assets	$ (214)	$ (1,957)	$ (2,171)
Other changes in operating assets and liabilities	(583)	(11,041)	(11,624)
Net cash (used in) provided by operating activities	76,846	(12,998)	63,848
Cash flows from investing activities:			
Property and equipment additions	(58,530)	12,998	(45,532)
Net cash used in investing activities	(85,046)	12,998	(72,048)

(Amounts in thousands, except per share data)

	Three months ended March 31, 2023		
(unaudited)	**As Reported**	**Revision**	**As Revised**
Cash flows from operating activities:			
Prepaid expenses and other current assets	$ (2,109)	$ (1,631)	$ (3,740)
Other changes in operating assets and liabilities	(58)	(1,633)	(1,691)
Net cash (used in) provided by operating activities	6,755	(3,264)	3,491
Cash flows from investing activities:			
Property and equipment additions	(13,313)	3,264	(10,049)
Net cash used in investing activities	(17,561)	3,264	(14,297)

The condensed consolidated balance sheet as of December 31, 2022 and the condensed consolidated statement of cash flows for the six months ended June 30, 2022 have been revised in this Quarterly Report on Form 10-Q. The Company intends to revise the remaining quarterly and annual amounts affected in future filings in which they appear, as applicable.

Segments

The Company operates its business as one operating segment. For the three and six months ended June 30, 2023, approximately 7% of the Company's revenues were generated from customers located outside the U.S. For the three and six months ended June 30, 2022, revenues generated from customers located outside the U.S. were approximately 10% and 8%, respectively. As of June 30, 2023 and December 31, 2022, $1,056 and $827, respectively, of the Company's property and equipment assets were held outside the U.S.

Use of Estimates

The preparation of condensed consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, equity, revenues and expenses during the reporting period. Significant estimates used in preparing these condensed consolidated financial statements include: (i) the estimated allowance for subscription cancellations, (ii) expected credit losses associated with the allowance for doubtful accounts; (iii) allowance for credit losses on available-for-sale debt securities; (iv) the reserve for self-insurance, (v) assumptions related to achievement of technological feasibility for software developed for sale, (vi) product life cycles, (vii) estimated useful lives and potential impairment of long-lived assets and intangible assets, (viii) potential impairment of goodwill, (ix) determination of the fair value of tangible and intangible assets acquired, liabilities assumed and consideration transferred in acquisitions, (x) amortization period of material rights and deferred commissions (xi) Black-Scholes-Merton option pricing model ("Black-Scholes model") input assumptions used to determine the fair value of certain stock-based compensation awards, and Employee Stock Purchase Plan ("ESPP") purchase rights (xii) measurement of future purchase commitment, contingent consideration liabilities and deferred purchase consideration liabilities associated with acquisitions, and (xiii) the potential outcome of future tax consequences of events that have been recognized in the condensed consolidated financial statements or tax returns. Actual results may differ from these estimates.

Software Development Costs

Cloud Computing Software Implementation Costs

The Company follows ASC 350-40, *Goodwill and Other, Internal-Use Software*, to account for development costs incurred for cloud computing software implementations. ASC 350-40 requires such costs to be capitalized once certain criteria are met. Costs are primarily comprised of third-party consulting fees, direct labor, and related expenses. ASC 350-40 includes specific guidance on costs not to be capitalized, such as overhead, general and administrative and training costs. Costs are capitalized once the project is defined, funding is committed and it is confirmed the software will be used for its intended use. Capitalization of these costs concludes once the project is substantially complete and the software is ready for its intended purpose. Post-configuration training and maintenance costs are expensed as incurred.

Cloud computing software implementation costs incurred in hosting arrangements are capitalized and reported as a component of prepaid expenses and other current assets, or other assets, once available for their intended use. These costs are amortized using the straight-line method over their respective contract service periods, including periods covered by an option to extend, ranging from two to five years and are included in general and administrative expenses in the consolidated statements of comprehensive loss.

(Amounts in thousands, except per share data)

Costs related to cloud computing implementation incurred in hosting arrangements are capitalized and reported as a component of prepaid expenses and other current assets, or non-current assets. At June 30, 2023, $4,639 and $16,615 were reported in prepaid expenses and other current assets, and non-current assets, respectively, in the condensed consolidated balance sheets.

Amortization expense for capitalized cloud computing implementation costs for both the three and six month periods ended June 30, 2023 was $699 and is included in general and administrative expense in the condensed consolidated statements of comprehensive loss. There was no amortization expense for the three and six month periods ended June 30, 2022.

Supplemental Balance Sheet Disclosures

Supplemental balance sheet disclosures are as follows for the respective periods:

	As of June 30, 2023 (unaudited)	December 31, 2022
Prepaid expenses and other current assets:		
Prepaid expenses	$ 6,187	$ 5,875
Unamortized cloud computing implementation costs	4,105	1,957
Prepaid insurance	647	2,291
Prepaid licenses and support	11,087	12,217
Prepaid expenses and other current assets	$ 22,026	$ 22,340
Other assets:		
Unamortized cloud computing implementation costs	$ 14,545	$ 12,721
Other assets	2,079	2,612
Total other assets	$ 16,624	$ 15,333
Accrued expenses:		
Accrued general expenses	$ 20,593	$ 18,485
Accrued contract labor and professional fees	12,782	17,421
Accrued income and other taxes	22,616	2,328
Accrued expenses	$ 55,991	$ 38,234

Recently Issued or Adopted Accounting Pronouncements

As an “emerging growth company,” the Jumpstart Our Business Startups Act allows the Company to delay adoption of new or revised accounting pronouncements applicable to public companies until such pronouncements are made applicable to private companies. The Company has elected to delay adoption of certain new or revised accounting standards. As a result, the Company’s financial statements may not be comparable to the financial statements of issuers who are required to comply with the effective date for new or revised accounting standards that are applicable to public companies.

(Amounts in thousands, except per share data)

Deferred Revenue

In October 2021, the Financial Accounting Standard Board issued ASU No. 2021-08, Business Combinations ("ASU 2021-08"). ASU 2021-08 provides specific guidance on how to recognize and measure contract assets and contract liabilities related to revenue contracts with customers acquired in a business combination. This will align the accounting for these acquired contracts to the accounting for revenue contracts originated by the acquirer and will provide more comparable information to investors and other financial statement users seeking to better understand the financial impact of these acquisitions. The Company adopted this standard effective January 1, 2023 on a prospective basis for business combinations occurring on or after this date. Although this standard does not have a material impact on the Company's current condensed consolidated financial statements, adoption could have a material impact on the accounting for future acquisitions reflected in the Company's condensed consolidated financial statements.

2. REVENUE RECOGNITION

Disaggregation of revenue

The table reflects revenue by major source for the following periods:

	Three months ended June 30,		Six months ended June 30,	
	2023	2022	2023	2022
	(unaudited)		(unaudited)	
Software subscriptions:				
Software licenses	$ 66,625	$ 60,872	$ 129,433	$ 119,731
Cloud subscriptions	51,211	40,216	99,417	78,488
Software subscriptions	117,836	101,088	228,850	198,219
Services	21,859	18,188	43,596	36,041
Total revenues	$ 139,695	$ 119,276	$ 272,446	$ 234,260

Contract balances

Timing of revenue recognition may differ from the timing of invoicing customers. A receivable is recorded in the condensed consolidated balance sheets when customers are billed related to revenue to be collected and recognized for subscription agreements as there is an unconditional right to invoice and receive payment in the future related to these subscriptions. A receivable and related revenue may also be recorded in advance of billings to the extent services have been performed and the Company has a right under the contract to bill and collect for such performance. Subscription-based customers are generally invoiced annually at the beginning of each annual subscription period. Accounts receivable is presented net of an allowance for potentially uncollectible accounts and estimated cancellations of software license and cloud-based subscriptions (the "allowance") of $14,218 and $9,554 at June 30, 2023 and December 31, 2022, respectively. The allowance for potentially uncollectible accounts represents future expected credit losses over the life of the receivables based on past experience, current information and forward-looking economic considerations.

The beginning and ending balances of accounts receivable, net of allowance, are as follows:

	For the six months ended June 30, 2023	For the year ended December 31, 2022
	(unaudited)	
Balance, beginning of period	$ 102,885	$ 76,929
Balance, end of period	129,093	102,885
Increase, net	$ 26,208	$ 25,956

A contract liability is recorded as deferred revenue on the condensed consolidated balance sheets when customers are billed in advance of performance obligations being satisfied, and revenue is recognized after invoicing ratably over the subscription period or over the amortization period of material rights. Deferred revenue is reflected net of a related deferred allowance for subscription cancellations (the "deferred allowance") of $10,409 and $7,133 at June 30, 2023 and December

(Amounts in thousands, except per share data)

31, 2022, respectively. The deferred allowance represents the portion of the allowance for subscription cancellations associated with deferred revenue.

The beginning and ending balances of and changes to the allowance and the deferred allowance are as follows:

	For the three months ended June 30,			
	2023		2022	
	Balance	Net Change	Balance	Net Change
	(unaudited)			
Allowance balance, April 1,	$ (10,641)		$ (8,450)	
Allowance balance, June 30,	(14,218)		(8,719)	
Change in allowance		$ 3,577		$ 269
Deferred allowance balance, April 1,	7,516		6,098	
Deferred allowance balance, June 30,	10,409		6,700	
Change in deferred allowance		(2,893)		(602)
Net amount charged to revenues		$ 684		$ (333)

	For the six months ended June 30,			
	2023		2022	
	Balance	Net Change	Balance	Net Change
	(unaudited)			
Allowance balance, January 1,	$ (9,554)		$ (9,151)	
Allowance balance, June 30,	(14,218)		(8,719)	
Change in allowance		$ 4,664		$ (432)
Deferred allowance balance, January 1,	7,133		6,537	
Deferred allowance balance, June 30,	10,409		6,700	
Change in deferred allowance		(3,276)		(163)
Net amount charged to revenues		$ 1,388		$ (595)

The portion of deferred revenue expected to be recognized in revenue beyond one year is included in deferred revenue, net of current portion in the condensed consolidated balance sheets. The tables provide information about the balances of and changes to deferred revenue for the following periods:

	As of June 30, 2023	As of December 31, 2022
	(unaudited)	
Balances:		
Deferred revenue, current	$ 274,094	$ 268,847
Deferred revenue, non-current	2,959	10,289
Total deferred revenue	$ 277,053	$ 279,136

	For the three months ended June 30,		For the six months ended June 30,	
	2023	2022	2023	2022
	(unaudited)		(unaudited)	
Changes to deferred revenue:				
Beginning balance	$ 283,116	$ 245,715	$ 279,136	$ 249,010
Additional amounts deferred	133,632	128,635	270,363	240,324
Revenues recognized	(139,695)	(119,276)	(272,446)	(234,260)
Ending balance	$ 277,053	$ 255,074	$ 277,053	$ 255,074

(Amounts in thousands, except per share data)

Contract costs

Deferred sales commissions earned by the Company's sales force and certain sales incentive programs and vendor referral agreements are considered incremental and recoverable costs of obtaining a contract with a customer. An asset is recognized for these incremental contract costs and reflected as deferred commissions in the condensed consolidated balance sheets. These contract costs are amortized on a straight-line basis over a period consistent with the transfer of the associated product and services to the customer, which is generally three years. Amortization of these costs are included in selling and marketing expense in the condensed consolidated statements of comprehensive loss. The Company periodically reviews these contract assets to determine whether events or changes in circumstances have occurred that could impact the period of benefit of these assets. There were no impairment losses recorded for the periods presented.

The changes to contract cost balances as of and for the following periods are:

	For the three months ended June 30, 2023	For the three months ended June 30, 2022	For the six months ended June 30, 2023	For the six months ended June 30, 2022
	(unaudited)		(unaudited)	
Deferred commissions:				
Beginning balance	$ 15,921	$ 11,679	$ 15,463	$ 12,555
Additions	2,747	2,931	5,598	4,656
Amortization	(1,942)	(2,442)	(4,335)	(5,043)
Ending balance	$ 16,726	$ 12,168	$ 16,726	$ 12,168

3. FINANCIAL INSTRUMENTS AND FAIR VALUE MEASUREMENTS

Assets and Liabilities Measured at Fair Value on a Recurring Basis

The following table summarizes the Company's fair value for its financial assets and liabilities measured at fair value on a recurring basis:

		Fair Value Measurements Using		
As of June 30, 2023 (unaudited)	**Fair Value**	**Prices in active markets for identical assets (Level 1)**	**Significant other observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**
Money Market Funds	$ 27,458	$ 27,458	$ —	$ —
Commercial Paper	9,353	—	9,353	—
U.S. Treasury Securities	5,780	—	5,780	—
Tellutax Contingent Consideration	3,800	—	—	3,800
Foreign Currency Forward Contracts	744	—	744	—

		Fair Value Measurements Using		
As of December 31, 2022	**Fair Value**	**Prices in active markets for identical assets (Level 1)**	**Significant other observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**
Money Market Funds	$ 67,430	$ 67,430	$ —	$ —
Commercial Paper	9,660	—	9,660	—
U.S. Treasury Securities	5,203	—	5,203	—
Tellutax Contingent Consideration	4,800	—	—	4,800
Foreign Currency Forward Contracts	569	—	569	—

The Company has investments in high quality, short-term money market instruments which are issued and payable in U.S. dollars ("Money Market Funds"), which are included in cash and cash equivalents on the condensed consolidated balance sheets. Fair value inputs for these investments are considered Level 1 measurements within the fair value hierarchy since Money Market Fund fair values are known and observable through daily published floating net asset values. Securities classified as available-for-sale are reported at fair value using Level 2 inputs. The Company has investments in bank and corporate issued commercial paper ("Commercial Paper"), and U.S. treasury securities ("U.S. Treasury

(Amounts in thousands, except per share data)

Securities"), the Company believes that Level 2 designation is appropriate under Accounting Standards Codification, ("ASC") 820-10, *Fair Value Measurements and Disclosures,* as these securities are fixed income securities, none are exchange traded, and all are priced by correlation to observed market data. For these securities the Company obtains fair value measurements from an independent pricing service. The fair value measurements consider observable data that may include dealer quotes, market spreads, cash flows, U.S. government and agency yield curves, live trading levels, trade execution data, market consensus prepayment speeds, credit information, and the security's terms and conditions, among other factors.

In connection with the January 2021 Tellutax LLC ("Tellutax") acquisition, the sellers are entitled to contingent consideration if sales targets are met during a period of time following the acquisition (the "Tellutax Contingent Consideration").

The Tellutax Contingent Consideration is based on three potential earn-out payments determined by periodic revenue achievements over a thirty-month period. Such estimate represents a recurring fair value measurement with significant unobservable inputs, which management considers to be Level 3 measurements under the Fair Value Hierarchy. The significant assumptions used in these calculations included forecasted results and the estimated likelihood for each performance scenario. The fair value of Tellutax Contingent Consideration is estimated using a Monte Carlo Simulation to compute the expected cash flows from the payments specified in the purchase agreement. Such payments have no maximum limit, but if certain targets are not met, there will be no payment for the applicable measurement period.

A fair value adjustment of $249 and $449 was recorded in other operating expense (income), net for the three and six months ended June 30, 2023, respectively. A fair value adjustment of $0 and $700 was recorded in other operating expense (income), net for the three and six months ended June 30, 2022, respectively. At June 30, 2023, the Tellutax Contingent Consideration of $2,300 and $1,500 is included in purchase commitment and contingent consideration liabilities, current, and purchase commitment and contingent consideration liabilities, net of current portion, respectively, in the condensed consolidated balance sheets. At December 31, 2022, the Tellutax Contingent Consideration of $1,400 and $3,400 is included in purchase commitment and contingent consideration liabilities, current, and purchase commitment and contingent consideration liabilities, net of current portion, respectively, in the condensed consolidated balance sheets.

Tellutax Contingent Consideration fair value as of June 30, 2023 and December 31, 2022 and unobservable inputs used for the Monte Carlo Simulation valuation were as follows:

	June 30, 2023 (unaudited)			
Liability	**Fair Value**	**Valuation Technique**	**Unobservable Inputs**	
Tellutax Contingent Consideration	$ 3,800	Monte Carlo Simulation	Revenue volatility	70.0 %
			Revenue discount rate	22.9 %
			Term (in years)	1.9

	December 31, 2022			
Liability	**Fair Value**	**Valuation Technique**	**Unobservable Inputs**	
Tellutax Contingent Consideration	$ 4,800	Monte Carlo Simulation	Revenue volatility	75.0 %
			Revenue discount rate	22.4 %
			Term (in years)	2.4

Changes in the fair value of Tellutax Contingent Consideration during the six months ended June 30, 2023 were as follows:

	Tellutax Contingent Consideration (unaudited)
Balance, January 1, 2023	$ 4,800
Fair value adjustments	449
Payments	(1,449)
Balance, June 30, 2023	$ 3,800

Assets and Liabilities for Which Fair Value is Only Disclosed

The carrying amounts of cash and cash equivalents and the carrying amount of funds held for customers were the same as their respective fair values and are considered Level 1 measurements.

The carrying amount of our bank debt approximates fair value as the variable rates on the debt approximate those commercially available in the market, and is considered a Level 3 measurement.

Non-recurring Fair Value Measurements

The LCR-Dixon Corporation ("LCR") acquisition on September 22, 2021, the acquisition of EVAT Solutions Limited ("EVAT") and its wholly owned subsidiaries (collectively, "Taxamo") on May 12, 2021, the Tellutax acquisition on January 25, 2021, and the Systax acquisition on January 10, 2020, were accounted for as business combinations and the total purchase price for each acquisition was allocated to the net assets acquired and liabilities assumed based on their estimated fair values.

Deferred purchase consideration associated with the LCR acquisition was $9,974 and $19,824 at June 30, 2023 and December 31, 2022, respectively.

The Company has a contractual commitment to acquire the remaining equity interest from the original Systax Quotaholders incrementally through 2024. Future purchase commitment payments for these incremental acquisition amounts are based on a multiple of Systax revenue and earnings before interest, depreciation, amortization and income taxes ("EBITDA") performance at the end of 2022 and 2023, whereby the Company will have full ownership after the final transaction in 2024. Management determined these future purchase commitments to be a forward contract, resulting in the Company being required to estimate and record an estimated future purchase commitment amount (the "Purchase Commitment Liability") in connection with recording the initial purchase. The fair value of the Purchase Commitment Liability at the acquisition date was finalized to be $12,592. This amount will fluctuate as a result of changes in foreign currency exchange rates and is reflected in purchase commitment and contingent consideration liabilities in the condensed consolidated balance sheets, with such changes in exchange rates being reflected in other comprehensive loss or income in the condensed consolidated statements of comprehensive loss. Adjustments to the settlement date value that arise as a result of remeasurement at future balance sheet dates will be recorded as interest expense related to financing costs in the condensed consolidated statements of comprehensive income (loss) in the period the change is identified. No such adjustments have been recorded for the three or six months ended June 30, 2023 or 2022.

The Company acquired an additional 15% equity interest of Systax through a Purchase Commitment Liability payment of $4,975 during the three and six months ended June 30, 2023, increasing the Company's equity interest in Systax to 80%. The remaining Purchase Commitment Liability at June 30, 2023 was $5,566, and is included in purchase commitment and contingent consideration liabilities, current, in the condensed consolidated balance sheet.

The Purchase Commitment Liability included in purchase commitment and contingent consideration liabilities, current and purchase commitment and contingent consideration liabilities, net of current portion in the consolidated balance sheets on December 31, 2022 was $4,749 and $5,012, respectively.

The carrying amounts of both the LCR deferred purchase consideration and the Systax Purchase Commitment Liability amounts discussed above approximated their respective fair values at such dates and are considered Level 3 non-recurring fair value measurements.

Derivative Instruments

The Company may periodically enter into derivative contracts to reduce our exposure to foreign currency exchange rates. Historically, the Company has not designated derivative contracts as hedges. Such derivative contracts are typically designed to manage specific risks according to our strategies, which may change from time to time.

The Company entered into a series of foreign currency forward contracts to reduce our exposure to adverse fluctuations in the Brazilian Real associated with a portion of the Systax Purchase Commitment Liability. Such forward contracts, have not been designated as a hedge, do not qualify for hedge accounting and are not material to our condensed consolidated financial statements. These forward contacts are remeasured at fair value on a recurring basis and are included in other assets in our condensed consolidated balance sheets with changes in their estimated fair value recognized as interest expense in our condensed consolidated statements of comprehensive loss. Our fair value determinations are based on foreign currency exchange rates in active markets, which are considered to be Level 2 measurements within the Fair Value Hierarchy.

(Amounts in thousands, except per share data)

4. PROPERTY AND EQUIPMENT

The major components of property and equipment are as follows:

	As of June 30, 2023 (unaudited)	As of December 31, 2022
Leasehold improvements	$ 20,458	$ 20,929
Equipment	22,030	39,238
Computer software purchased	2,687	11,892
Internal-use software developed:		
Cloud-based customer solutions	135,874	142,980
Internal systems and tools	40,008	42,035
Furniture and fixtures	7,668	7,665
In-process internal-use software	7,058	18,200
Property and equipment	235,783	282,939
Less accumulated depreciation and amortization	(136,871)	(181,849)
Property and equipment, net	$ 98,912	$ 101,090

Depreciation expense for property and equipment, excluding all internal-use software developed and finance leases, was $1,967 and $1,671 for the three months ended June 30, 2023 and 2022, respectively, and $3,484 and $3,389 for the six months ended June 30, 2023 and 2022, respectively, and is reflected in depreciation and amortization in the condensed consolidated statements of comprehensive loss.

Finance lease amortization was $237 and $535 for the three months ended June 30, 2023 and 2022, respectively, and $516 and $770 for the six months ended June 30, 2023 and 2022, respectively, and is included in depreciation and amortization expense in the condensed consolidated statements of comprehensive loss.

Assets under finance leases of $393 and $1,461, net of accumulated amortization of $316 and $861, respectively, at June 30, 2023 and December 31, 2022, respectively, are included in property and equipment in the condensed consolidated balance sheets.

The major components of internal-use software are as follows:

	As of June 30, 2023 (unaudited)	As of December 31, 2022
Internal-use software developed	$ 175,882	$ 185,015
Less accumulated depreciation	(98,320)	(119,603)
Internal-use software developed, net of accumulated depreciation	77,562	65,412
In-process internal-use software	7,058	18,200
Internal-use software developed, net	$ 84,620	$ 83,612

(Amounts in thousands, except per share data)

Amounts included in property and equipment additions related to capitalized internal-use software on the condensed consolidated statements of cash flows are as follows:

	For the six months ended June 30, 2023	2022
	(unaudited)	
Cloud-based customer solutions	$ 14,154	$ 14,406
Internal systems and tools	7,662	4,181
Total	$ 21,816	$ 18,587

In-process internal-use software developed is not depreciated until it is available for its intended use. Depreciation expense for internal-use software developed for cloud-based customer solutions for the three months ended June 30, 2023 and 2022 was $8,260 and $6,927, respectively, and $16,408 and $13,258, for the six months ended June 30, 2023 and 2022, respectively, and is included in cost of revenues, software subscriptions in the condensed consolidated statements of comprehensive loss.

Depreciation expense for internal-use software developed for internal systems and tools for the three months ended June 30, 2023 and 2022 was $1,674 and $1,018, respectively, and $3,619 and $2,025 for the six months ended June 30, 2023 and 2022, respectively, and is included in depreciation and amortization in the condensed consolidated statements of comprehensive loss.

5. CAPITALIZED SOFTWARE

Capitalized software includes acquired software and direct labor and related expenses for software developed for sale for new products and enhancements to existing products.

The major components of capitalized software are as follows:

	As of June 30, 2023	As of December 31, 2022
	(unaudited)	
Capitalized software	$ 110,186	$ 96,577
Less accumulated amortization	(70,790)	(62,197)
Capitalized software, net of accumulated depreciation	39,396	34,380
In-process capitalized software	65	4,632
Capitalized software, net	$ 39,461	$ 39,012

Software development costs capitalized for the three months ended June 30, 2023 and 2022, excluding acquisitions, were $5,035 and $3,014, respectively, and $9,042 and $5,926 for the six months ended June 30, 2023 and 2022, respectively.

Capitalized software amortization expense, including amortization of acquired technology, was $4,364 and $5,405 for the three months ended June 30, 2023 and 2022, respectively, and $8,593 and $8,706 for the six months ended June 30, 2023 and 2022, respectively, and is included in cost of revenues, software subscriptions in the condensed consolidated statements of comprehensive loss.

(Amounts in thousands, except per share data)

6. GOODWILL AND OTHER INTANGIBLE ASSETS

Goodwill and other intangible assets are as follows for the periods presented:

	As of June 30, 2023 (unaudited)	As of December 31, 2022
Goodwill	$ 255,868	$ 251,842
Other intangible assets, net	3,719	5,181
Total	$ 259,587	$ 257,023

The Company has recognized various amortizable other intangible assets in connection with acquisitions related to customer relationships, technology, and tradenames. The following tables provide additional information for other intangible assets, which are individually not material to the condensed consolidated financial statements, for the periods presented:

	As of June 30, 2023 (unaudited)	As of December 31, 2022
Weighted average amortization period (years)	3.5	3.5
Gross value	$ 10,953	$ 10,667
Accumulated amortization	(7,234)	(5,486)
Carrying value	$ 3,719	$ 5,181

The following table presents amortization of other intangible assets:

For the three months ended June 30,	**Cost of Revenues, Software Subscriptions**	**Selling and Marketing Expense**	**Total Expense**
2023	$ 62	$ 684	$ 746
2022	54	2,019	2,073
For the six months ended June 30,	**Cost of Revenues, Software Subscriptions**	**Selling and Marketing Expense**	**Total Expense**
2023	$ 120	$ 1,450	$ 1,570
2022	119	2,268	2,387

(Amounts in thousands, except per share data)

7. DEBT

Credit Agreement

On March 8, 2022, the Company entered into the Second Amendment to the Credit Agreement, with a banking syndicate, which provides (i) a term loan in the aggregate amount of $50,000 (the "Term Loan"); and (ii) a $200,000 revolving facility (the "Line of Credit"). Our indebtedness at June 30, 2023 and December 31, 2022 was as follows:

	As of June 30, 2023 (unaudited)	As of December 31, 2022
Term Loan	$ 2,500	$ 2,188
Current portion of long-term debt	2,500	2,188
Term Loan	45,625	46,875
Deferred financing costs	(147)	(166)
Debt, net of current portion	$ 45,478	$ 46,709
Total debt, net of financing costs	$ 47,978	$ 48,897

8. STOCKHOLDERS' EQUITY

Common Stock

During the three and six months ended and June 30, 2023, the Company issued 259 and 851 shares of Class A common stock, respectively, related to the exercise of options, net of 6 and 23 shares, respectively, returned to the Company in lieu of payment of the exercise price and taxes due on these exercises.

During the three and six months ended June 30, 2023, the Company issued 22 and 413 shares of Class A common stock, respectively, in connection with the vesting of Restricted Stock Units ("RSUs"), net of 11 and 242 shares, respectively, returned to the Company in lieu of payment of taxes due on the vesting of these RSUs.

During the three and six months ended June 30, 2023, the Company issued 106 shares of Class A common stock, in connection with the vesting of Restricted Stock Awards ("RSAs").

During the three and six months ended June 30, 2023, a stockholder exchanged 2,589 shares of Class B common stock, for an equivalent number of shares of Class A common stock.

During the three and six months ended and June 30, 2022, the Company issued 93 and 365 shares of Class A, respectively, related to the exercise of options, net of 23 and 70 shares, respectively, returned to the Company in lieu of payment of the exercise price and taxes due on these exercises.

During the three and six months ended June 30, 2022, the Company issued 0 and 3 shares of Class A, respectively, in connection with the vesting of RSUs, net of 0 and 1 share, respectively, returned to the Company in lieu of payment of taxes due on the vesting of these RSUs.

(Amounts in thousands, except per share data)

During the three and six months ended June 30, 2022, the Company issued 59 shares of Class A common stock in connection with the vesting of Restricted Stock Awards (“RSAs”).

During the three and six months ended June 30, 2022, a stockholder exchanged 5,500 shares of Class B common stock for an equivalent number of shares of Class A common stock.

Tax Sharing Agreement Payments

In connection with termination of the Company’s S-Corporation election effective July 27, 2020, the Company entered into a tax sharing agreement (“Tax Sharing Agreement”) with the former S-Corporation shareholders. All obligations of the Company under the Tax Sharing Agreement are satisfied by adjustments of additional paid in capital.

During the three and six months ended June 30, 2022, the Company distributed $0 and $536, respectively, to the former S-Corporation shareholders under the Tax Sharing Agreement to settle the Company’s obligation for income taxes related to the allocation of taxable income to the S-Corporation short tax period ended July 26, 2020.

9. EARNINGS PER SHARE

The tables below illustrate the calculation of basic and diluted net loss per common share for the Class A common stock and Class B common stock for the periods reflected below.

Class A common stock:	**For the three months ended June 30,**		**For the six months ended June 30,**	
	2023	**2022**	**2023**	**2022**
	(unaudited)		**(unaudited)**	
Numerator, basic:				
Net loss attributable to all stockholders	$ (6,896)	$ (5,520)	$ (25,028)	$ (5,854)
Class A common stock as a percentage of total shares outstanding, basic	35.49 %	28.96 %	34.49 %	28.67 %
Net loss attributable to Class A stockholders, basic	$ (2,447)	$ (1,598)	$ (8,633)	$ (1,679)
Numerator, diluted:				
Net loss attributable to all stockholders	$ (6,896)	$ (5,520)	$ (25,028)	$ (5,854)
Class A common stock as a percentage of total shares outstanding, diluted	35.49 %	28.96 %	34.49 %	28.67 %
Net loss attributable to Class A stockholders, diluted	$ (2,447)	$ (1,598)	$ (8,633)	$ (1,679)
Denominator, basic and diluted:				
Weighted average Class A common stock, basic	53,762	43,286	52,109	42,818
Dilutive effect of common stock equivalents[(1) (2)]	—	—	—	—
Weighted average Class A common stock, diluted	53,762	43,286	52,109	42,818
Net loss per Class A share, basic	$ (0.05)	$ (0.04)	$ (0.17)	$ (0.04)
Net loss per Class A share, diluted	$ (0.05)	$ (0.04)	$ (0.17)	$ (0.04)

(1) For the three months ended June 30, 2023, the following weighted-average outstanding shares of common stock equivalents by award type were excluded from the computation of diluted net loss per share attributable to Class A stockholders, as the impact of including them would have been anti-dilutive: 7,788 options (including 261 out-of-the-money options), 225 restricted stock awards (“RSAs”), 4,161 RSUs and 47 shares under the ESPP. For the three months ended June 30, 2022, the following weighted-average outstanding shares of common stock equivalents by award type were excluded from the computation of diluted net loss per share attributable to Class A stockholders, as the impact of including them would have been anti-dilutive: 9,024 options (including 763 out-of-the-money options), 306 RSAs, 2,417 RSUs and 49 shares under the ESPP.

(Amounts in thousands, except per share data)

(2) For the six months ended June 30, 2023, the following weighted-average outstanding shares of common stock equivalents by award type were excluded from the computation of diluted net loss per share attributable to Class A stockholders, as the impact of including them would have been anti-dilutive: 8,060 options (including 483 out-of-the-money options), 230 RSAs, 3,654 RSUs and 46 shares under the ESPP. For the six months ended June 30, 2022, the following weighted-average outstanding shares of common stock equivalents by award type were excluded from the computation of diluted net loss per share attributable to Class A stockholders, as the impact of including them would have been anti-dilutive: 9,226 options (including 765 out-of-the-money options), 316 RSAs, 1,984 RSUs and 45 shares under the ESPP.

Class B common stock:	**For the three months ended June 30,**		**For the six months ended June 30,**	
	2023	**2022**	**2023**	**2022**
	(unaudited)		**(unaudited)**	
Numerator, basic:				
Net loss attributable to all stockholders	$ (6,896)	$ (5,520)	$ (25,028)	$ (5,854)
Class B common stock as a percentage of total shares outstanding, basic	64.51 %	71.04 %	65.51 %	71.33 %
Net loss attributable to Class B stockholders, basic	$ (4,449)	$ (3,922)	$ (16,395)	$ (4,175)
Numerator, diluted:				
Net loss attributable to all stockholders	$ (6,896)	$ (5,520)	$ (25,028)	$ (5,854)
Class B common stock as a percentage of total shares outstanding, diluted	64.51 %	71.04 %	65.51 %	71.33 %
Net loss attributable to Class B stockholders, diluted	$ (4,449)	$ (3,922)	$ (16,395)	$ (4,175)
Denominator, basic and diluted:				
Weighted average Class B common stock, basic	97,718	106,203	98,969	106,505
Dilutive effect of common stock equivalents	—	—	—	—
Weighted average Class B common stock, diluted	97,718	106,203	98,969	106,505
Net loss per Class B share, basic	$ (0.05)	$ (0.04)	$ (0.17)	$ (0.04)
Net loss per Class B share, diluted	$ (0.05)	$ (0.04)	$ (0.17)	$ (0.04)

10. STOCK-BASED AWARD PLANS

The 2020 Plan provides the ability to grant cash and equity-based incentive awards to eligible employees, directors and service providers in order to attract, retain and motivate those that make important contributions to the Company. The Company issued stock options, RSAs, and RSUs under the 2020 Plan. As of June 30, 2023, 14,555 shares of Class A common stock were available for issuance under the 2020 Plan.

Options

The following table summarizes activity for options outstanding under the 2020 Plan for the six months ended June 30, 2023:

2020 Plan Option Activity	**Units**	**Weighted Average Exercise Price**	**Weighted Average Remaining Contractual Life (Years)**	**Aggregate Intrinsic Value**
			(unaudited)	
Outstanding at January 1, 2023	8,508	$ 4.34	4.3	$ 86,514
Exercised	(874)	$ 2.72		
2020 Plan options outstanding at June 30, 2023	7,634	$ 4.53	4.0	114,311
2020 Plan options exercisable at June 30, 2023	5,875	$ 3.31	3.2	95,091

*Amended Options have indefinite contractual lives

(Amounts in thousands, except per share data)

The detail of options outstanding, vested and exercisable under the 2020 Plan as of June 30, 2023 is as follows:

	Options Outstanding		Options Vested and Exercisable	
Exercise Prices	**Units**	**Weighted Average Life (Years)**	**Units**	**Weighted Average Life (Years)**
		(unaudited)		
$0.15 to $0.71	1,636	—	1,636	—
$2.15	212	1.6	212	1.6
$2.50	2,096	3.0	2,096	3.0
$2.67	172	3.6	172	3.6
$3.17	670	4.8	482	4.7
$3.73	1,461	6.3	683	6.3
$4.70	628	6.6	286	6.6
$18.47	213	8.4	53	8.4
$18.96	235	8.1	105	8.1
$19.00	66	8.2	17	8.2
$32.16	245	7.7	133	7.3
	7,634		5,875	

The Board of Directors ("the Board") intends all options granted to be exercisable at a price per share not less than the per share fair market value of the Company's Class A common stock underlying the options on the date of grant. Compensation expense for option awards are measured based on the grant date fair value of the awards and recognized in the condensed consolidated statements of comprehensive loss over the period during which the participant is required to perform the requisite services. The vesting period is generally one to four years. The grant date fair value of options is estimated using the Black-Scholes model.

There were no options issued under the 2020 Plan during the three or six months ended June 30, 2023 or 2022.

At June 30, 2023, $7,286 of unrecognized compensation expense associated with options is expected to be recognized over a weighted average period of approximately 1.6 years.

Restricted Stock Units

The following table summarizes RSU activity for the six months ended June 30, 2023:

	Units	**Weighted Average Grant Date Fair Value Per Share**
Outstanding at January 1, 2023	2,562	$ 15.90
Granted	2,355	15.94
Vested	(655)	17.60
Forfeited	(100)	14.70
Outstanding at June 30, 2023	4,162	$ 15.68

Stock-based compensation cost for RSUs is measured based on the fair value of the Company's underlying common stock on the date of grant and is recognized on a straight-line basis in the condensed consolidated statements of comprehensive loss over the period during which the participant is required to perform services in exchange for the award, which is generally one to four years. Vested RSUs are settled by issuing Class A shares or the equivalent value in cash at the Board's discretion. At June 30, 2023, $52,793 of unrecognized compensation cost for RSUs is expected to be recognized over a weighted average period of approximately 3.1 years.

In connection with the Taxamo acquisition, certain continuing employees of Taxamo received RSUs with service and performance conditions ("PSUs"). At June 30, 2023, there are 895 shares of our Class A common stock with an aggregate grant date fair value of $15,803 that will be accounted for as post-acquisition compensation expense over the vesting period if targets are achieved. The performance-based condition will be satisfied upon meeting certain performance targets for the year ended 2023. As of June 30, 2023, it is not probable that these targets will be met, thus no compensation expense has been recorded to date related to these PSUs.

(Amounts in thousands, except per share data)

Restricted Stock Awards

The following table summarizes RSA activity for the six months ended June 30, 2023:

	Units	Weighted Average Grant Date Fair Value Per Share
Outstanding at January 1, 2023	235	$ 14.91
Granted	62	$ 22.69
Vested	(106)	9.92
Forfeited	—	—
Outstanding at June 30, 2023	191	$ 20.19

Stock-based compensation cost for RSAs is measured based on the fair value of the Company’s underlying common stock on the date of grant and is recognized on a straight-line basis in the condensed consolidated statements of comprehensive loss over the period during which the participants are required to perform services in exchange for the award, which is generally one to four years. At June 30, 2023, $2,038 of unrecognized compensation cost for RSAs is expected to be recognized over a weighted average period of approximately 1.0 years.

Employee Stock Purchase Plan

The ESPP provides eligible employees with rights during each six-month ESPP offering period to purchase shares of the Company’s Class A common stock through payroll deductions of up to a specified percentage of their eligible compensation. The purchase price of the shares, in the absence of a contrary designation, is 85% of the lower of the fair value of the Class A common stock on the first or last day of the ESPP offering period. Amounts withheld from participants are reflected in accrued salaries and benefits in the condensed consolidated balance sheets until such shares are purchased. Amounts withheld from participants for the offering period ending November 30, 2023 aggregated $363 as of June 30, 2023. As of June 30, 2023, 4,985 shares of Class A common stock were available for issuance under the ESPP.

As of June 30, 2023 there was approximately $345 of unrecognized ESPP stock-based compensation cost expected to be recognized on a straight-line basis over the remaining term of the six-month offering period ending November 30, 2023.

At June 30, 2023 and 2022, there were two ESPP offering periods open that end November 30, 2023 and 2022, respectively. The fair value of ESPP purchase rights for the offering periods is comprised of the value of the 15% ESPP discount and the value associated with the call or put over the respective ESPP offering period. ESPP offering periods reflected in the June 30, 2023 and 2022 financial statements include the periods noted below in the table. The value of the call or put was estimated using the Black-Scholes model with the following assumptions:

	Offering Period Ending	
	11/30/2023	11/30/2022
Fair market value of common stock	$ 21.76	$ 11.16
Volatility	39.4 %	35.4 %
Expected term (years)	0.5	0.5
Expected dividend yield	- %	- %
Risk-free interest rate	5.4 %	1.6 %

(Amounts in thousands, except per share data)

Volatility is representative of expected stock price volatility over the offering period. Effective with the offering period beginning December 1, 2022, the Company's volatility was applied and will be applied to future offering periods. Prior to this offering period, volatility was based on the historical and implied volatility of comparable publicly traded companies over a similar expected term for the respective offering periods. The expected term represents the term of the ESPP offering period, which is generally six months. The Company does not expect to pay dividends after the Offering. The risk-free interest rate was based on the rate for a U.S. Treasury zero-coupon issue with a term that closely approximates the expected term of the award at the date nearest the offering term.

Stock-Based Compensation

The Company recognized total stock-based compensation cost related to incentive awards, net of forfeitures, as follows:

	For the three months ended June 30,		For the six months ended June 30,	
	2023	2022	2023	2022
	(unaudited)		(unaudited)	
Stock-based compensation expense:				
Stock options	$ 1,102	$ 1,133	$ 3,273	$ 3,414
RSUs	4,968	2,343	13,310	4,121
RSAs	751	574	1,478	1,309
ESPP	201	144	395	283
Total stock-based compensation expense	$ 7,022	$ 4,194	$ 18,456	$ 9,127

The Company recognized stock-based compensation cost in the condensed consolidated statements of comprehensive loss as follows:

	For the three months ended June 30,		For the six months ended June 30,	
	2023	2022	2023	2022
	(unaudited)		(unaudited)	
Stock-based compensation expense:				
Cost of revenues, software subscriptions	$ 419	$ 479	$ 1,415	$ 925
Cost of revenues, services	166	275	1,002	681
Research and development	775	498	3,009	612
Selling and marketing	1,082	1,401	3,980	2,973
General and administrative	4,581	1,541	9,051	3,936
Total stock-based compensation expense	$ 7,022	$ 4,194	$ 18,456	$ 9,127

11. COMMITMENTS AND CONTINGENCIES

In January 2022, the Company filed a complaint against a competitor alleging claims of unfair competition, intentional interference with contractual relations, and trade secret misappropriation. The outcome of the case is subject to a number of uncertainties, therefore the Company has not recognized any potential impact to the condensed consolidated financial statements.

The Company may become involved in various lawsuits and legal proceedings, which arise, in the ordinary course of business. However, litigation is subject to inherent uncertainties, and an adverse result in these or other matters may arise from time to time that may harm the Company's business. The Company is not aware of any such legal proceedings or claims that management believes will have a material adverse effect on its business, financial condition, or operating results.

12. INCOME TAXES

The Company reported income tax expense of $2,929 and $500 for the three months ended June 30, 2023, and 2022, respectively. The Company reported income tax expense of $12,482 and $1,308 for the six months ended June 30, 2023, and 2022, respectively. The effective income tax rate ("ETR") was (73.8)% for the three months ended June 30, 2023, compared to (10.0)% for the three months ended June 30, 2022. The ETR was (99.5)% for the six months ended June 30, 2023, compared to (28.8)% for the six months ended June 30, 2022. The ETR for the three and six months ended June 30, 2023 and 2022 differ from the U.S. federal statutory income tax rate of 21% primarily due to income tax expense on income allocated to state jurisdictions, differences in tax rates on foreign jurisdiction income or loss, and limitations on deductions of certain employees' compensation under Internal Revenue Code Section 162(m). In addition, the ETR for June 30, 2023 includes a valuation allowance recorded on certain foreign deferred tax assets.

Item 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with the condensed consolidated financial statements and the notes thereto included elsewhere in this Quarterly Report on Form 10-Q, as well as our audited consolidated financial statements and related notes as disclosed in our Annual Report on Form 10-K filed with the Securities and Exchange Commission ("SEC") on March 10, 2023 (the "2022 Annual Report"). In addition to historical financial information, the following discussion contains forward-looking statements that reflect our plans, estimates, beliefs and expectations that involve risks and uncertainties. Our actual results and the timing of events could differ materially from those discussed in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Quarterly Report on Form 10-Q, particularly in the section titled "Special Note Regarding Forward-Looking Statements" above, and in Part I, Item 1A of the 2022 Annual Report and as may be subsequently updated by our other SEC filings.

Overview

Vertex is a leading global provider of indirect tax software and solutions. Our mission is to deliver the most trusted tax technology enabling global businesses to transact, comply and grow with confidence. Vertex provides cloud-based and on-premise solutions that can be tailored to specific industries for every major line of indirect tax, including sales and consumer use, value added and payroll. Headquartered in North America, and with offices in South America and Europe, Vertex employs over 1,400 professionals and serves companies across the globe.

We derive the majority of our revenue from software subscriptions. These subscriptions include use of our software and ongoing monthly content updates. Our software is offered on a subscription basis to our customers, regardless of their deployment preferences. On-premise subscriptions are typically sold through one-year contracts and cloud-based subscriptions are typically sold through one- to three-year contracts. We bill the majority of our customers annually in advance of the subscription period.

Our customers include a majority of the Fortune 500, as well as a majority of the top 10 companies by revenue in multiple industries such as retail, technology and manufacturing, in addition to leading marketplaces. As our customers expand geographically and pursue omnichannel business models, their tax determination and compliance requirements increase and become more complex, providing sustainable organic growth opportunities for our business. Our flexible, tiered transaction-based pricing model also results in our customers growing their spend with us as they grow and continue to use our solutions. We principally price our solutions based on a customer's revenue base, in addition to a number of other factors.

We employ a hybrid deployment model to align to our customers' technology preferences for their core financial management software across on-premise, cloud deployments or any combination of these models. Over time, we expect both existing and newly acquired customers to continue to shift towards cloud deployment models. Cloud-based subscription sales to new customers have grown at a faster rate than on-premise software subscription sales, which is a trend that we expect to continue over time. We generated 43% and 40% of software subscription revenue from cloud-based subscriptions during the three months ended June 30, 2023 and 2022, respectively, and 43% and 40% for the six months ended June 30, 2023 and 2022, respectively. While our on-premise software subscription revenue comprised 57% and 60% of our software subscription revenue during the three months ended June 30, 2023 and 2022, respectively, and 57% and 60% for the six months ended June 30, 2023 and 2022, respectively, it continues to decrease as a percentage of total software subscriptions revenues as cloud-based subscriptions grow.

We license our solutions primarily through our direct sales force, which focuses on selling to qualified leads provided by our marketing efforts, and through our network of referral partners. We also utilize indirect sales to a lesser extent to efficiently grow and scale our enterprise and mid-market revenues.

Our partner ecosystem is a differentiating, competitive strength in both our software development and our sales and marketing activities. We integrate with key technology partners that span Enterprise Resource Planning ("ERP"), Customer Relationship Management ("CRM"), procurement, billing, Point of Sale ("POS") and e-commerce. These partners include Adobe/Magento, Coupa, Microsoft Dynamics, NetSuite, Oracle, Salesforce, SAP, SAP Ariba, Workday and Zuora. We also collaborate with numerous accounting firms who have built implementation practices around our software to serve their customer base.

We believe that global commerce and the compliance environment provides durable and accelerating growth opportunities for our business. We generated revenue of $139.7 million and $119.3 million for the three months ended June 30, 2023 and 2022, respectively and $272.4 and $234.3 for the six months ended June 30, 2023 and 2022, respectively. We had a net loss of $(6.9) million and $(5.5) million for the three months ended June 30, 2023 and 2022, respectively, and $(25.0) million and $(5.9) million for the six months ended June 30, 2023 and 2022, respectively. These amounts are presented in accordance with United States (“ U.S.”) generally accepted accounting principles (“GAAP”).

We define Adjusted EBITDA as net loss or income before interest, taxes, depreciation, and amortization, as adjusted to exclude charges for asset impairments, stock-based compensation expense, amortization of cloud computing implementaion costs, severance expense, acquisition contingent consideration, litigation settlements, and transaction costs (which includes offering costs related to the sale of shares of certain of our Class B shareholders which are not representative of normal business operations). Adjusted EBITDA was $22.0 million and $17.8 million for the three months ended June 30, 2023 and 2022, respectively, and $42.2 million and $36.9 for the six months ended June 30, 2023 and 2022, respectively. Adjusted EBITDA is a non-GAAP financial measure. Refer to “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Key Business Metrics” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Use and Reconciliation of Non-GAAP Financial Measures” for further discussion of key business metrics and non-GAAP financial measures and their comparison to GAAP financial measures.

We believe that we currently have ample liquidity and capital resources to continue to meet our operating needs, and our ability to continue to service our debt or other financial obligations is not currently impaired. For a further description of our liquidity, see “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources.”

Components of Our Results of Operations

Revenue

We generate revenue from software subscriptions and services.

Revenue is recognized upon transfer of control of promised products or services to customers in an amount that reflects the consideration expected to be received in exchange for those products or services. We enter into contracts that include various combinations of products and services, which are generally capable of being distinct and accounted for as separate performance obligations. Revenue is recognized net of allowance for subscription and non-renewal cancellations and any taxes collected from customers that are subsequently remitted to governmental authorities.

Software Subscriptions

Licenses for on-premise software subscriptions, which are generally one year, provide the customer with a right to use the software as it exists when made available to the customer. Customers purchase a subscription to these licenses, which includes the related software and tax content updates and product support. The updates and support, which are part of the subscription agreement, are essential to the continued utility of the software; therefore, we have determined the software and the related updates and support to be a single performance obligation. Accordingly, when on-premise software is licensed, the revenue associated with this combined performance obligation is recognized ratably over the license term as these subscriptions are provided for the duration of the license term. Revenue recognition begins on the later of the beginning of the subscription period or the date the software is made available to the customer to download. Prior to January 1, 2022, certain on-premise software subscription prices in the initial subscription year were higher than standard renewal prices. The excess initial year price over the renewal price is a material right that provides customers with the right to this reduced renewal price. We recognize revenue associated with this material right over the estimated period of benefit to the customer, which is generally three years. Effective January 1, 2022, we changed the pricing structure for on-premise software so the initial year price and renewal prices were consistent, thus removing the material right for transactions after this date. The material right for applicable transactions prior to this pricing change will continue to be recognized over the remaining estimated period of benefit to the customer.

Our cloud-based subscriptions allow customers to use Vertex-hosted software over the contract period without taking possession of the software. The contracts are generally for one to three years and are generally billed annually in advance of the subscription period. Our cloud-based offerings also include related updates and support. Revenue recognition begins on the later of the beginning of the subscription period or the date the customer is provided access to the cloud-based solutions. All services within the cloud-based contracts consistently provide a benefit to the customer during the subscription period, thus the associated revenue is recognized ratably over the subscription period.

Revenue is impacted by the timing of sales and our customers' growth or contractions resulting in their need to expand or contract their subscription usage, the purchase of new solutions or the non-renewal of existing solutions. In addition, revenue will fluctuate with the cessation of extended product support fees charged for older versions of our software subscription solutions when they are retired and these fees are no longer charged. Contracts for on-premise licenses permit cancellations at the end of the license term, which is generally one year. Legacy cloud-based subscription contracts for multi-year periods previously provided customers the right to terminate their contract for services prior to the end of the subscription period at a significant penalty. This penalty requires the payment of a percentage of the remaining months of the then current contract term. Current cloud-based contracts do not contain such termination rights. Terminations of cloud-based subscriptions prior to the end of the subscription term have occurred infrequently and the impact has been immaterial. The allowance for subscription and non-renewal cancellations reflects an estimate of the amount of such cancellations and non-renewals based on past experience, current information and forward-looking economic considerations.

Services Revenue

We generate services revenue primarily in support of our customers' needs associated with our software and to enable them to realize the full benefit of our solutions. These software subscription-related services include configuration, data migration and implementation, and premium support and training. In addition, we generate services revenue through our managed services offering which allows customers to outsource all or a portion of their indirect tax operations to us. These services include indirect tax return preparation, filing and tax payment and notice management. We generally bill for services on a per-transaction or time and materials basis, and we recognize revenue from deliverable-based professional services as services are performed.

Fluctuations in services revenue are directly correlated to fluctuations in our subscription revenues with respect to implementation and training services as we have historically experienced an attachment rate to subscription sales for these services of approximately 60%. In addition, our managed services offering has continued to experience increased revenues associated with returns processing volume increases attributable to regulatory changes, as customers expanded their tax filings into more jurisdictions.

Cost of Revenue

Software Subscriptions

Cost of software subscriptions revenue consists of costs related to providing and supporting our software subscriptions and includes personnel and related expenses, including salaries, benefits, bonuses and stock-based compensation. In addition, cost of revenue includes direct costs associated with information technology, such as data center and software hosting costs, and tax content maintenance. Cost of software subscriptions revenue also includes amortization associated with direct labor and related expenses for capitalized internal-use software for cloud-based subscription solutions and software developed for sale for new products and enhancements to existing products, and costs associated with the amortization of certain acquired intangible assets. We plan to continue to significantly expand our infrastructure and personnel to support our future growth and increases in transaction volumes of our cloud-based solutions, including through acquisitions. We expect growth in our business will result in an increase in cost of software subscriptions revenue in absolute dollars.

Services

Cost of services revenue consists of direct costs of software subscription-related services and our managed services offering. These costs include personnel and related expenses, including salaries, benefits, bonuses, stock-based compensation and the cost of third-party contractors and other direct expenses. We plan to continue to expand our infrastructure and personnel as necessary to support our future growth and related increases in our service revenue. We expect growth in our business will result in an increase in the cost of services revenue in absolute dollars.

Research and Development

Research and development expenses consist primarily of personnel and related expenses for our research and development activities, including salaries, benefits, bonuses and stock-based compensation, and the cost of third-party developers and other contractors. Research and development costs, other than software development expenses qualifying for capitalization, are expensed as incurred.

We devote substantial resources to developing new products and enhancing existing products, conducting quality assurance testing, improving our core technology, and integrating acquired technology with our products. We believe continued investments in research and development are critical to attain our strategic objectives and expect research and development costs to increase in absolute dollars. These investments include enhancing our solution offerings to address changing customer needs to support their growth, as well as implementing changes required to keep pace with our partners' technology to ensure the continued ability of our solutions to work together and deliver value to our customers. The market for our solutions is characterized by rapid technological change, frequent new product and service introductions and enhancements, changing customer demands and evolving industry standards. As a result, although we are making significant research and development expenditures, which may be incurred and certain of which may be capitalized, there is no guarantee these solutions will be accepted by the market. This could result in increased costs or an impairment of capitalized development costs with no resulting future revenue benefit.

Selling and Marketing Expenses

Selling expenses consist primarily of personnel and related expenses in support of sales and marketing efforts. These costs include salaries, benefits, bonuses and stock-based compensation. In addition, selling expense includes costs related to advertising and promotion efforts, branding costs, partner-based commissions, costs associated with our annual customer conferences and amortization of certain acquired intangible assets. We intend to continue to invest in our sales and marketing capabilities in the future to continue to increase our brand awareness and expect these costs to increase on an absolute dollar basis as we grow our business and continue to expand our market and partner ecosystem penetration. Sales and marketing expense in absolute dollars and as a percentage of total revenue may fluctuate from period-to-period based on total revenue levels and the timing of our investments in our sales and marketing functions, as these investments will occur in advance of experiencing the benefits from such investments and may vary in scope and scale over future periods.

General and Administrative

General and administrative expenses consist primarily of personnel and related expenses for administrative, finance, information technology, legal, risk management, facilities and human resources staffing, including salaries, benefits, bonuses, severance, stock-based compensation, professional fees, insurance premiums, facility costs, amortization of cloud computing arrangement implementation costs and other internal support and infrastructure costs

We expect our general and administrative expenses to increase in absolute dollars as we continue to expand our operations, hire additional personnel, integrate current and future acquisitions, invest in our systems and tools to support improvements in future operating leverage, and incur additional costs associated with being a publicly listed company. As a public company, we expect to incur increased expenses related to accounting, tax and auditing activities, legal, insurance, SEC compliance and internal control compliance, including the design, implementation and testing of increasingly formalized systems of internal control over financial reporting.

Depreciation and Amortization

Depreciation and amortization expense consists of the allocation of purchased and developed asset costs over the future periods benefitted by the use of these assets. These assets include leasehold improvements for our facilities, computers and equipment needed to support our customers and our internal infrastructure and capitalized internal-use software associated with our internal tools. Depreciation and amortization will fluctuate in correlation with our ongoing investment in internal infrastructure costs to support our growth.

Other Operating Expense (Income), net

Other operating expense (income), net consists primarily of transactions costs associated with merger and acquisition activities, periodic remeasurement of contingent consideration associated with completed acquisitions, realized gains and losses on foreign currency changes and other operating gains and losses. These amounts will fluctuate as a result of ongoing merger and acquisition activities and for changes in foreign currency rates.

Interest (Income) Expense, net

Interest (income) expense, net reflects the net amount of our interest expense and interest income within the same period.

Interest expense consists primarily of interest incurred related to borrowings, bank credit facility and leases. Interest expense includes amortization of deferred financing fees over the term of the credit facility or write-downs of such costs upon redemption of debt. Interest expense will vary as a result of fluctuations in the level of debt outstanding as well as interest rates on such debt. In addition, interest expense will include adjustments to the fair value of contracts that may be entered into to hedge risks associated with currency fluctuations for cash receipts or cash payments denominated in currencies other than U.S. dollars and which do not qualify for hedge accounting. In addition, changes in the settlement value of the future payment obligation for the Systax Sistemas Fiscais Limited ("Systax") acquisition and amortization of the discount on deferred purchase consideration associated with the LCR-Dixon Corporation acquisition will be recorded as interest expense.

Interest income reflects earnings on investments of our cash on hand and our investment securities. Interest income will vary as a result of fluctuations in the future level of funds available for investment and the rate of return available in the market on such funds.

Income Tax Expense (Benefit)

Income tax expense (benefit) consists primarily of federal, foreign, state, and local taxes on our loss or income. In determining our annualized effective income tax rates, net deferred tax assets, valuation allowances, and cash paid for income taxes, we are required to make judgments and estimates about domestic and foreign profitability, the timing and usage of net operating loss carryforwards, applicable tax rates, and transfer pricing methodologies. Judgments and estimates related to our projections and assumptions are inherently uncertain; therefore, actual results could materially differ from our projections.

Results of Operations

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with our condensed consolidated financial statements and the notes thereto included elsewhere in this Quarterly Report on Form 10-Q, and our consolidated financial statements and the notes thereto included in our 2022 Annual Report. The period-to-period comparison of financial results is not necessarily indicative of financial results to be achieved in future periods. The following table sets forth our condensed consolidated statements of comprehensive loss for the periods indicated.

(Dollars in thousands)	For the three months ended June 30, 2023	For the three months ended June 30, 2022	Period-Over-Period Change		For the six months ended June 30, 2023	For the six months ended June 30, 2022	Period-Over-Period Change	
	(unaudited)				(unaudited)			
Revenues:								
Software subscriptions	$ 117,836	$ 101,088	$ 16,748	16.6 %	$ 228,850	$ 198,219	$ 30,631	15.5 %
Services	21,859	18,188	3,671	20.2 %	43,596	36,041	7,555	21.0 %
Total revenues	139,695	119,276	20,419	17.1 %	272,446	234,260	38,186	16.3 %
Cost of revenues:								
Software subscriptions	38,516	36,209	2,307	6.4 %	75,919	69,122	6,797	9.8 %
Services	15,363	11,920	3,443	28.9 %	29,707	23,873	5,834	24.4 %
Total cost of revenues	53,879	48,129	5,750	11.9 %	105,626	92,995	12,631	13.6 %
Gross profit	85,816	71,147	14,669	20.6 %	166,820	141,265	25,555	18.1 %
Operating expenses:								
Research and development	12,680	10,310	2,370	23.0 %	28,542	19,943	8,599	43.1 %
Selling and marketing	33,541	31,979	1,562	4.9 %	69,277	59,431	9,846	16.6 %
General and administrative	39,376	30,084	9,292	30.9 %	73,686	58,841	14,845	25.2 %
Depreciation and amortization	3,878	3,224	654	20.3 %	7,619	6,184	1,435	23.2 %
Other operating expense (income), net	413	(154)	567	* %	697	694	3	* %
Total operating expenses	89,888	75,443	14,445	19.1 %	179,821	145,093	34,728	23.9 %
Loss from operations	(4,072)	(4,296)	224	(5.2)%	(13,001)	(3,828)	(9,173)	239.6 %
Other (income) expense:								
Interest (income) expense, net	(105)	724	(829)	* %	(455)	718	(1,173)	* %
Loss before income taxes	(3,967)	(5,020)	1,053	(21.0)%	(12,546)	(4,546)	(8,000)	176.0 %
Income tax expense	2,929	500	2,429	* %	12,482	1,308	11,174	* %
Net loss	(6,896)	(5,520)	(1,376)	24.9 %	(25,028)	(5,854)	(19,174)	327.5 %
Other comprehensive (income) loss:								
Foreign currency translation adjustments and revaluations, net of tax	(609)	11,777	(12,386)	* %	(3,731)	13,826	(17,557)	* %
Unrealized (gain) loss on investments, net of tax	3	(2)	5	* %	(10)	(2)	(8)	* %
Total other comprehensive (income) loss, net of tax	(606)	11,775	(12,381)	* %	(3,741)	13,824	(17,565)	* %
Total comprehensive loss	$ (6,290)	$ (17,295)	$ 11,005	(63.6)%	$ (21,287)	$ (19,678)	$ (1,609)	8.2 %

*: Percentage change not meaningful.

(Dollars in thousands)	For the three months ended June 30, 2023	For the three months ended June 30, 2022	For the six months ended June 30, 2023	For the six months ended June 30, 2022
	(unaudited)		(unaudited)	
Stock-based compensation expense:				
Cost of revenues, software subscriptions	$ 419	$ 479	$ 1,415	$ 925
Cost of revenues, services	166	275	1,002	681
Research and development	775	498	3,009	612
Selling and marketing	1,082	1,401	3,980	2,973
General and administrative	4,581	1,541	9,051	3,936
Total stock-based compensation expense	$ 7,022	$ 4,194	$ 18,456	$ 9,127

The following table sets forth our results of operations as a percentage of our total revenues for the periods presented.

	For the three months ended June 30, 2023	For the three months ended June 30, 2022	For the six months ended June 30, 2023	For the six months ended June 30, 2022
	(unaudited)		(unaudited)	
Revenues:				
Software subscriptions	84.4 %	84.8 %	84.0 %	84.6 %
Services	15.6 %	15.2 %	16.0 %	15.4 %
Total revenues	100.0 %	100.0 %	100.0 %	100.0 %
Cost of revenues:				
Software subscriptions	27.6 %	30.4 %	27.9 %	29.5 %
Services	11.0 %	10.0 %	10.9 %	10.2 %
Total cost of revenues	38.6 %	40.4 %	38.8 %	39.7 %
Gross profit	61.4 %	59.6 %	61.2 %	60.3 %
Operating expenses:				
Research and development	9.1 %	8.6 %	10.5 %	8.5 %
Selling and marketing	24.0 %	26.8 %	25.4 %	25.4 %
General and administrative	28.2 %	25.2 %	27.0 %	25.1 %
Depreciation and amortization	2.8 %	2.7 %	2.8 %	2.6 %
Other operating expense (income), net	0.3 %	(0.1)%	0.3 %	0.3 %
Total operating expenses	64.4 %	63.2 %	66.0 %	61.9 %
Loss from operations	(3.0)%	(3.6)%	(4.8)%	(1.6)%
Interest (income) expense, net	(0.1)%	0.6 %	(0.2)%	0.3 %
Loss before income taxes	(2.9)%	(4.2)%	(4.6)%	(1.9)%
Income tax expense	2.1 %	0.4 %	4.6 %	0.6 %
Net loss	(5.0)%	(4.6)%	(9.2)%	(2.5)%
Other comprehensive (income) loss:				
Foreign currency translation adjustments and revaluations, net of tax	(0.4)%	9.9 %	(1.4)	5.9 %
Unrealized (gain) loss on investments, net of tax	— %	— %	—	— %
Total other comprehensive (income) loss, net of tax	(0.4)%	9.9 %	(1.4)%	5.9 %
Total comprehensive loss	(4.6)%	(14.5)%	(7.8)%	(8.4)%

Three Months Ended June 30, 2023 Compared to Three Months Ended June 30, 2022

Revenues

(Dollars in thousands)	For the three months ended June 30, 2023	For the three months ended June 30, 2022	Period-over-Period change	
Revenues:				
Software subscriptions	$ 117,836	$ 101,088	$ 16,748	16.6 %
Services	21,859	18,188	3,671	20.2 %
Total revenues	$ 139,695	$ 119,276	$ 20,419	17.1 %

Revenues increased $20.4 million, or 17.1%, to $139.7 million for the three months ended June 30, 2023 compared to $119.3 million for the three months ended June 30, 2022. The increase in software subscriptions revenues of $16.7 million, or 16.6%, was primarily driven by increases from our existing customers in cross selling new products to existing customers, and to a lesser extent, increases due to expanded use and price increases. Software subscriptions revenues derived from new customers averaged 6.3% and 8.9% of total software subscriptions revenues in the three months ended June 30, 2023 and 2022, respectively.

The $3.7 million increase in services revenues was primarily driven by an increase of $2.1 million in software subscription-related services associated with the growth in subscription revenues, which includes new customers implementing our solutions and existing customers upgrading to newer versions of our solutions. In addition, our managed services offering experienced a $1.6 million increase in recurring services revenues over the prior year due to returns processing volume increases related to customer business growth and regulatory changes as customers expanded their tax filings into more jurisdictions.

Cost of Software Subscriptions Revenues

(Dollars in thousands)	For the three months ended June 30, 2023	For the three months ended June 30, 2022	Period-over-Period change	
Cost of software subscriptions revenues	$ 38,516	$ 36,209	$ 2,307	6.4 %

Cost of software subscriptions revenues increased $2.3 million, or 6.4%, to $38.5 million for the three months ended June 30, 2023 compared to $36.2 million for the three months ended June 30, 2022. This was driven by a $2.0 million increase in costs of personnel supporting period-over-period growth of sales and customers and ongoing infrastructure investments and support costs to enable the continued expansion of customer transaction volumes for our cloud-based subscription customers. In addition, this included an increase in depreciation and amortization of capitalized software and acquired intangible assets of $0.3 million associated with our ongoing investments in internal-use software for cloud-based subscription solutions, software developed for sale for new products and enhancements to existing products, and costs associated with the amortization of acquired intangible assets. As a percentage of software subscriptions revenues, the cost of software subscriptions revenues decreased to 32.7% in the three months ended June 30, 2023 compared to 35.8% for the same period in 2022.

Cost of Services Revenues

(Dollars in thousands)	For the three months ended June 30, 2023	For the three months ended June 30, 2022	Period-over-Period change	
Cost of services revenues	$ 15,363	$ 11,920	$ 3,443	28.9 %

Cost of services revenues increased $3.4 million, or 28.9%, to $15.4 million for the three months ended June 30, 2023 compared to $11.9 million for the three months ended June 30, 2022. The increase in cost of services revenues was primarily due to an increase in costs of service delivery personnel to support revenue growth in software subscription-related services and our managed services offering. As a percentage of services revenues, cost of services revenues increased to 70.3% in the three months ended June 30, 2023 compared to 65.5% for the same period in 2022.

Research and Development

(Dollars in thousands)	For the three months ended June 30, 2023	2022	Period-over-Period change	
Research and development	$ 12,680	$ 10,310	$ 2,370	23.0 %

Research and development expenses increased $2.4 million, or 23.0%, to $12.7 million for the three months ended June 30, 2023 compared to $10.3 million for the three months ended June 30, 2022. The increase in research and development expenses is due primarily to an increase in personnel costs related to development work associated with new solutions to address end-to-end data analysis and compliance needs of our customers, and continued expansion of connectors and application program interfaces (“APIs”) to customer ERP and other software platforms. As a percentage of total revenues, research and development expenses increased to 9.1% in the three months ended June 30, 2023 compared to 8.6% for the same period in 2022. Research and development expense excludes those costs that have been capitalized for solutions that have met our capitalization policy.

Selling and Marketing

(Dollars in thousands)	For the three months ended June 30, 2023	2022	Period-over-Period change	
Selling and marketing	$ 33,541	$ 31,979	$ 1,562	4.9 %

Selling and marketing expenses increased $1.6 million, or 4.9%, to $33.5 million for the three months ended June 30, 2023 compared to $32.0 million for the same period in 2022. This increase was primarily driven by a $2.9 million increase in payroll and related expenses associated with the growth in period-over-period subscription sales and services revenues and expansion of our partner and channel management programs. This was partly offset by a decrease of $1.3 million in amortization of acquired intangible assets associated with prior acquisitions. As a percentage of total revenues, selling and marketing expenses decreased to 24.0% in the three months ended June 30, 2023 compared to 26.8% for the same period in 2022.

General and Administrative

(Dollars in thousands)	For the three months ended June 30, 2023	2022	Period-over-Period change	
General and administrative	$ 39,376	$ 30,084	$ 9,292	30.9 %

General and administrative expenses increased $9.3 million, or 30.9%, to $39.4 million for the three months ended June 30, 2023 compared to $30.1 million for the same period in 2022. General and administrative expenses increased $6.4 million due to planned strategic investments in information technology infrastructure, business process re-engineering and other initiatives to drive future operating leverage, as well as investments in employees, systems and resources in support of our growth and public company reporting and compliance activities. Additionally, there was an increase in stock-based compensation of $3.0 million for the three months ended June 30, 2023 over the same period in 2022. As a percentage of total revenues, general and administrative expenses increased to 28.2% in the three months ended June 30, 2023 compared to 25.2% for the same period in 2022. After excluding stock-based compensation expense, as a percentage of total revenues general and administrative expenses increased to 24.9% in the three months ended June 30, 2023 compared to 23.9% for the same period in 2022.

Depreciation and Amortization

(Dollars in thousands)	For the three months ended June 30, 2023	2022	Period-over-Period change	
Depreciation and amortization	$ 3,878	$ 3,224	$ 654	20.3 %

Depreciation and amortization increased $0.7 million, or 20.3%, to $3.9 million for the three months ended June 30, 2023 compared to $3.2 million for the same period in 2022. The increase was primarily due to the impact of infrastructure and technology purchases and other capitalized costs to support our growth. As a percentage of revenues, depreciation expense increased to 2.8% in the three months ended June 30, 2023 compared to 2.7% in the same period in 2022.

Other Operating Expense (Income), Net

(Dollars in thousands)	For the three months ended June 30, 2023	2022	Period-over-Period change	
Other operating expense (income), net	$ 413	$ (154)	$ 567	(368.2)%

Other operating expense (income), net increased to expense of $0.4 million, net for the three months ended June 30, 2023 compared to $(0.2) million of income, net for the same period in 2022. Other operating expense, net for the three months ended June 30, 2023 included a $0.2 million increase in the contingent consideration liability for the Tellutax, Inc. acquisition ("Tellutax") as well as $0.2 million in foreign currency translation losses incurred. Other operating income, net for the three months ended June 30, 2022 included $0.2 million in foreign currency translation gains. As a percentage of total revenues, other operating expense (income), net increased to 0.3% in the first three months ended June 30, 2023 compared to (0.1)% in 2022.

Interest (Income) Expense, Net

(Dollars in thousands)	For the three months ended June 30, 2023	2022	Period-over-Period change	
Interest (income) expense, net	$ (105)	$ 724	$ (829)	(114.5)%

Interest (income) expense, net increased to $(0.1) million of interest income, net for the three months ended June 30, 2023, compared to $0.7 million of interest expense, net for the same period in 2022. Interest expense related to bank debt increased $0.5 million during the three months ended June 30, 2023 associated with the amendment to the credit agreement entered into in March 2022 ("Second Amendment to the Credit Agreement"). This expense was offset by a $0.5 million increase in the valuation of our foreign currency forward contracts as a result of market fluctuations, and a $0.7 million increase in interest income due to the increase in interest rates and dollars invested associated with investment securities in 2023.

Income Tax Expense

(Dollars in thousands)	For the three months ended June 30, 2023	2022	Period-over-Period change	
Income tax expense	$ 2,929	$ 500	$ 2,429	485.8 %

Income tax expense increased by $2.4 million, to $2.9 million for the three months ended June 30, 2023 compared to a $0.5 million for the same period in 2022. The increase in tax expense was primarily driven by changes in state income taxes, differences in tax rates on foreign jurisdiction income or loss, and valuation allowances on net deferred tax assets established for certain foreign jurisdictions.

Six Months Ended June 30, 2023 Compared to Six Months Ended June 30, 2022

Revenues

(Dollars in thousands)	For the six months ended June 30, 2023	For the six months ended June 30, 2022	Year-Over-Year Change	
Revenues:				
Software subscriptions	$ 228,850	$ 198,219	$ 30,631	15.5 %
Services	43,596	36,041	7,555	21.0 %
Total revenues	$ 272,446	$ 234,260	$ 38,186	16.3 %

Revenues increased $38.2 million, or 16.3%, to $272.4 million for the six months ended June 30, 2023 compared to $234.3 million for the six months ended June 30, 2022. The increase in software subscriptions revenues of $30.6 million, or 15.5%, was primarily driven by increases from our existing customers in cross selling new products to existing customers, and to a lesser extent, increases due to expanded use and price increases. Software subscriptions revenues derived from new customers averaged 6.5% and 8.2% of total software subscriptions revenues in 2023 and 2022, respectively.

The $7.6 million increase in services revenues was primarily driven by an increase of $4.5 million in software subscription-related services associated with the growth in subscription revenues, which includes new customers implementing our solutions, existing customers upgrading to newer versions of our solutions, and our premium support services. In addition, our managed services offering experienced a $3.1 million increase in recurring services revenues over the prior year due to returns processing volume increases related to customer business growth and regulatory changes resulting in customers expanding their tax filings into more jurisdictions.

Cost of Software Subscriptions Revenues

(Dollars in thousands)	For the six months ended June 30, 2023	For the six months ended June 30, 2022	Year-Over-Year Change	
Cost of software subscriptions revenues	$ 75,919	$ 69,122	$ 6,797	9.8 %

Cost of software subscriptions revenues increased $6.8 million, or 9.8%, to $75.9 million for the six months ended June 30, 2023 compared to $69.1 million for the six months ended June 30, 2022. This was driven by a $3.3 million increase in costs of personnel supporting period-over-period growth of sales and customers and ongoing infrastructure investments and support costs to enable the continued expansion of customer transaction volumes for our cloud-based subscription customers. In addition, this included an increase in depreciation and amortization of capitalized software and acquired intangible assets of $3.0 million associated with our ongoing investments in internal-use software for cloud-based subscription solutions, software developed for sale for new products and enhancements to existing products, and costs associated with the amortization of acquired intangible assets. Lastly, stock-based compensation increased by $0.5 million for the six months ended June 30, 2023 over the same period in 2022. As a percentage of software subscriptions revenues, the cost of software subscriptions revenues decreased to 33.2% in the six months ended June 30, 2023 compared to 34.9% for the same period in 2022. After excluding stock-based compensation expense, as a percentage of software subscriptions revenue, cost of software subscriptions revenues decreased to 32.6% for the six months ended June 30, 2023 compared to 34.4% for the same period in 2022.

Cost of Services Revenues

(Dollars in thousands)	For the six months ended June 30, 2023	For the six months ended June 30, 2022	Year-Over-Year Change	
Cost of services revenues	$ 29,707	$ 23,873	$ 5,834	24.4 %

Cost of services revenues increased $5.8 million, or 24.4%, to $29.7 million for the six months ended June 30, 2023 compared to $23.9 million for the six months ended June 30, 2022. The increase in cost of services revenues was primarily due to a $5.5 million increase in costs of service delivery personnel to support revenue growth in software subscription-related services and our managed services offering. In addition, this includes an increase in stock-based compensation of $0.3 million for the six months ended June 30, 2023 over the same period in 2022. As a percentage of services revenues, cost of services revenues increased to 68.1% in the six months ended June 30, 2023 compared to 66.2% for the same period in 2022. After excluding stock-based compensation expense, as a percentage of services revenues, cost of services revenues increased to 65.8% in the six months ended June 30, 2023 compared to 64.3% for the same period in 2022.

Research and Development

(Dollars in thousands)	For the six months ended June 30, 2023	For the six months ended June 30, 2022	Year-Over-Year Change	
Research and development	$ 28,542	$ 19,943	$ 8,599	43.1 %

Research and development expenses increased $8.6 million, or 43.1%, to $28.5 million for the six months ended June 30, 2023 compared to $19.9 million for the six months ended June 30, 2022. The increase in research and development expenses is due to a $6.2 million increase in personnel costs related to development work associated with new solutions to address end-to-end data analysis and compliance needs of our customers and continued expansion of connectors and APIs to customer ERP and other software platforms. In addition, this includes an increase in stock-based compensation of $2.4 million for the six months ended June 30, 2023 over the same period in 2022. As a percentage of total revenues, research and development expenses increased to 10.5% in the six months ended June 30, 2023 compared to 8.5% for the same period in 2022. After excluding stock-based compensation expense, as a percentage of total revenues, research and development expenses increased to 9.4% in the six months ended June 30, 2023 compared to 8.3% for the same period in 2022. Research and development expense excludes those costs that have been capitalized for solutions that have met our capitalization policy.

Selling and Marketing

(Dollars in thousands)	For the six months ended June 30, 2023	For the six months ended June 30, 2022	Year-Over-Year Change	
Selling and marketing	$ 69,277	$ 59,431	$ 9,846	16.6 %

Selling and marketing expenses increased $9.8 million, or 16.6%, to $69.3 million for the six months ended June 30, 2023 compared to $59.4 million for the same period in 2022. This increase was primarily driven by an $8.7 million increase in payroll and related expenses associated with the growth in period-over-period subscription sales and services revenues and expansion of our partner and channel management programs. There was also an increase of $0.9 million in advertising and promotional spending and expanded brand awareness efforts. In addition, there was an increase in stock-based compensation of $1.0 million. This was partly offset by a decrease of $0.8 million associated with amortization of acquired intangible assets associated with prior acquisitions for the six months ended June 30, 2023 compared to the same period in 2022. As a percentage of total revenues, selling and marketing expenses remained constant at 25.4% for the six months ended June 30, 2023 compared to the same period in 2022. After excluding stock-based compensation expense, as a percentage of total revenues, selling and marketing expenses decreased to 24.0% in the six months ended June 30, 2023 compared to 24.1% for the same period in 2022.

General and Administrative

(Dollars in thousands)	For the six months ended June 30, 2023	2022	Year-Over-Year Change	
General and administrative	$ 73,686	$ 58,841	$ 14,845	25.2 %

General and administrative expenses increased $14.8 million, or 25.2%, to $73.7 million for the six months ended June 30, 2023 compared to $58.8 million for the same period in 2022. General and administrative expenses increased $9.8 million primarily driven by planned strategic investments in information technology infrastructure, business process re-engineering and other initiatives to drive future operating leverage, as well as investments in employees, systems and resources in support of our growth, and public company reporting and compliance activities. Additionally, there was an increase in stock-based compensation of $5.1 million for the six months ended June 30, 2023 over the same period in 2022. As a percentage of total revenues, general and administrative expenses increased to 27.0% in the six months ended June 30, 2023 compared to 25.1% for the same period in 2022. After excluding stock-based compensation expense, as a percentage of total revenues, general and administrative expenses increased to 23.7% for the six months ended June 30, 2023 compared to 23.4% for the same period in 2022.

Depreciation and Amortization

(Dollars in thousands)	For the six months ended June 30, 2023	2022	Year-Over-Year Change	
Depreciation and amortization	$ 7,619	$ 6,184	$ 1,435	23.2 %

Depreciation and amortization increased $1.4 million, or 23.2%, to $7.6 million for the six months ended June 30, 2023 compared to $6.2 million for the same period in 2022. The increase was primarily due to the impact of infrastructure and technology purchases and other capitalized costs to support our growth. As a percentage of revenues, depreciation expense increased to 2.8% in the six months ended June 30, 2023 compared to 2.6% for the same period in 2022.

Other Operating Expense, Net

(Dollars in thousands)	For the six months ended June 30, 2023	2022	Year-Over-Year Change	
Other operating expense, net	$ 697	$ 694	$ 3	0.4 %

Other operating expense, net remained relatively flat at $0.7 million for the six months ended June 30, 2023 compared to the same period in 2022. Other operating expense, net for the six months ended June 30, 2023 included a $0.4 million increase in the contingent consideration liability for the Tellutax acquisition as well as $0.3 million in foreign currency translation losses. Other operating expense, net for the six months ended June 30, 2022 was primarily comprised of a $0.7 million increase in the contingent consideration liability for the Tellutax acquisition. As a percentage of total revenues, other operating expense, net was 0.3% for both the six months ended June 30, 2023 and 2022.

Interest (Income) Expense, Net

(Dollars in thousands)	For the six months ended June 30, 2023	2022	Year-Over-Year Change	
Interest (income) expense, net	$ (455)	$ 718	$ (1,173)	(163.4)%

Interest (income) expense, increased to interest income of $(0.5) million, net for the six months ended June 30, 2023 compared to $0.7 million of interest expense, net for the same period in 2022. Interest expense for the six months ended June 30, 2023 increased $1.0 million over the prior comparable period related to bank debt associated with the Second Amendment to the Credit Agreement due to increases in the interest rates on such debt as well as the debt being outstanding for the full period in 2023. This increase in expense was offset by a $1.8 million increase in interest income due to the increase in interest rates and dollars invested associated with investment securities, a $0.3 million decrease in deferred financing costs associated with the Second Amendment to the Credit Agreement, and a $0.1 million increase in the valuation of the forward currency forward contracts as a result of market fluctuations.

Income Tax Expense

(Dollars in thousands)	For the six months ended June 30, 2023	2022	Year-Over-Year Change	
Income tax expense	$ 12,482	$ 1,308	$ 11,174	854.3 %

Income tax expense increased to $12.5 million for the six months ended June 30, 2023 compared to $1.3 million for the same period in 2022. The increase in tax expense was primarily driven by an increase in state income taxes, differences in tax rates on foreign jurisdiction income or loss, limitations on deductions of certain employees' compensation under Internal Revenue Code Section 162(m), and valuation allowances on net deferred tax assets established for certain foreign jurisdictions.

Liquidity and Capital Resources

As of June 30, 2023, we had unrestricted cash and cash equivalents of $41.9 million and an accumulated deficit of $12.5 million. In addition, we had $11.2 million in investment securities with a maturity date exceeding three months as of June 30, 2023, not included in unrestricted cash and cash equivalents. Our primary sources of capital to date have been from sales of our solutions, proceeds from bank lending facilities and the initial public offering of our Class A common stock in July 2020 (the "Offering"). On March 8, 2022, we entered into a second amendment to our credit agreement with a banking syndicate (the "Second Amendment to the Credit Agreement"), which provided a $250.0 million facility consisting of a $50.0 million term loan (the "Term Loan") and a $200.0 million line of credit (the "Line of Credit"). The proceeds from the Term Loan will be used for working capital, capital expenditures, permitted acquisitions and general corporate purposes.

We believe that our existing cash resources and our bank Line of Credit will be sufficient to meet our capital requirements and fund our operations. However, if these sources are insufficient to satisfy our liquidity requirements, we may seek to sell additional equity or debt securities. If we raise additional funds by issuing equity securities, our stockholders would experience dilution. Debt financing, if available, may involve covenants restricting our operations or our ability to incur additional debt. Any debt financing or additional equity that we raise may contain terms that are not favorable to us or our stockholders. Additional financing may not be available at all, or in amounts or on terms unacceptable to us.

The following table presents a summary of our cash flows for the periods indicated:

(Dollars in thousands)	For the six months ended June 30, 2023	2022		Year-Over-Year Change	
Net cash (used in) provided by operating activities	$ (898)	$ 8,588	**(A)**	$ (9,486)	(110.5)%
Net cash used in investing activities	(30,728)	(35,182)	**(A)**	4,454	12.7 %
Net cash (used in) provided by financing activities	(3,481)	34,489		(37,970)	(110.1)%
Effect of foreign exchange rate changes	380	(612)		992	162.1 %
Net (decrease) increase in cash, cash equivalents and restricted cash	$ (34,727)	$ 7,283		$ (42,010)	(576.8)%

(A) Net cash provided by operating activities, and net cash used in investing activities for the six months ended June 30, 2022 reflect an immaterial error correction of $5,988 related to the reclassification of capitalized cloud computing implementation costs. For more information refer to Note 1, "Summary of Significant Accounting Policies" to the condensed consolidated financial statements included in this Quarterly Report on Form 10-Q.

Operating Activities. Net cash used in operating activities was $(0.9) million for the six months ended June 30, 2023 compared to net cash provided by operating activities of $8.6 million for the same period in 2022. The decrease in cash provided by operating activities in the six months ended June 30, 2023 over the same period in 2022 of $9.0 million included: (i) a $9.0 million improvement in net cash from operating assets and liabilities, offset by (ii) an $18.0 million net decrease in cash comprised of adjustments to net loss for noncash operating activity which included increases in (a) depreciation and amortization of $3.6 million associated with investments in commercial software, infrastructure and acquisitions and (b) stock-based compensation of $9.3 million, offset by (c) an increase in deferred income tax benefit of $12.3 million.

Investing Activities. Net cash used in investing activities was $30.7 million for the six months ended June 30, 2023 compared to $35.2 million for the same period in 2022, a decrease in use of funds for investing activities of $3.9 million. This decrease included proceeds from maturities of investment securities of $8.6 million, which was partly offset by an increase in purchases of investment securities of $1.5 million. In addition, there was a $0.5 million reduction in cash paid for acquisitions. Lastly, there was a $3.7 million increase in investments in commercial software and tools in support of our commercial cloud-based customer solutions.

Financing Activities. Net cash used in financing activities was $3.5 million for the six months ended June 30, 2023 compared to $34.5 million net cash provided by financing activities for the same period in 2022, a decrease in net cash of $38.0 million. The decrease in cash provided by financing activities was primarily driven by cash received in 2022 in connection with borrowings under the Term Loan of $50.0 million associated with the Second Amendment to the Credit Agreement, partially offset by an increase in customer funds obligations of $19.0 million in 2023 due primarily to timing differences between receipt of funds from customers and taxing jurisdiction withdrawals of these funds.

Debt. As of June 30, 2023, we had a $200.0 million Line of Credit with no outstanding borrowings and a $50.0 million Term Loan in connection with the Second Amendment to the Credit Agreement. Interest on outstanding borrowings accrue at a base rate plus an applicable margin (8.25% as of June 30, 2023) or the Secured Overnight Financing Rate ("SOFR") plus an applicable margin (6.25% as of June 30, 2023). We have $48.0 million in bank debt outstanding at June 30, 2023 associated with the Term Loan.

Funds Held for Customers and Customer Funds Obligations

We maintain trust accounts with financial institutions, which allows our customers to outsource their tax remittance functions to us. We have legal ownership over the accounts utilized for this purpose. Funds held for customers represent cash and cash equivalents that, based upon our intent, are restricted solely for satisfying the obligations to remit funds relating to our tax remittance services. Funds held for customers are not commingled with our operating funds.

Customer funds obligations represent our contractual obligations to remit collected funds to satisfy customer tax payments. Customer funds obligations are reported as a current liability on our consolidated balance sheets as the obligations are expected to be settled within one year. Cash flows related to changes in customer funds obligations liability are presented as cash flows from financing activities.

Contractual Obligations and Commitments

Other than the borrowings under the Second Amendment to the Credit Agreement entered into in March 2022, there have been no material updates or changes to our contractual obligations and commitments compared to contractual obligations and commitments described in our 2022 Annual Report.

Key Business Metrics

We regularly review the metrics identified below to evaluate growth trends, measure our performance, formulate financial projections and make strategic decisions.

Annual Recurring Revenue ("ARR") and Average Annual Revenue Per Customer ("AARPC").

We derive the vast majority of our revenue from recurring software subscriptions. We believe ARR provides us with visibility to our projected software subscription revenue in order to evaluate the health of our business. Because we recognize subscription revenue ratably, we believe investors can use ARR to measure our expansion of existing customer revenues, new customer activity, and as an indicator of future software subscription revenues. ARR is based on monthly recurring revenue ("MRR") from software subscriptions for the most recent month at period end, multiplied by twelve. MRR is calculated by dividing the software subscription price, inclusive of discounts, by the number of subscription covered months. MRR only includes customers with MRR at the end of the last month of the measurement period.

AARPC represents average annual revenue per customer and is calculated by dividing ARR by the number of software subscription customers at the end of the respective period.

	As of June 30,			
(Dollars in millions)	**2023**	**2022**	**Year-Over-Year Change**	
Annual Recurring Revenue	$ 467.7	$ 398.1	$ 69.6	17.5 %

ARR increased by $69.6 million, or 17.5%, at June 30, 2023, as compared to June 30, 2022. The increase was primarily driven by $43.4 million of growth in revenues from existing customers through their expanded use of our solutions as well as price increases, and $26.2 million in growth of subscriptions of our solutions to new customers.

We had 4,284 customers and AARPC was approximately $109,170 at June 30, 2023. At June 30, 2022, we had 4,242 customers and approximately $93,800 of AARPC. The increase in AARPC was primarily due to expansion of usage by existing customers and adding new customers through organic growth.

Net Revenue Retention Rate ("NRR").

We believe that our NRR provides insight into our ability to retain and grow revenue from our customers, as well as their potential long-term value to us. We also believe it demonstrates to investors our ability to expand existing customer revenues, which is one of our key growth strategies. Our NRR refers to the ARR expansion during the 12 months of a reporting period for all customers who were part of our customer base at the beginning of the reporting period. Our NRR calculation takes into account any revenue lost from departing customers or those who have downgraded or reduced usage, as well as any revenue expansion from migrations, new licenses for additional products or contractual and usage-based price changes.

	As of June 30,	
	2023	2022
Net Revenue Retention Rate	111 %	110 %

Gross Revenue Retention Rate ("GRR").

We believe our GRR provides insight into and demonstrates to investors our ability to retain revenues from our existing customers. Our GRR refers to how much of our MRR we retain each month after reduction for the effects of revenues lost from departing customers or those who have downgraded or reduced usage. GRR does not take into account revenue expansion from migrations, new licenses for additional products or contractual and usage-based price changes. GRR does not include revenue reductions resulting from cancellations of customer subscriptions that are replaced by new subscriptions associated with customer migrations to a newer version of the related software solution.

	As of June 30,	
	2023	2022
Gross Revenue Retention Rate	96 %	96 %

Adjusted EBITDA and Adjusted EBITDA Margin.

We believe that Adjusted EBITDA is a measure widely used by securities analysts and investors to evaluate the financial performance of our company and other companies. We believe that Adjusted EBITDA and Adjusted EBITDA margin are useful as supplemental measures to evaluate our overall operating performance as they measure business performance focusing on cash related charges and because they are important metrics to lenders under our credit agreement. We define Adjusted EBITDA as net loss or income before interest, taxes, depreciation, and amortization, as adjusted to exclude charges for asset impairments, amortization of cloud computing implementation costs, stock-based compensation expense, severance expense, acquisition contingent consideration, litigation settlements, and transaction costs (which includes offering costs related to the sale of shares of certain of our Class B shareholders which are not representative of normal business operations). Adjusted EBITDA margin represents Adjusted EBITDA divided by total revenues for the same period. For purposes of comparison, our net loss was $(6.9) million and $(5.5) million for the three months ended June 30, 2023 and 2022, respectively, while our net loss margin was (4.9)% and (4.6)% over the same periods, respectively. Additionally, our net loss was $(25.0) million and $(5.9) million for the six months ended June 30, 2023 and 2022, respectively, while our net loss margin was (9.2)% and (2.5)% over the same periods, respectively.

(Dollars in thousands)	For the three months ended June 30, 2023	2022	For the six months ended June 30, 2023	2022
	(unaudited)		(unaudited)	
Adjusted EBITDA:				
Net loss	$ (6,896)	$ (5,520)	$ (25,028)	$ (5,854)
Interest (income) expense, net	(105)	724	(455)	718
Income tax expense	2,929	500	12,482	1,308
Depreciation and amortization – property and equipment	3,878	3,224	7,619	6,184
Depreciation and amortization of capitalized software and acquired intangible assets – cost of subscription revenues	12,686	12,386	25,121	22,083
Amortization of acquired intangible assets – selling and marketing expense	684	2,019	1,450	2,268
Amortization of cloud computing implementation costs – general and administrative	631	—	631	—
Stock-based compensation expense	7,022	4,194	18,456	9,127
Severance expense	905	258	1,460	381
Acquisition contingent consideration	249	—	449	700
Transaction costs	—	—	—	7
Adjusted EBITDA	$ 21,983	$ 17,785	$ 42,185	$ 36,922
Adjusted EBITDA Margin:				
Total revenues	$ 139,695	$ 119,276	$ 272,446	$ 234,260
Adjusted EBITDA margin	15.7 %	14.9 %	15.5 %	15.8 %

The increase in Adjusted EBITDA for the three months ended June 30, 2023 of $4.2 million over the comparable period in 2022 was primarily driven by an increase of $14.8 million in non-GAAP gross profit, offset by increases in various non-GAAP operating expense categories including $3.2 million in non-GAAP selling and marketing expense, $2.1 million in non-GAAP research and development expense and $5.0 million in non-GAAP general and administrative expense. Adjusted EBITDA margin increased to 15.7% for the three months ended June 30, 2023 compared to 14.9% for the comparable period in 2022, primarily due to increased non-GAAP gross margin from our software subscriptions revenue.

The increase in Adjusted EBITDA for the six months ended June 30, 2023 of $5.3 million over the comparable period in 2022 was primarily driven by an increase of $29.4 million in non-GAAP gross profit, offset by increases in various non-GAAP operating expense categories, including $9.7 million in non-GAAP selling and marketing expense, $6.2 million in non-GAAP research and development expense and $8.0 million in non-GAAP general and administrative expense. Adjusted EBITDA margin decreased to 15.5% for the six months ended June 30, 2023 compared to 15.8% for the comparable period in 2022, primarily due to operating expenses increasing at a higher rate than our increases in revenues, driven by our investments to enable future growth.

Increased investment in selling and marketing expense for the three and six months ended June 30, 2023 over the comparable periods in 2022, was driven by increased expenses associated with the growth in period-over-period subscription sales and services revenue and expansion of our partner and channel management programs. In addition, there was increased advertising and promotional spending and brand awareness efforts. Increased research and development expense for the three and six months ended June 30, 2023 over the comparable periods in 2022 was due primarily to an increase in personnel costs related to development work associated with innovation and new solutions to address end-to-end data analysis and compliance needs of our customers. Increased general and administrative expense for the three and six months ended June 30, 2023 over the comparable periods in 2022, was driven by planned strategic investments in information technology infrastructure, business process reengineering and other initiatives to drive future operating leverage, as well as investments in employees, systems and resources in support of our growth.

Free Cash Flow and Free Cash Flow Margin.

We use free cash flow as a critical measure in the evaluation of liquidity in conjunction with related GAAP amounts. We also use this measure when considering available cash, including for decision making purposes related to dividends and discretionary investments. We consider free cash flow to be an important measure for investors because it measures the amount of cash we generate from our operations after our capital expenditures and capitalization of software development costs. In addition, we base certain of our forward-looking estimates and budgets on free cash flow and free cash flow margin. We define free cash flow as the total of net cash provided by operating activities less purchases of property and equipment and capitalized software.

We define free cash flow margin as free cash flow divided by total revenues for the same period. Our net cash used in operating activities was $(4.4) million, and our net cash provided by operating activities was $9.0 million for the three months ended June 30, 2023 and 2022, respectively, while our operating cash flow margin was (3.1)% and 7.5% over the same periods, respectively. Our net cash used in operating activities was $(0.9) million and our net cash provided by operating activities was $8.6 million for the six months ended June 30, 2023 and 2022, respectively, while our operating cash flow margin was (0.3)% and 3.7% over the same periods, respectively.

(Dollars in thousands)	For the three months ended June 30, 2023	For the three months ended June 30, 2022	For the six months ended June 30, 2023	For the six months ended June 30, 2022
Free Cash Flow:				
Cash (used in) provided by operating activities	$ (4,389)	$ 8,955 **(A)**	$ (898) **(B)**	$ 8,588 **(A)**
Property and equipment additions	(11,810)	(10,928) **(A)**	(21,859) **(B)**	(21,839) **(A)**
Capitalized software additions	(5,035)	(3,014)	(9,042)	(5,926)
Free cash flow	$ (21,234)	$ (4,987)	$ (31,799)	$ (19,177)
Free Cash Flow Margin:				
Total revenues	$ 139,695	$ 119,276	$ 272,446	$ 234,260
Free cash flow margin	(15.2)%	(4.2)%	(11.7)%	(8.2)%

(A) Cash provided by operating activities and property and equipment additions for the three and six months ended June 30, 2022 reflect immaterial error corrections of $3,026 and $5,988, respectively, related to the reclassification of capitalized cloud computing implementation costs from property and equipment additions to other changes in operating assets and liabilities. For more information refer to Note 1, "Summary of Significant Accounting Policies" to the condensed consolidated financial statements included in this Quarterly Report on Form 10-Q.

(B) Cash provided by operating activities and property and equipment additions for the six months ended June 30, 2023 reflect immaterial error corrections of $3,264, related to the reclassification of capitalized cloud computing implementation costs for the three months ended March 31, 2023 from property and equipment additions to prepaid expenses and other current assets and other changes in operating assets and liabilities. For more information refer to Note 1, "Summary of Significant Accounting Policies" to the condensed consolidated financial statements included in this Quarterly Report on Form 10-Q.

Free cash flow decreased by $16.3 million for the three months ended June 30, 2023, as compared to the same period in 2022. This decrease was primarily driven by a decrease in net cash provided by operating activities of $16.6 million, combined with a $2.0 million increase in capitalized software additions in support of our commercial cloud-based customer solutions. Free cash flow margin decreased to (15.2)% for the three months ended June 30, 2023, compared to (4.2)% for the same period in 2022.

Free cash flow decreased by $12.6 million for the six months ended June 30, 2023, as compared to the same period in 2022. This decrease was primarily driven by a decrease in net cash provided by operating activities of $9.5 million, and an increase of $3.1 million in investments in capitalized software in support of our commercial cloud-based customer solutions. Free cash flow margin decreased to (11.7)% for the six months ended June 30, 2023, compared to (8.2)% for the same period in 2022.

Use and Reconciliation of Non-GAAP Financial Measures

In addition to our results determined in accordance with GAAP, we have calculated Adjusted EBITDA, Adjusted EBITDA margin, free cash flow, free cash flow margin, non-GAAP cost of revenues, non-GAAP gross profit, non-GAAP gross margin, non-GAAP research and development expense, non-GAAP selling and marketing expense, non-GAAP general and administrative expense, non-GAAP operating income, and non-GAAP net income, which are each non-GAAP financial measures. We have provided tabular reconciliations of each of these non-GAAP financial measures to its most directly comparable GAAP financial measure.

We use these non-GAAP financial measures to understand and compare operating results across accounting periods, for internal budgeting and forecasting purposes, and to evaluate financial performance. We use non-GAAP financial measures of free cash flow and free cash flow margin to evaluate liquidity. Our non-GAAP financial measures are presented as supplemental disclosure as we believe they provide useful information to investors and others in understanding and evaluating our results, prospects, and liquidity period-over-period without the impact of certain items that do not directly correlate to our operating performance and that may vary significantly from period to period for reasons unrelated to our operating performance, as well as comparing our financial results to those of other companies. Our definitions of these non-GAAP financial measures may differ from similarly titled measures presented by other companies, and therefore, comparability may be limited. In addition, other companies may not publish these or similar metrics. Thus, our non-GAAP financial measures should be considered in addition to, not as a substitute for, or in isolation from, the financial information prepared in accordance with GAAP financial measures, and should be read in conjunction with the condensed consolidated financial statements included in this Quarterly Report on Form 10-Q.

Additional Non-GAAP Financial Measures

In addition to Adjusted EBITDA, Adjusted EBITDA margin, free cash flow, and free cash flow margin calculated and discussed in “Key Business Metrics,” the following additional non-GAAP financial measures are calculated and presented further below:

- Non-GAAP cost of revenues, software subscriptions is determined by adding back to GAAP cost of revenues, software subscriptions, the stock-based compensation expense, and depreciation and amortization of capitalized software and acquired intangible assets included in cost of subscription revenues for the respective periods.

- Non-GAAP cost of revenues, services is determined by adding back to GAAP cost of revenues, services, the stock-based compensation expense included in cost of revenues, services for the respective periods.

- Non-GAAP gross profit is determined by adding back to GAAP gross profit the stock-based compensation expense, and depreciation and amortization of capitalized software and acquired intangible assets included in cost of subscription revenues for the respective periods.

- Non-GAAP gross margin is determined by dividing non-GAAP gross profit by total revenues for the respective periods.

- Non-GAAP research and development expense is determined by adding back to GAAP research and development expense the stock-based compensation expense included in research and development expense for the respective periods.

- Non-GAAP selling and marketing expense is determined by adding back to GAAP selling and marketing expense the stock-based compensation expense and the amortization of acquired intangible assets included in selling and marketing expense for the respective periods.

- Non-GAAP general and administrative expense is determined by adding back to GAAP general and administrative expense the stock-based compensation expense, amortization of cloud computing implementation costs and severance expense included in general and administrative expense for the respective periods.

- Non-GAAP operating income is determined by adding back to GAAP loss or income from operations the stock-based compensation expense, depreciation and amortization of capitalized software,and acquired intangible assets included in cost of subscription revenues, amortization of acquired intangible assets included in selling and marketing expense, amortization of cloud computing implementation costs in general and administrative expense, severance expense, acquisition contingent consideration, litigation settlements, and transaction costs (which includes offering costs related to the sale of shares of certain of our Class B shareholders which are not representative of normal business operations), included in GAAP loss or income from operations for the respective periods.

- Non-GAAP net income is determined by adding back to GAAP net loss or income the income tax benefit or expense, stock-based compensation expense, depreciation and amortization of capitalized software and acquired intangible assets included in cost of subscription revenues, amortization of acquired intangible assets included in selling and marketing expense, amortization of cloud computing implementation costs in general and administrative expense, severance expense, acquisition contingent consideration, litigation settlements, and transaction costs (which includes offering costs related to the sale of shares of certain of our Class B shareholders which are not representative of normal business operations), included in GAAP net loss or income for the respective periods to determine non-GAAP loss or income before income taxes. Non-GAAP loss or income before income taxes is then adjusted for income taxes calculated using the respective statutory tax rates for applicable jurisdictions, which for purposes of this determination were assumed to be 25.5%.

We encourage investors and others to review our financial information in its entirety, not to rely on any single financial measure and to view these non-GAAP financial measures in conjunction with the related GAAP financial measures.

The following schedules reflect our additional non-GAAP financial measures and reconciles our additional non-GAAP financial measures to the related GAAP financial measures.

(Dollars in thousands)	For the three months ended June 30, 2023	2022	For the six months ended June 30, 2023	2022
	(unaudited)		(unaudited)	
Non-GAAP cost of revenues, software subscriptions	$ 25,411	$ 23,344	$ 49,383	$ 46,114
Non-GAAP cost of revenues, services	$ 15,197	$ 11,645	$ 28,705	$ 23,192
Non-GAAP gross profit	$ 99,087	$ 84,287	$ 194,358	$ 164,954
Non-GAAP gross margin	70.9 %	70.7 %	71.3 %	70.4 %
Non-GAAP research and development expense	$ 11,905	$ 9,812	$ 25,533	$ 19,331
Non-GAAP selling and marketing expense	$ 31,775	$ 28,559	$ 63,847	$ 54,190
Non-GAAP general and administrative expense	$ 33,259	$ 28,285	$ 62,544	$ 54,524
Non-GAAP operating income	$ 18,105	$ 14,561	$ 34,566	$ 30,738
Non-GAAP net income	$ 13,566	$ 10,309	$ 26,091	$ 22,365

(Dollars in thousands)	For the three months ended June 30, 2023	2022	For the six months ended June 30, 2023	2022
	(unaudited)		(unaudited)	
Non-GAAP Cost of Revenues, Software Subscriptions:				
Cost of revenues, software subscriptions	$ 38,516	$ 36,209	$ 75,919	$ 69,122
Stock-based compensation expense	(419)	(479)	(1,415)	$ (925)
Depreciation and amortization of capitalized software and acquired intangible assets – cost of subscription revenues	(12,686)	(12,386)	(25,121)	(22,083)
Non-GAAP cost of revenues, software subscriptions	$ 25,411	$ 23,344	$ 49,383	$ 46,114
Non-GAAP Cost of Revenues, Services:				
Cost of revenues, services	$ 15,363	$ 11,920	$ 29,707	$ 23,873
Stock-based compensation expense	(166)	(275)	(1,002)	(681)
Non-GAAP cost of revenues, services	$ 15,197	$ 11,645	$ 28,705	$ 23,192
Non-GAAP Gross Profit:				
Gross profit	$ 85,816	$ 71,147	$ 166,820	$ 141,265
Stock-based compensation expense	585	754	2,417	1,606
Depreciation and amortization of capitalized software and acquired intangible assets – cost of subscription revenues	12,686	12,386	25,121	22,083
Non-GAAP gross profit	$ 99,087	$ 84,287	$ 194,358	$ 164,954
Non-GAAP Gross Margin:				
Total revenues	$ 139,695	$ 119,276	$ 272,446	$ 234,260
Non-GAAP gross margin	70.9 %	70.7 %	71.3 %	70.4 %
Non-GAAP Research and Development Expense:				
Research and development expense	$ 12,680	$ 10,310	$ 28,542	$ 19,943
Stock-based compensation expense	(775)	(498)	(3,009)	(612)
Non-GAAP research and development expense	$ 11,905	$ 9,812	$ 25,533	$ 19,331
Non-GAAP Selling and Marketing Expense:				
Selling and marketing expense	$ 33,541	$ 31,979	$ 69,277	$ 59,431
Stock-based compensation expense	(1,082)	(1,401)	(3,980)	(2,973)
Amortization of acquired intangible assets – selling and marketing expense	(684)	(2,019)	(1,450)	(2,268)
Non-GAAP selling and marketing expense	$ 31,775	$ 28,559	$ 63,847	$ 54,190

(Dollars in thousands)	For the three months ended June 30, 2023	For the three months ended June 30, 2022	For the six months ended June 30, 2023	For the six months ended June 30, 2022
	(unaudited)		(unaudited)	
Non-GAAP General and Administrative Expense:				
General and administrative expense	$ 39,376	$ 30,084	$ 73,686	$ 58,841
Stock-based compensation expense	(4,581)	(1,541)	(9,051)	(3,936)
Severance expense	(905)	(258)	(1,460)	(381)
Amortization of cloud computing implementation costs – general and administrative	(631)	—	(631)	—
Non-GAAP general and administrative expense	$ 33,259	$ 28,285	$ 62,544	$ 54,524
Non-GAAP Operating Income:				
Loss from operations	$ (4,072)	$ (4,296)	$ (13,001)	$ (3,828)
Stock-based compensation expense	7,022	4,194	18,456	9,127
Depreciation and amortization of capitalized software and acquired intangible assets – cost of subscription revenues	12,686	12,386	25,121	22,083
Amortization of acquired intangible assets – selling and marketing expense	684	2,019	1,450	2,268
Amortization of cloud computing implementation costs – general and administrative	631	—	631	—
Severance expense	905	258	1,460	381
Acquisition contingent consideration	249	—	449	700
Transaction costs	—	—	—	7
Non-GAAP operating income	$ 18,105	$ 14,561	$ 34,566	$ 30,738
Non-GAAP Net Income:				
Net loss	$ (6,896)	$ (5,520)	$ (25,028)	$ (5,854)
Income tax expense	2,929	500	12,482	1,308
Stock-based compensation expense	7,022	4,194	18,456	9,127
Depreciation and amortization of capitalized software and acquired intangible assets – cost of subscription revenues	12,686	12,386	25,121	22,083
Amortization of acquired intangible assets – selling and marketing expense	684	2,019	1,450	2,268
Amortization of cloud computing implementation costs – general and administrative	631	—	631	—
Severance expense	905	258	1,460	381
Acquisition contingent consideration	249	—	449	700
Transaction costs	—	—	—	7
Non-GAAP income before income taxes	18,210	13,837	35,021	30,020
Income tax adjustment at statutory rate	(4,644)	(3,528)	(8,930)	(7,655)
Non-GAAP net income	$ 13,566	$ 10,309	$ 26,091	$ 22,365

Critical Accounting Estimates

The critical accounting policies that reflect our more significant judgments and estimates used in the preparation of our condensed consolidated financial statements include software development costs, business combinations, goodwill, accounting for stock-based compensation, revenue recognition, and income taxes, which are described in our 2022 Annual Report.

There have been no material updates or changes to our critical accounting estimates compared to the critical accounting estimates described in our 2022 Annual Report.

Recent Accounting Pronouncements

For further information on recent accounting pronouncements, refer to Note 1, “Summary of Significant Accounting Policies” to the condensed consolidated financial statements included in this Quarterly Report on Form 10-Q.

Item 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk

We had unrestricted cash and cash equivalents of $41.9 million and $91.8 million as of June 30, 2023 and December 31, 2022, respectively, and investments of $11.2 million as of June 30, 2023 and December 31, 2022. We maintain our cash and cash equivalents in deposit accounts, money market funds with various financial institutions, and in short duration fixed income securities. Due to the short-term nature of these instruments, we believe that we do not have any material exposure to changes in the fair value of these investments as a result of changes in interest rates. Increases or declines in interest rates would be expected to augment or reduce future interest income by an insignificant amount.

We are exposed to risk related to changes in interest rates on our outstanding borrowings. Borrowings under the Second Amendment to the Credit Agreement bear interest at rates that are variable. Increases in the bank prime or SOFR rates would increase the interest rate on any future outstanding borrowings. Any debt we incur in the future may also bear interest at variable rates. For each 100 basis point increase in the bank prime or SOFR rates, this would be expected to result in a projected increase in interest expense of $0.5 million annually.

Foreign Currency Exchange Risk

Our revenues and expenses are primarily denominated in U.S. dollars. For our foreign operations, the majority of our revenues and expenses are denominated in other currencies, such as the Canadian Dollar, Euro, British Pound, Swedish Krona and Brazilian Real. Decreases in the relative value of the U.S. dollar as compared to these currencies may negatively affect our revenues and other operating results as expressed in U.S. dollars. For the six months ended June 30, 2023 and 2022, approximately 3% and 4%, respectively, of our revenues were denominated in currencies other than U.S. dollars.

We have experienced and will continue to experience fluctuations in our net loss or income as a result of transaction gains or losses related to revaluing certain current asset and current liability balances that are denominated in currencies other than the functional currency of the entities in which they are recorded. We have historically recognized immaterial amounts of foreign currency gains and losses in each of the periods presented. We may in the future hedge selected significant transactions denominated in currencies other than the U.S. dollar as we expand our international operations and our risk grows. The acquisition of the controlling interest in Systax in January 2020 and the future purchase commitment liabilities associated with this acquisition are expected to increase our exposure to fluctuations of the Brazilian Real over time. At June 30, 2023, outstanding foreign currency forward contracts hedge approximately 67% of our exposure to adverse fluctuations in the Brazilian Real associated with these future purchase commitment liabilities.

Item 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures as defined in Rule 13a-15(b) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”).

Based on the evaluation of our disclosure controls and procedures, our principal executive officer and principal financial officer concluded that, as of June 30, 2023, our disclosure controls and procedures were effective at a reasonable assurance level.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting during the period covered by this Quarterly Report on Form 10-Q that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting, other than for certain new or modified controls resulting from the go-live of our new ERP system.

PART II---OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

On January 25, 2022 we filed a complaint (subsequently amended on February 9, 2022) against Avalara, Inc. (“Avalara”) in the United States District Court for the Eastern District of Pennsylvania. The complaint alleges claims of unfair competition, intentional interference with contractual relations, and trade secret misappropriation against Avalara. We are seeking a permanent injunction to prevent Avalara from further interference with our contractual relations and to prohibit the disclosure in any way of our confidential, proprietary and/or trade secret information. We also seek monetary damages, including punitive damages and attorney’s fees. Avalara has filed a motion to dismiss for lack of personal jurisdiction. As of June 30, 2023, the matter remains before the Court as the parties pursue jurisdictional discovery, after which, further briefs will be filed. We believe the allegations in the complaint, once proven, are sufficient to prevail in this matter. However, the eventual outcome of the case is subject to a number of uncertainties, and therefore we cannot offer any assurance as to the ultimate impact of this case on our business and operations.

In addition to the foregoing matter, from time to time, we may be involved in various legal proceedings arising from the normal course of business activities. We are not presently a party to any litigation the outcome of which we believe, if determined adversely to us, would individually or taken together have a material adverse effect on our business, operating results, cash flows or financial condition.

ITEM 1A. RISK FACTORS

This document incorporates by reference various risk factors discussed in the Company’s 2022 Annual Report, under the heading “Risk Factors”. There are no material changes to the risk factors discussed in these filings. You should carefully consider these risks, together with management’s discussion and analysis of our financial condition and results of operations in conjunction with the condensed consolidated financial statements and the notes thereto included elsewhere in this Quarterly Report on Form 10-Q. If any of the events contemplated should occur, our business, results of operations, financial condition and cash flows could suffer significantly.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not Applicable.

ITEM 5. OTHER INFORMATION

During the three months ended June 30, 2023, no director or officer of the Company adopted or terminated a “Rule 10b5-1 trading arrangement” or “non-Rule 10b5-1 trading arrangement,” as each term is defined in Item 408(a) of Regulation S-K.

ITEM 6. EXHIBITS

Exhibit Number	Exhibit Description	Form	File No.	Exhibit	Filing Date	Filed Herewith	Furnished Herewith
31.1	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					X	
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					X	
32.1	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002						X
32.2	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002						X
101.INS	Inline XBRL Instance Document					X	
101.SCH	Inline XBRL Taxonomy Extension Schema Document					X	
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document					X	
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document					X	
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document					X	
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document					X	
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)						

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.

	Vertex, Inc.
Date: August 9, 2023	By:/s/ David DeStefano David DeStefano *President, Chief Executive Officer and Chairperson (principal executive officer)*
Date: August 9, 2023	By:/s/ John Schwab John Schwab *Chief Financial Officer (principal financial officer)*

Exhibit 31.1

CERTIFICATION

I, David DeStefano, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Vertex, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared; and

   (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; and

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 9, 2023

By: /s/ David DeStefano
David DeStefano
Chief Executive Officer
(principal executive officer)

Exhibit 31.2

CERTIFICATION

I, John Schwab, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Vertex, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared; and

   (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; and

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 9, 2023

By: /s/ John Schwab
John Schwab
Chief Financial Officer
(principal financial officer)

Exhibit 32.1

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

In connection with the Quarterly Report on Form 10-Q of Vertex, Inc. (the "Company") for the period ended June 30, 2023 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 9, 2023

By: /s/ David DeStefano
David DeStefano
Chief Executive Officer
(principal executive officer)

Exhibit 32.2

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

In connection with the Quarterly Report on Form 10-Q of Vertex, Inc. (the “Company”) for the period ended June 30, 2023 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 9, 2023

By: /s/ John Schwab
John Schwab
Chief Financial Officer
(principal financial officer)