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 March 31, 2021
OR

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

For the transition period from ____ to ____
Commission File Number: 001-38098

APPIAN CORPORATION
(Exact Name of Registrant as Specified in its Charter)

Delaware	**54-1956084**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
7950 Jones Branch Drive McLean, VA	**22102**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (703) 442-8844

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	APPN	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	☐	Small 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 May 3, 2021, there were 39,346,857 shares of the registrant's Class A common stock and 31,499,516 shares of the registrant's Class B common stock, each with a par value of $0.0001 per share, outstanding.

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PART I—FINANCIAL INFORMATION

Item 1. FINANCIAL STATEMENTS

APPIAN CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands, except share and per share data)

	As of	
	March 31, 2021	**December 31, 2020**
	(unaudited)	
Assets		
Current assets		
Cash and cash equivalents	$ 114,752	$ 112,462
Short-term investments and marketable securities	118,012	109,826
Accounts receivable, net of allowance of $1,400 as of each of March 31, 2021 and December 31, 2020	87,424	97,278
Deferred commissions, current	18,749	17,899
Prepaid expenses and other current assets	28,484	27,955
Total current assets	367,421	365,420
Property and equipment, net	34,682	35,404
Long-term investments	22,317	36,120
Goodwill	4,651	4,862
Intangible assets, net of accumulated amortization of $513 and $429 as of March 31, 2021 and December 31, 2020, respectively	1,566	1,744
Operating right-of-use assets	30,610	30,659
Deferred commissions, net of current portion	35,991	34,198
Deferred tax assets	482	489
Other assets	2,875	3,625
Total assets	$ 500,595	$ 512,521
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	$ 4,194	$ 2,967
Accrued expenses	5,777	5,821
Accrued compensation and related benefits	20,919	22,981
Deferred revenue, current	107,893	116,256
Operating lease liabilities, current	7,664	6,923
Other current liabilities	509	940
Total current liabilities	146,956	155,888
Operating lease liabilities, net of current portion	50,572	51,194
Deferred revenue, net of current portion	2,698	3,886
Deferred tax liabilities	65	70
Other non-current liabilities	4,744	4,878
Total liabilities	205,035	215,916
Stockholders' equity		
Class A common stock—par value $0.0001; 500,000,000 shares authorized and 39,321,079 shares issued and outstanding as of March 31, 2021; 500,000,000 shares authorized and 38,971,324 shares issued and outstanding as of December 31, 2020	4	4
Class B common stock—par value $0.0001; 100,000,000 shares authorized and 31,503,666 shares issued and outstanding as of March 31, 2021; 100,000,000 shares authorized and 31,707,866 shares issued and outstanding as of December 31, 2020	3	3
Additional paid-in capital	479,017	470,498
Accumulated other comprehensive loss	(987)	(5,010)
Accumulated deficit	(182,477)	(168,890)
Total stockholders' equity	295,560	296,605
Total liabilities and stockholders' equity	$ 500,595	$ 512,521

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

APPIAN CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(unaudited, in thousands, except share and per share data)

	Three Months Ended March 31,	
	2021	**2020**
Revenue		
Subscriptions	$ 63,766	$ 50,436
Professional services	25,089	28,428
Total revenue	88,855	78,864
Cost of revenue		
Subscriptions	5,854	5,383
Professional services	17,675	18,736
Total cost of revenue	23,529	24,119
Gross profit	65,326	54,745
Operating expenses		
Sales and marketing	35,984	34,172
Research and development	20,690	16,038
General and administrative	19,142	13,141
Total operating expenses	75,816	63,351
Operating loss	(10,490)	(8,606)
Other expense		
Other expense, net	2,893	3,114
Interest expense	81	143
Total other expense	2,974	3,257
Loss before income taxes	(13,464)	(11,863)
Income tax expense (benefit)	123	(194)
Net loss	$ (13,587)	$ (11,669)
Net loss per share:		
Basic and diluted	$ (0.19)	$ (0.17)
Weighted average common shares outstanding:		
Basic and diluted	70,730,235	67,528,331

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

APPIAN CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(unaudited, in thousands)

	Three Months Ended March 31,	
	2021	**2020**
Net loss	$ (13,587)	$ (11,669)
Comprehensive income, net of income taxes		
Foreign currency translation adjustment	4,015	17
Unrealized gains on available-for-sale securities	8	—
Total other comprehensive loss, net of income taxes	$ (9,564)	$ (11,652)

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

APPIAN CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT)
(unaudited, in thousands, except share data)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balance, January 1, 2021	70,679,190	$ 7	$ 470,498	$ (5,010)	$ (168,890)	$ 296,605
Net loss	—	—	—	—	(13,587)	(13,587)
Issuance of common stock to directors	960	—	—	—	—	—
Vesting of restricted stock units	56,326	—	—	—	—	—
Exercise of stock options	88,269	—	625	—	—	625
Stock-based compensation expense	—	—	7,894	—	—	7,894
Other comprehensive income	—	—	—	4,023	—	4,023
Balance, March 31, 2021	70,824,745	$ 7	$ 479,017	$ (987)	$ (182,477)	$ 295,560
Balance, January 1, 2020	67,468,022	$ 6	$ 340,929	$ (285)	$ (135,413)	$ 205,237
Net loss	—	—	—	—	(11,669)	(11,669)
Issuance of common stock to directors	1,946	—	—	—	—	—
Vesting of restricted stock units	46,031	—	—	—	—	—
Exercise of stock options	129,082	—	670	—	—	670
Stock-based compensation expense	—	—	3,476	—	—	3,476
Other comprehensive income	—	—	—	17	—	17
Balance, March 31, 2020	67,645,081	$ 6	$ 345,075	$ (268)	$ (147,082)	$ 197,731

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

APPIAN CORPORATION AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited, in thousands)

	Three Months Ended March 31,	
	2021	**2020**
Cash flows from operating activities:		
Net loss	$ (13,587)	$ (11,669)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	1,278	1,511
Bad debt expense	—	200
Loss on disposal of property and equipment	—	7
Change in fair value of available-for-sale securities	(8)	—
Deferred income taxes	(448)	—
Stock-based compensation	7,894	3,476
Changes in assets and liabilities:		
Accounts receivable	12,651	5,751
Prepaid expenses and other assets	(279)	37
Deferred commissions	(2,642)	525
Accounts payable and accrued expenses	1,159	(1,800)
Accrued compensation and related benefits	(1,955)	(399)
Other current and non-current liabilities	151	(154)
Deferred revenue	(7,192)	(2,503)
Operating lease liabilities	168	1,159
Net cash used in operating activities	(2,810)	(3,859)
Cash flows from investing activities:		
Proceeds from sale of investments	5,625	—
Payments for acquisitions, net of cash acquired	—	(6,138)
Purchases of property and equipment	(468)	(202)
Net cash provided by (used in) investing activities	5,157	(6,340)
Cash flows from financing activities:		
Principal payments on finance leases	—	(357)
Proceeds from exercise of common stock options	625	670
Net cash provided by financing activities	625	313
Effect of foreign exchange rate changes on cash and cash equivalents	(682)	(706)
Net increase (decrease) in cash and cash equivalents	2,290	(10,592)
Cash and cash equivalents, beginning of period	112,462	159,755
Cash and cash equivalents, end of period	$ 114,752	$ 149,163
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ 88	$ 49
Cash paid for income taxes	$ 148	$ 43

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

1. Organization and Description of Business

Appian Corporation (together with its subsidiaries, “Appian,” the “Company,” “we,” or “our”) helps organizations build applications and workflows rapidly, with a low-code automation platform. Combining people, technologies, and data in a single workflow, Appian can help companies maximize their resources and improve business results. Many of the world’s largest organizations use Appian applications to improve customer experience, achieve operational excellence, and simplify global risk management and compliance. We were incorporated in the state of Delaware in August 1999. We are headquartered in McLean, Virginia and operate in Canada, Switzerland, the United Kingdom, France, Germany, the Netherlands, Italy, Australia, Spain, Singapore, and Sweden.

2. Significant Accounting Policies

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements and footnotes have been prepared in accordance with accounting principles generally accepted in the United States (“U.S. GAAP”) as contained in the Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) for interim financial information. In the opinion of management, the interim financial information includes all adjustments of a normal recurring nature necessary for a fair presentation of the results of operations, financial position, changes in stockholders’ equity, and cash flows. The results of operations for the current period are not necessarily indicative of the results for the full year or the results for any future periods. These condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and related footnotes included in our Annual Report on Form 10-K for the year ended December 31, 2020, filed with the Securities and Exchange Commission (the “SEC”) on February 18, 2021.

Use of Estimates

The preparation of our condensed consolidated financial statements in conformity with U.S. GAAP requires us to make estimates and judgments that affect the amounts reported in these condensed consolidated financial statements and accompanying notes. Although we believe the estimates we use are reasonable, due to the inherent uncertainty involved in making these estimates, actual results reported in future periods could differ from those estimates.

Significant estimates embedded in the condensed consolidated financial statements include revenue recognition, income taxes and the related valuation allowance, the valuation of goodwill and intangible assets, leases, costs to obtain a contract with a customer, the valuation of financial instruments, and stock-based compensation.

The ongoing outbreak of the novel coronavirus disease ("COVID-19") has resulted in the declaration of a global pandemic and introduced a level of disruption and uncertainty into the financial markets and global economy. While we continue to monitor the developments surrounding the pandemic, as of the date of issuance of these financial statements, we are not aware of any specific events or circumstances that would require us to update our estimates, assumptions, and judgments or revise the carrying value of our assets or liabilities. We cannot estimate the impacts COVID-19 will have on our business going forward as such impacts will be largely dependent upon a number of factors outside of our control including the extent and duration of the outbreak as well as any mitigating actions which may be undertaken by global governments and the general public.

Principles of Consolidation

The accompanying condensed consolidated financial statements include the accounts of Appian and its wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

Public Offering

In June 2020, we completed an underwritten public offering of 2,500,000 shares of our Class A common stock, of which 1,931,206 shares of Class A common stock were sold by us and 568,794 shares of Class A common stock were sold by existing stockholders. The underwriter purchased the shares from us and the selling stockholders at a price of $56.50 per share. Our net proceeds from the offering were $107.9 million, after deducting underwriting discounts and commissions and offering expenses. We did not receive any of the proceeds from the sale of shares by the selling stockholders.

Revenue Recognition

Refer to Note 3 for a detailed discussion on specific revenue recognition principles related to our major revenue streams.

Cost of Revenue

Subscriptions

Cost of subscriptions revenue consists primarily of fees paid to our third-party managed hosting providers and other third-party service providers, personnel costs such as payroll and benefits for our technology operations and customer support teams, and allocated facility costs and overhead.

Professional Services

Cost of professional services revenue includes all direct and indirect costs to deliver our professional services and training, including employee compensation for our global professional services and training personnel, third-party contractor costs, allocated facility costs and overhead, and the costs of billable expenses such as travel and lodging. The unpredictability of the timing of entering into significant professional services agreements sold on a standalone basis may cause significant fluctuations in our quarterly financial results and allocated facility costs and overhead.

Concentration of Credit and Customer Risk

Our financial instruments exposed to concentration of credit and customer risk consist primarily of cash and cash equivalents, trade accounts receivable, and our short- and long-term investments. Deposits held with banks may exceed the amount of insurance provided on such deposits. We believe the financial institutions holding our cash deposits are financially sound and, accordingly, minimal credit risk exists with respect to these balances.

With regard to our customers, credit evaluation and account monitoring procedures are used to minimize the risk of loss. We believe no additional credit risk beyond amounts provided for collection loss are inherent in accounts receivable. Revenue generated from government agencies represented 20.9% and 14.9% of our revenue for the three months ended March 31, 2021 and 2020, respectively, of which the top three federal government agencies generated 6.9% and 6.0% of our revenue for the three months ended March 31, 2021 and 2020, respectively. Additionally, 32.2% and 33.5% of our revenue during the three months ended March 31, 2021 and 2020, respectively, was generated from foreign customers.

Cash and Cash Equivalents

We consider all highly liquid investments with an original or remaining maturity of three months or less at the date of purchase, as well as overnight repurchase agreements, to be cash equivalents.

Accounts Receivable and Allowance for Doubtful Accounts

Accounts receivable are stated at realizable value, net of an allowance for doubtful accounts. The allowance for doubtful accounts is based on our assessment of the collectability of accounts and incorporates an estimation of expected lifetime credit losses on our receivables. We regularly review the composition of the accounts receivable aging, historical bad debts, changes in payment patterns, customer creditworthiness, and current economic trends. If the financial condition of our customers were to deteriorate, resulting in their inability to make required payments, additional provisions for doubtful accounts would be required and would increase bad debt expense. There was no increase in the allowance for doubtful accounts from December 31, 2020 to March 31, 2021.

Assets Recognized from the Costs to Obtain a Contract with a Customer

We capitalize the incremental costs of obtaining a contract with a customer, including sales commissions paid to our direct sales force, that are incremental costs to obtaining customer contracts. These costs are recorded as deferred commissions in the condensed consolidated balance sheets. Costs to obtain a contract for a new customer or upsell are amortized over an estimated economic life of five years as sales commissions on initial sales are not commensurate with sales commissions on contract renewals. We determine the estimated economic life based on both qualitative and quantitative factors such as expected renewals, product life cycles, contractual terms, and customer attrition. We periodically review the carrying amount of deferred contract acquisition costs to determine whether events or changes in circumstances have occurred that could impact the estimated economic life. Commissions paid relating to contract renewals are deferred and amortized over the related renewal period. We also capitalize the incremental fringe benefits associated with commission expenses paid to our direct sales force. Costs to obtain a contract for professional services arrangements are expensed as incurred as the contractual period of our professional services arrangements are one year or less.

Amortization associated with commission expense is recorded to sales and marketing costs in our condensed consolidated statements of operations. Commission expense was $6.8 million and $5.3 million for the three months ended March 31, 2021 and 2020, respectively.

Property and Equipment

Property and equipment are stated at cost less accumulated depreciation and amortization. Depreciation is computed using the straight-line method over the estimated useful lives of the assets. Significant additions or improvements extending the useful life of an asset are capitalized, while repairs and maintenance costs which do not significantly improve the related assets or extend their useful lives are charged to expense as incurred.

The following table outlines the useful lives of our major asset categories:

Asset Category	Useful Life (in years)
Computer software	3
Computer hardware	3
Equipment	5
Office furniture and fixtures	10
Leasehold improvements	(a)

(a) Leasehold improvements have an estimated useful life of the shorter of the useful life of the assets or the lease term.

Impairment of Long-Lived Assets

Long-lived assets and certain intangible assets are reviewed for impairment whenever events or circumstances indicate the carrying amount of an asset may not be recoverable through undiscounted cash flows from the use of the assets. If such assets are considered to be impaired, the assets are written down to their estimated fair value. No indicators of impairment were identified for the three months ended March 31, 2021 and 2020.

Investments and Fair Value of Financial Instruments

Refer to Note 15 for a detailed discussion on our policies specific to investments and determining fair value.

Stock-Based Compensation

We account for stock-based compensation expense related to stock-based awards based on the estimated fair value of the award on the grant date. We calculate the fair value of stock options containing only a service condition using the Black-Scholes option pricing model. The fair value of restricted stock units ("RSUs") is based on the closing market price of our common stock on the Nasdaq Global Market on the date of grant. For service-based awards such as RSUs, stock-based compensation expense is recognized on a straight-line basis over the requisite service period. For performance-based awards, stock-based compensation expense is recognized using the accelerated attribution method based on the probability of satisfying the performance condition. For awards that contain market conditions, compensation expense is measured using a Monte Carlo simulation and recognized using the accelerated attribution method over the derived service period based on the expected market performance as of the grant date. We account for forfeitures as they occur rather than estimating expected forfeitures.

Leases

Refer to Note 4 for a detailed discussion on our policies specific to leasing arrangements.

Recent Accounting Pronouncements

Adopted

In December 2019, the FASB issued Accounting Standards Update ("ASU") 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes*, which amends and aims to simplify accounting disclosure requirements regarding a number of topics including, but not limited to, intraperiod tax allocations, accounting for deferred taxes when there are changes in the consolidation of certain investments, tax basis step ups in an acquisition, and the application of effective rate changes during interim periods. This guidance is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020. The adoption of the new guidance did not have a material impact on our consolidated financial statements.

Not Yet Adopted

In March 2020, the FASB issued ASU 2020-04, *Reference Rate Reform - Facilitation of the Effects of Reference Rate Reform on Financial Reporting (Topic 848)*, which provides temporary optional expedients and exceptions to the GAAP guidance on contract modifications to ease the financial reporting burdens of the expected market transition from LIBOR and other interbank offered rates to alternative reference rates such as the Secured Overnight Financing Rate ("SOFR"). This guidance is effective upon issuance and generally can be applied through the end of calendar year 2022. We are currently evaluating the impact and applicability of this new standard.

3. Revenue

Revenue Recognition

We generate subscriptions revenue primarily through the sale of software as a service ("SaaS") subscriptions bundled with maintenance and support and hosting services as well as term license subscriptions bundled with maintenance and support. We generate professional services revenue from fees for our consulting services, including application development and deployment assistance as well as training related to our platform.

The following table summarizes revenue from contracts with customers for the three months ended March 31, 2021 and 2020 (in thousands):

	Three Months Ended March 31,	
	2021	2020
SaaS subscriptions	$ 39,053	$ 28,390
Term license subscriptions	19,853	17,793
Maintenance and support	4,860	4,253
Professional services	25,089	28,428
Total revenue	$ 88,855	$ 78,864

Performance Obligations and Timing of Revenue Recognition

We primarily sell products and services that fall into the categories discussed below. Each category contains one or more performance obligations that are either (1) capable of being distinct (i.e., the customer can benefit from the product or service on its own or together with readily available resources, including those purchased separately from us) and distinct within the context of the contract (i.e., separately identified from other promises in the contract) or (2) a series of distinct products or services that are substantially the same and have the same pattern of transfer to the customer. Our term license subscriptions are delivered at a point in time while our SaaS subscriptions, maintenance and support, and professional services are delivered over time.

Subscriptions Revenue

Subscriptions revenue is primarily related to (1) SaaS subscriptions bundled with maintenance and support and hosting services and (2) term license subscriptions bundled with maintenance and support. We generally charge subscription fees on a per-user basis and, to a lesser degree, non-user based single application licenses. We bill customers and collect payment for subscriptions to our platform in advance on an annual, quarterly, or monthly basis. In certain instances, our customers have paid their entire contract up front.

SaaS Subscriptions

We generate cloud-based subscriptions revenue primarily from the sales of subscriptions to access our cloud offering, together with related support services to our customers. We perform all required maintenance and support for our cloud offering. Revenue is recognized on a ratable basis over the contract term beginning on the date the service is made available to the customer. Our cloud-based subscription contracts generally have a term of one to three years in length. We bill customers and collect payment for subscriptions to our platform in advance, and they are non-cancellable.

Term License Subscriptions

Our term license subscriptions revenue is derived from customers with on-premises installations of our platform pursuant to contracts that were historically one to three years in length. The majority of recent contracts have been one year in length. Although term license subscriptions are sold with maintenance and support, the software is fully functional at the beginning of the subscription and is considered a distinct performance obligation. On rare occasions, a cloud-based subscription may include the right for the customer to take possession of the license and as such, the revenue is treated as a license. Revenue from term license subscriptions is recognized when control of the software license has transferred to the customer, which is the later of delivery or commencement of the contract term.

Maintenance and Support

Maintenance and support subscriptions include both technical support and when-and-if-available software upgrades, which are treated as a single performance obligation as they are considered a series of distinct services that are substantially the same and have the same duration and measure of progress. Revenue from maintenance and support is recognized ratably over the contract period, which is the period over which the customer has continuous access to maintenance and support.

Professional Services Revenue

Our professional services revenue is comprised of fees for consulting services, including application development and deployment assistance as well as training services related to our platform. Our professional services are considered distinct performance obligations when sold standalone or with other products.

Consulting Services

We sell consulting services to assist customers in planning and executing the deployment of our software. Customers are not required to use consulting services to fully benefit from the software. Consulting services are regularly sold on a standalone basis and either (1) under a fixed-fee arrangement or (2) on a time and materials basis. Consulting contracts are each considered separate performance obligations because they do not integrate with each other or with other products and services to deliver a combined output to the customer, do not modify or customize (or are not modified or customized by) each other or other products and services, and do not affect the customer's ability to use the other consulting offerings or other products and services. Revenue under consulting contracts is recognized over time as services are delivered. For time and materials-based consulting contracts, we have elected the practical expedient of recognizing revenue upon invoicing since the invoiced amount corresponds directly to the value of our service to date.

Training Services

We sell various training services to our customers. Training services are sold in the form of prepaid training credits that are redeemed based on a fixed rate per course. Training revenue is recognized when the associated training services are delivered.

Significant Judgments and Estimates

Determining the Transaction Price

The transaction price includes both fixed and variable consideration. Variable consideration is included in the transaction price to the extent it is probable a significant reversal will not occur. The amount of variable consideration excluded from the transaction price for the three months ended March 31, 2021 and 2020 was insignificant. Our estimates of variable consideration are also subject to subsequent true-up adjustments and may result in changes to transaction prices; however, such true-up adjustments are not expected to be material.

Allocating the Transaction Price Based on Standalone Selling Prices ("SSP")

We allocate the transaction price to each performance obligation in a contract based on its relative SSP. The SSP is the observable price at which we sell the product or service separately. In the absence of observable pricing, we estimate SSP using the residual approach. We establish SSP as follows:

1. SaaS subscriptions - Given the highly variable selling price of our SaaS subscriptions, we establish the SSP of our SaaS subscriptions using a residual approach after first determining the SSP of consulting and training services. We have concluded the residual approach to estimating SSP of our SaaS subscriptions is an appropriate allocation of the transaction price.

2. Term license subscriptions - Given the highly variable selling price of our term license subscriptions, we have established SSP of term license subscriptions using a residual approach after first determining the SSP of maintenance and support. Maintenance and support is sold on a standalone basis in conjunction with renewals of our legacy perpetual software licenses and within a narrow range of the net license fee. Because an economic relationship exists between the license and maintenance and support, we have concluded the residual approach to estimating SSP of term license subscriptions is an appropriate allocation of the transaction price.

3. Maintenance and support - We establish the SSP of maintenance and support as a percentage of the stated net subscription fee based on observable pricing of maintenance and support renewals from our legacy perpetual software licenses.

4. Consulting services and training services - The SSP of consulting services and training services is established based on the observable pricing of standalone sales within each geographic region where the services are sold.

Contract Balances

Timing may differ between the satisfaction of performance obligations and the invoicing and collection of amounts related to our contracts with customers. Contract assets primarily relate to unbilled amounts for contracts with customers for which the amount of revenue recognized exceeds the amount billed to the customer. Contract assets are transferred to accounts receivable when the right to invoice becomes unconditional. As of March 31, 2021 and December 31, 2020, contract assets of $17.4 million and $20.1 million, respectively, are included in the Prepaid expenses and other current assets and Other assets line items in our condensed consolidated balance sheets.

Contract liabilities consist of deferred revenue and include payments received in advance of the satisfaction of performance obligations. Deferred revenue is then recognized as the revenue recognition criteria are met. Deferred revenue that will be recognized during the succeeding 12-month period is recorded as current, and the remaining deferred revenue is recorded as non-current. For the three months ended March 31, 2021, we recognized $48.5 million of revenue that was included in the deferred revenue balance as of December 31, 2020.

Transaction Price Allocated to the Remaining Performance Obligations

As of March 31, 2021, we had an aggregate transaction price of $202.5 million allocated to unsatisfied performance obligations. We expect to recognize $184.3 million of this balance as revenue over the next 24 months with the remaining amount recognized thereafter.

4. Leases

At the inception of an arrangement, we determine whether the arrangement is or contains a lease based on the unique facts and circumstances present and the classification of the lease. Operating leases with a term greater than one year are recognized on the balance sheet as right-of-use ("ROU") assets, lease liabilities, and, if applicable, long-term lease liabilities. ROU assets represent our right to use an underlying asset for the lease term, and lease liabilities represent our obligation to make lease payments arising from the lease. We have elected not to recognize on the balance sheet leases with a term of one year or less. For contracts with lease and non-lease components, we have elected not to allocate the contract consideration and to account for the lease and non-lease components as a single lease component.

Lease liabilities and their corresponding ROU assets are recorded based on the present value of lease payments over the expected lease term. The implicit rates within most of our leases are generally not determinable; therefore, we use the incremental borrowing rate at the lease commencement date to determine the present value of lease payments. The determination of our incremental borrowing rate requires judgment and is estimated for each lease based on the rate we would have to pay for a collateralized loan with the same term and payments as the lease. We consider various factors, including our level of collateralization, estimated credit rating, and the currency in which the lease is denominated. Operating lease ROU assets also include any lease prepayments, offset by lease incentives. Certain of our leases include options to extend or terminate the lease. An option to extend the lease is considered in connection with determining the ROU asset and lease liability when it is reasonably certain we will exercise that option while an option to terminate is considered unless it is reasonably certain we will not exercise the option. For certain equipment leases, we apply a portfolio approach to effectively account for the operating lease ROU assets and liabilities.

Expense for operating leases is recognized on a straight-line basis over the lease term as an operating expense while the expense for finance leases is recognized as depreciation expense and interest expense. We have lease agreements which require payments for lease and non-lease components (i.e., common area maintenance) that are accounted for as a single lease component. Variable lease payment amounts that cannot be determined at the commencement of the lease, such as maintenance costs based on future obligations, are not included in ROU assets or lease liabilities but rather are expensed as incurred and recorded as variable lease expense.

As of March 31, 2021, we have operating leases for corporate offices. Our operating leases have remaining lease terms of 1 year to 11 years, some of which include options to extend the leases for up to 10 years.

In April 2018, we entered into a lease agreement with respect to 176,222 square feet of office space in McLean, Virginia for a new corporate headquarters. The initial term of the lease was 150 months. We took initial possession of the first phase of the new headquarters in October 2018 and began to recognize rent expense as of that date. In February 2019, we took possession of an additional 28,805 square feet of adjacent office space.

In January 2020, we entered into an amendment which adjusts the original terms of the headquarters lease. Under this amendment, we exercised an option to expand occupancy, adding 34,158 square feet of office space. Occupancy of the added space commenced on October 14, 2020. Pursuant to the guidance of ASC 842, *Leases*, the amendment is considered a modification to the original lease and is accounted for as a separate contract because it represents a new ROU asset and the lease costs on the new space are charged at prevailing market rates. Effective July 1, 2020, we took possession of the space, began to recognize rent expense, and recorded a $7.9 million ROU asset and lease liability on our condensed consolidated balance sheets.

In October 2020, we paid the full $2.7 million principal balances outstanding under our finance leases pursuant to an option permitting us to pay such balances in full at any time. As of the date of the paydown, the titles to the assets were transferred to us, the associated lease liabilities were retired, the carrying values of the purchased assets were adjusted, and the assets were reclassified from finance leases to property and equipment, net on the condensed consolidated balance sheets.

The following table sets forth the components of lease expense for the three months ended March 31, 2021 and 2020 (in thousands):

	Three Months Ended March 31,	
	2021	2020
Operating lease cost	$ 1,630	$ 1,868
Finance lease costs:		
Amortization of right-of-use assets	—	373
Interest on lease liabilities	—	51
Short-term lease cost	41	185
Variable lease cost	25	183
Total	$ 1,696	$ 2,660

Supplemental balance sheet information related to operating leases as of March 31, 2021 and December 31, 2020 was as follows (in thousands, except for lease term and discount rate):

	As of	
	March 31, 2021	December 31, 2020
Operating right-of-use assets	$ 30,610	$ 30,659
Operating lease liabilities, current	$ 7,664	$ 6,923
Operating lease liabilities, net of current portion	50,572	51,194
Total operating lease liabilities	$ 58,236	$ 58,117
Weighted average remaining lease term (in years)	10.3	10.6
Weighted average discount rate	9.6 %	9.6 %

For the three months ended March 31, 2021 and 2020, amortization of operating ROU assets totaled $0.3 million and $0.7 million, respectively. For both the three months ended March 31, 2021 and 2020, interest expense on operating lease liabilities totaled $0.4 million.

Supplemental cash flow information related to leases for the three months ended March 31, 2021 and 2020 was as follows (in thousands):

	Three Months Ended March 31,	
	2021	2020
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash outflows for operating leases	$ 1,749	$ 772
Operating cash outflows for finance leases	—	51
Financing cash outflows for finance leases	—	357

A summary of our future minimum lease commitments under non-cancellable leases as of March 31, 2021 is as follows (in thousands):

	Operating Leases
2021 (excluding the three months ended March 31, 2021)	$ 5,919
2022	8,177
2023	8,173
2024	8,571
2025	9,267
2026	9,338
Thereafter	48,049
Total lease payments	97,494
Less: imputed interest	(39,258)
Total	$ 58,236

5. Acquisitions

Novayre Solutions SL

In January 2020, we acquired 100% of the outstanding common stock of Novayre Solutions SL ("Novayre"), a developer of a robotic process automation platform, for approximately $6.9 million. The acquisition was made due to the attractive nature of the product offerings of Novayre and in furtherance of our objective to enhance our automation platform. The transaction was financed through available cash on hand.

The allocation of the purchase price was based upon the estimated fair values of the assets acquired and liabilities assumed. As of the acquisition date, the purchase price was assigned to the acquired assets and assumed liabilities as follows (in thousands):

Cash acquired	$ 731
Other current assets	213
Property and equipment	22
Developed technology	1,537
Customer relationships	406
Goodwill	4,348
Other noncurrent assets	10
Total assets acquired	7,267
Current liabilities	14
Noncurrent liabilities	344
Total liabilities assumed	358
Net assets acquired	$ 6,909

There were no changes to our reportable segments as a result of the acquisition, and revenue and expenses from the date of the acquisition through March 31, 2021 were immaterial. Additionally, acquisition costs incurred in relation to the transaction were immaterial.

Acquired property and equipment is depreciated on a straight-line basis over the assets' respective estimated remaining useful lives. Goodwill is calculated as the excess of the consideration transferred over the fair value of the identifiable net assets acquired and represents the future economic benefits expected to arise from other intangible assets acquired that do not qualify for separate recognition, including assembled workforce, non-contractual relationships, and expected future synergies. We do not expect the purchase price allocated to goodwill and intangible assets to be deductible for tax purposes.

6. Property and Equipment, net

Property and equipment, net consisted of the following as of March 31, 2021 and December 31, 2020 (in thousands):

	March 31, 2021	December 31, 2020
Leasehold improvements	$ 36,247	$ 36,263
Office furniture and fixtures	2,521	2,521
Computer hardware	4,993	4,535
Computer software	1,352	1,352
Equipment	49	49
Property and equipment, gross	45,162	44,720
Less: accumulated depreciation	(10,480)	(9,316)
Property and equipment, net	$ 34,682	$ 35,404

Depreciation expense totaled $1.2 million for the three months ended March 31, 2021. There were no disposals or retirements recorded during the three months ended March 31, 2021.

Depreciation expense totaled $1.4 million for the three months ended March 31, 2020. During the three months ended March 31, 2020, we retired $1.3 million of leasehold improvements, $0.1 million of computer hardware, and $0.1 million of office furniture and fixtures and equipment. Nominal losses on disposal were recorded for the three months ended March 31, 2020.

7. Accrued Expenses

Accrued expenses consisted of the following as of March 31, 2021 and December 31, 2020 (in thousands):

	March 31, 2021	December 31, 2020
Accrued hosting costs	$ 2,040	$ 1,229
Accrued legal costs	888	760
Accrued contract labor costs	774	908
Accrued audit and tax expenses	549	370
Accrued marketing and tradeshow expenses	286	596
Accrued third party license fees	257	570
Accrued reimbursable employee expenses	138	231
Other accrued expenses	845	1,157
Total	$ 5,777	$ 5,821

8. Debt

Line of Credit

In November 2017, we entered into a $20.0 million revolving line of credit with a lender. The facility matures in November 2022. We may elect whether amounts drawn on the revolving line of credit bear interest at a floating rate per annum equal to either LIBOR or the Prime rate plus an additional interest rate margin that is determined by the availability of the borrowings under the revolving line of credit. The additional interest rate margin will range from 2.00% to 2.50% in the case of LIBOR advances and from 1.00% to 1.50% in the case of Prime rate advances. The revolving line of credit contains an unused facility fee in an amount between 0.15% and 0.25% of the average unused portion of the revolving line of credit, which is payable quarterly. The agreement contains certain customary affirmative and negative covenants and requires us to maintain (i) an adjusted quick ratio of at least 1.35 to 1.00 and (ii) minimum adjusted EBITDA, in the amounts and for the periods set forth in the agreement. Any amounts borrowed under the credit facility are collateralized by substantially all of our assets. We were in compliance with all covenants as of March 31, 2021. As of March 31, 2021, we had no outstanding borrowings under this revolving line of credit, and we had outstanding letters of credit totaling $11.2 million in connection with securing our leased office space. We are monitoring the LIBOR to SOFR transition, which may result in modification or amendment of our existing revolving line of credit.

9. Income Taxes

The provision for income taxes is based upon the estimated annual effective tax rates for the year applied to the current period income before tax plus the tax effect of any significant or unusual items, discrete events, or changes in tax law. Our operating subsidiaries are exposed to statutory effective tax rates ranging from zero to approximately 32%. Fluctuations in the distribution of pre-tax income among our operating subsidiaries can lead to fluctuations of the effective tax rate in the condensed consolidated financial statements. For the three months ended March 31, 2021 and 2020, the actual effective tax rates were (0.9)% and 1.6%, respectively.

We assess uncertain tax positions in accordance with ASC 740-10, *Accounting for Uncertainties in Income Taxes*. As of March 31, 2021, our net unrecognized tax benefits totaled $2.3 million, which if recognized would result in no net effect on the effective tax rate due to a valuation allowance. The amount of reasonably possible unrecognized tax benefits that could decrease over the next 12 months due to the expiration of certain statutes of limitations or settlements of tax audits is not material to our condensed consolidated financial statements.

We file income tax returns in the United States federal jurisdiction and in many states and foreign jurisdictions. The tax years 2017 through 2020 remain open to examination by the major taxing jurisdictions to which we are subject. We are not currently under examination by the Internal Revenue Service for any open tax years.

In response to the COVID-19 pandemic, the United States passed the Coronavirus Aid, Relief, and Economic Security ("CARES") Act in March 2020. The CARES Act includes various income and payroll tax measures. Pursuant to these measures, we have elected the option to defer the deposit and payment of our share of social security taxes that would otherwise be due between March 27, 2020 and December 31, 2020. Under the CARES Act, half of these deferred payments are due by the end of fiscal year 2021 while the other half are due by the end of fiscal year 2022.

At this time, beyond the above deferral, the CARES Act is not expected to materially impact our financial statements, but we continue to evaluate potential impacts.

10. Stock-Based Compensation

Equity Incentive Plans

In May 2017, our Board of Directors adopted, and our stockholders approved, the 2017 Equity Incentive Plan (the “2017 Plan”), which became effective as of the date of the final prospectus for our initial public offering. The 2017 Plan provides for the grant of incentive stock options to employees and for the grant of nonstatutory stock options, restricted stock awards, RSUs, stock appreciation rights, performance-based stock awards, and other forms of equity compensation to employees, including officers, non-employee directors, and consultants. We initially reserved 6,421,442 shares of Class A common stock for issuance under the 2017 Plan, which included 421,442 shares that remained available for issuance under our 2007 Stock Option Plan (the “2007 Plan”) at the time the 2017 Plan became effective. The number of shares reserved under the 2017 Plan increases for any shares subject to outstanding awards originally granted under the 2007 Plan that expire or are forfeited prior to exercise. As a result of the adoption of the 2017 Plan, no further grants may be made under the 2007 Plan. As of March 31, 2021, there were 7,166,609 shares of Class A common stock reserved for issuance under the 2017 Plan, of which 4,259,664 were available to be issued.

Stock Options

We estimate the fair value of stock options containing only a service condition using the Black-Scholes option pricing model, which requires the use of subjective assumptions, including the expected term of the option, the current price of the underlying stock, the expected stock price volatility, expected dividend yield, and the risk-free interest rate for the expected term of the option. The expected term represents the period of time the stock options are expected to be outstanding. Due to the lack of sufficient historical exercise data to provide a reasonable basis upon which to otherwise estimate the expected term of the stock options, we use the simplified method to estimate the expected term for our stock options. Under the simplified method, the expected term of an option is presumed to be the mid-point between the vesting date and the end of the contractual term. Expected volatility is based on historical volatilities for publicly traded stock of comparable companies over the estimated expected term of the stock options. We assume no dividend yield because dividends are not expected to be paid in the near future, which is consistent with our history of not paying dividends.

In May 2019, our Board of Directors granted a stock option to purchase 700,000 shares of our Class A common stock to our Chief Executive Officer (the "2019 CEO Grant") under the 2017 Plan with an exercise price of $33.98 per share. The 2019 CEO Grant is eligible to vest based on the achievement of a stock price appreciation target of our Class A common stock. Specifically, the 2019 CEO Grant vests when shares of our Class A common stock close at or above $84.63 per share for a period equal to or greater than 90 consecutive calendar days or upon the occurrence of a change in control in which the value of our Class A common stock is equal to or greater than $84.63 per share within five years of the grant date. The fair value of the 2019 CEO Grant was determined using a Monte Carlo simulation. The fair value of the award at the grant date was $9.5 million and is amortized over the derived service period of 2.6 years. Effective February 2021, the 2019 CEO Grant has satisfied all of the conditions required to be considered fully vested. As a result, we accelerated the recognition of approximately $3.3 million in stock-based compensation expense in the three months ended March 31, 2021.

The following table summarizes stock option activity for the three months ended March 31, 2021:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value (in thousands)
Outstanding at January 1, 2021	3,399,240	$ 14.06	4.9	$ 503,174
Granted	—	—		—
Exercised	(88,269)	6.98		14,330
Expired	—	—		—
Canceled	(1,200)	11.02		—
Outstanding at March 31, 2021	3,309,771	$ 14.25	4.7	$ 392,855
Exercisable at March 31, 2021	2,882,511	$ 14.68	4.5	$ 340,919

There were no stock options granted during the three months ended March 31, 2021 and 2020. The total fair value of stock options that vested during the three months ended March 31, 2021 and 2020 was $9.7 million and $0.3 million, respectively. As of March 31, 2021, the total compensation cost related to unvested stock options not yet recognized was $0.2 million, which will be recognized over a weighted average period of 1.0 year.

Restricted Stock Units

The following table summarizes RSU activity for the three months ended March 31, 2021:

	Number of Shares	Weighted Average Grant Date Fair Value
Non-vested and outstanding at January 1, 2021	1,165,003	$ 46.04
Granted	34,535	211.06
Vested	(56,326)	44.07
Canceled	(17,581)	49.01
Non-vested and outstanding at March 31, 2021	1,125,631	51.15

As of March 31, 2021, total unrecognized compensation cost related to unvested RSUs was approximately $50.4 million, which will be recognized over a weighted average period of 2.2 years.

The following table summarizes the components of our stock-based compensation expense by instrument type for the three months ended March 31, 2021 and 2020 (in thousands):

	Three Months Ended March 31,	
	2021	2020
RSUs	$ 4,005	$ 2,299
Stock options	3,733	1,084
Common stock awards to Board of Directors	156	93
Total stock-based compensation expense	$ 7,894	$ 3,476

Stock-based compensation expense for RSUs, stock options, and issuances of common stock to the Board of Directors is included in the following line items in the accompanying condensed consolidated statements of operations for the three months ended March 31, 2021 and 2020 (in thousands):

	Three Months Ended March 31,	
	2021	2020
Cost of revenue		
Subscriptions	$ 297	$ 213
Professional services	641	212
Operating expenses		
Sales and marketing	1,108	753
Research and development	1,015	553
General and administrative	4,833	1,745
Total stock-based compensation expense	$ 7,894	$ 3,476

11. Stockholders' Equity

As of March 31, 2021, we had authorized 500,000,000 shares of Class A common stock and 100,000,000 shares of Class B common stock, each with a par value of $0.0001 per share, of which 39,321,079 shares of Class A common stock and 31,503,666 shares of Class B common stock were issued and outstanding. The rights of the holders of Class A common stock and Class B common stock are identical, except with respect to voting and conversion rights. The holders of Class A common stock are entitled to one vote per share, and the holders of Class B common stock are entitled to ten votes per share on all matters subject to stockholder vote. The holders of Class B common stock also have approval rights for certain corporate actions. Each share of Class B common stock may be converted into one share of Class A common stock at the option of its holder and will be automatically converted upon transfer thereof, subject to certain exceptions. In addition, upon the date on which the outstanding shares of Class B common stock represent less than 10% of the aggregate voting power of our capital stock, all outstanding shares of Class B common stock shall convert automatically into Class A common stock.

12. Basic and Diluted Loss per Common Share

The following outstanding securities, prior to the use of the treasury stock method or the if-converted method, have been excluded from the computation of diluted weighted-average shares outstanding for the respective periods below because they would have been antidilutive:

	Three Months Ended March 31,	
	2021	2020
Stock options	3,309,771	4,308,009
Non-vested restricted stock units	1,125,631	1,069,168

13. Commitments and Contingencies

Contractual Warranty and Indemnification Obligations

We provide limited product warranties. Historically, any payments made under these provisions have been immaterial. We also agree to standard indemnification provisions in the ordinary course of business. Pursuant to these provisions, we agree to indemnify, hold harmless, and reimburse the indemnified party for losses suffered or incurred by the indemnified party, generally our customers, in connection with certain intellectual property infringement claims by any third party arising from the use of our products or services in accordance with the agreement. The term of our contractual indemnity provisions often survives termination or expiration of the applicable agreement. We carry insurance that covers certain third-party claims relating to our services and limits our exposure. We have never incurred costs to defend lawsuits or settle claims related to these indemnification provisions.

Letters of Credit

At each of March 31, 2021 and December 31, 2020, we had outstanding letters of credit totaling $11.2 million in connection with securing our leased office space. All letters of credit are secured by our borrowing arrangement as described in Note 8.

Legal

From time to time, we are subject to legal, regulatory, and other proceedings and claims that arise in the ordinary course of business. There are no issues or resolutions of any matters expected to have a material adverse impact on our condensed consolidated financial statements.

14. Segment and Geographic Information

The following table summarizes revenue by geography for the three months ended March 31, 2021 and 2020 (in thousands):

	Three Months Ended March 31,	
	2021	2020
Domestic	$ 60,282	$ 52,455
International	28,573	26,409
Total	$ 88,855	$ 78,864

With respect to geographic information, revenue is attributed to respective geographies based on the contracting address of the customer. There were no individual foreign countries from which more than 10% of our total revenue was attributable for the three months ended March 31, 2021. Revenue from customers attributed to the United Kingdom was 12.5% of our total revenue for the three months ended March 31, 2020. There were no other individual foreign countries from which more than 10% of our total revenue was attributable for the three months ended March 31, 2020. Substantially all of our long-lived assets were held in the United States as of March 31, 2021 and December 31, 2020.

15. Investments and Fair Value Measurements

Fair Value Measurements

We use a three-tier fair value hierarchy to classify and disclose all assets and liabilities measured at fair value on a recurring basis, as well as assets and liabilities measured at fair value on a non-recurring basis, in periods subsequent to their initial measurement. The hierarchy requires us to use observable inputs when available and to minimize the use of unobservable inputs when determining fair value. The three tiers are defined as follows:

- **Level 1.** Observable inputs based on unadjusted quoted prices in active markets for identical assets or liabilities;

- **Level 2.** Inputs, other than quoted prices in active markets, that are observable either directly or indirectly; and

- **Level 3.** Unobservable inputs for which there is little or no market data, which require us to develop our own assumptions.

The asset or liability's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques maximize the use of relevant observable inputs and minimize the use of unobservable inputs. There were no instruments measured at fair value on a recurring basis using significant unobservable inputs as of March 31, 2021 and December 31, 2020.

The valuation techniques that may be used to measure fair value are as follows:

- Market approach - Uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities;

- Income approach - Uses valuation techniques to convert future amounts to a single present amount based on current market expectations about those future amounts;

- Cost approach - Based on the amount that currently would be required to replace the service capacity of an asset (i.e., replacement cost).

The carrying amounts of our cash and cash equivalents, accounts receivable, accounts payable, and accrued expenses approximate fair value as of March 31, 2021 and December 31, 2020 because of the relatively short duration of these instruments.

Investments

Our investment portfolio consists largely of debt investments classified as available-for-sale. Changes in the fair value of available-for-sale securities, excluding other-than-temporary impairments, are recorded in other comprehensive income (loss). The components of our investments as of March 31, 2021 are as follows (in thousands):

	As of March 31, 2021						
	Fair Value Measurement				Balance Sheet Classification		
	Fair Value Level	Cost Basis	Unrealized Gains / (Losses)	Market Value	Cash and Cash Equivalents	Short-Term Investments	Long-Term Investments
Money market fund	Level 1	$ 49,930	$ —	$ 49,930	$ 49,930	$ —	$ —
U.S. Treasury bonds	Level 1	24,445	4	24,449	—	24,449	—
Commercial paper	Level 2	60,412	—	60,412	—	60,412	—
Corporate bonds	Level 2	29,113	(15)	29,098	—	27,550	1,548
Asset-backed securities	Level 2	26,373	(3)	26,370	—	5,601	20,769
Total investments		$ 190,273	$ (14)	$ 190,259	$ 49,930	$ 118,012	$ 22,317

At December 31, 2020, our investments consisted of the following (in thousands):

	As of December 31, 2020						
	Fair Value Measurement				Balance Sheet Classification		
	Fair Value Level	Cost Basis	Unrealized Gains / (Losses)	Market Value	Cash and Cash Equivalents	Short-Term Investments	Long-Term Investments
Money market fund	Level 1	$ 27,150	$ —	$ 27,150	$ 27,150	$ —	$ —
U.S. Treasury bonds	Level 1	24,445	(3)	24,442	—	16,273	8,169
Commercial paper	Level 2	76,905	—	76,905	16,493	60,412	—
Corporate bonds	Level 2	34,738	(11)	34,727	—	27,542	7,185
Asset-backed securities	Level 2	26,373	(8)	26,365	—	5,599	20,766
Total investments		$ 189,611	$ (22)	$ 189,589	$ 43,643	$ 109,826	$ 36,120

There were no Level 3 assets held at any point during the three months ended March 31, 2021. Additionally, there were no transfers between Levels 1 and 2 during the three months ended March 31, 2021.

The amortized cost basis and fair value of debt securities at March 31, 2021, by contractual maturity, are as follows (in thousands):

	As of March 31, 2021	
	Cost Basis	Fair Value
Due in one year or less	$ 167,953	$ 167,942
Due after one year through five years	22,320	22,317
Total investments	$ 190,273	$ 190,259

Actual maturities may differ from the contractual maturities in the table above because borrowers have the right to call or prepay certain obligations.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with (1) our condensed consolidated financial statements and related notes appearing elsewhere in this Quarterly Report on Form 10-Q and (2) the audited consolidated financial statements and the related notes and management's discussion and analysis of financial condition and results of operations for the year ended December 31, 2020 included in our Annual Report on Form 10-K, filed with the Securities and Exchange Commission, or SEC, on February 18, 2021.

This Quarterly Report on Form 10-Q contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These statements are often identified by the use of words such as "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "plan," "project," "will," "would," or the negative or plural of these words or similar expressions or variations, including statements regarding our future financial and operating performance, anticipated expansion of the usage of partners to perform professional services, the increase of our subscriptions revenue as a percentage of total revenue, the fluctuation of gross margin in the short term and improvement of gross margin over time, our future capital requirements, and uncertain negative impacts that COVID-19 may have on our business, financial condition, results of operations, and changes in overall level of spending and volatility in the global economy. Such forward-looking statements are subject to a number of risks, uncertainties, assumptions, and other factors that could cause actual results and the timing of certain events to differ materially from future results expressed or implied by the forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those identified herein and those discussed in the section titled "Risk Factors," set forth in Part I, Item 1A of our Annual Report on Form 10-K filed with the SEC on February 18, 2021 and in our other filings with the SEC. You should not rely upon forward-looking statements as predictions of future events. Furthermore, such forward-looking statements speak only as of the date of this report. Except as required by law, we undertake no obligation to update any forward-looking statements to reflect events or circumstances after the date of such statements.

Overview

We help organizations build applications and workflows rapidly, with a low-code automation platform. Combining people, technologies, and data in a single workflow, Appian can help companies maximize their resources and improve business results. Many of the world's largest organizations use Appian applications to improve customer experience, achieve operational excellence, and simplify global risk management and compliance.

With our platform, organizations can rapidly and easily design, build, and implement powerful, enterprise-grade custom applications through our intuitive, visual interface with little or no coding required. Our customers have used applications built on our platform to launch new business lines, automate vital employee workflows, manage complex trading platforms, accelerate drug development, and build global procurement systems. With our platform, decision makers can reimagine their products, services, processes, and customer interactions by removing much of the complexity and many of the challenges associated with traditional approaches to software development.

We have generated the majority of our revenue from sales of subscriptions, which include (1) SaaS subscriptions bundled with maintenance and support and hosting services and (2) term license subscriptions bundled with maintenance and support. Our subscription fees are based primarily on the number of users who access and utilize the applications built on our platform or, alternatively, non-user based single application licenses. Our customer contract terms generally vary from one to three years with most providing for payment in advance on an annual, quarterly, or monthly basis. Due to the variability of our billing terms and the episodic nature of our customers purchasing additional subscriptions, we do not believe changes in our deferred revenue in a given period are directly correlated with our revenue growth.

Since inception, we have invested in our Customer Success organization to help ensure customers are able to build and deploy applications on our platform. We have several strategic partnerships, including with KPMG, PwC, Accenture, and Deloitte, for them to refer customers to us in order to purchase subscriptions and then to provide professional services directly to the customers using our platform. We intend to further grow our base of strategic partners to provide broader customer coverage and solution delivery capabilities. In addition, over time we expect professional services revenue as a percentage of total revenue to decline as we increasingly rely on strategic partners to help our customers deploy our software. We believe our investment in professional services, including strategic partners building their practices around Appian, will drive increased adoption of our platform.

Our customers include financial services, government, life sciences, telecommunications, media, energy, manufacturing, and transportation organizations. Generally, our sales force targets its efforts to organizations with over 2,000 employees and $2 billion in annual revenue. Revenue from government agencies represented 20.9% of our total revenue in the three months ended March 31, 2021 as compared to 14.9% of our total revenue in the three months ended March 31, 2020. No single end-customer accounted for more than 10% of our total revenue in the three months ended March 31, 2021 or March 31, 2020.

Our platform supports multiple languages to facilitate collaboration and address challenges in multinational organizations. We offer our platform globally. In the three months ended March 31, 2021, 32.2% of our total revenue was generated from customers outside of the United States as compared to 33.5% in the three months ended March 31, 2020. As of March 31, 2021, we operated in 12 countries. We believe we have a significant opportunity to grow our international footprint. We are investing in new geographies, including through investment in direct and indirect sales channels, professional services, and customer support and implementation partners.

Recent Developments

COVID-19

Beginning in late 2019 and continuing into 2021, the outbreak of the novel coronavirus disease, or COVID-19, has resulted in the declaration of a global pandemic and adversely affected economic activity across virtually all sectors and industries on a local, national, and global scale. The impact of COVID-19 on the economy and our business continues to be a fluid situation.

Operationally, we remain focused on supporting our customers, employees, and communities during this time. We responded quickly to adopt a virtual corporate strategy consisting of enabling most of our employees to work productively from home while continuing to guard the health and safety of our teams, support our customers, and mitigate risk. We remain focused on ensuring continuity for our customers. To the extent possible, we are conducting business as usual, with necessary or advisable modifications to employee travel, employee work locations, and marketing events.

Through March 31, 2021, we have not seen a meaningful adverse impact to our financial position, results of operations, and cash flows and liquidity as a result of COVID-19. While the verticals from which we have historically generated the majority of our revenue have been less impacted by COVID-19 to date, there may be impacts to our financial condition and results of operations in 2021 and beyond as a result of reduced demand for our products and services and longer sales cycles. The ultimate impact of COVID-19 on our business is not estimable at this time and will be largely dependent upon a number of factors outside of our control including the extent and duration of the outbreak as well as any mitigating actions which may be undertaken by global governments and the general public.

Our Business Model

Our business model focuses on maximizing the lifetime value of customer relationships, which is a function of the duration of a customer's deployment of our platform as well as the price and number of subscriptions of our platform that a customer purchases. We incur significant customer acquisition costs, including expenses associated with hiring new sales representatives, who generally take more than one year to become productive given the length of our sales cycle, and marketing costs, all of which, with the exception of sales commissions, are expensed as incurred.

Key Factors Affecting Our Performance

The following are several key factors that affect our performance:

- **Market Adoption of Our Platform.** Our ability to grow our customer base and drive market adoption of our platform is affected by the pace at which organizations digitally transform. We expect our revenue growth will be primarily driven by the pace of adoption and penetration of our platform. We offer a leading custom software automation platform and intend to continue to invest to expand our customer base. The degree to which prospective customers recognize the need for low-code software that enables organizations to digitally transform, and subsequently allocate budget dollars to purchase our software, will drive our ability to acquire new customers and increase sales to existing customers, which, in turn, will affect our future financial performance.

- **Growth of Our Customer Base.** We believe we have a substantial opportunity to grow our customer base. We define a customer as an entity with an active subscription or maintenance and support contract related to a perpetual software license as of the specified measurement date. To the extent we contract with one or more entities under common control, we count those entities as separate customers. We have aggressively invested, and intend to continue to invest in, our sales force in order to drive sales to new customers. We continue to make investments to enhance the expertise of our sales and marketing organization within our key industry verticals of financial services, government, and life sciences. In addition, we have established relationships with strategic partners who work with organizations undergoing digital transformations. Our ability to continue to grow our customer base is dependent, in part, upon our ability to differentiate ourselves within the increasingly competitive markets in which we participate.

- **Further Penetration of Existing Customers.** Our sales force seeks to generate additional revenue from existing customers by adding new users to our platform. Many of our customers begin by building a single application and then grow to build dozens of applications on our platform. Generally, the development of new applications on our platform results in the expansion of our user base within an organization and a corresponding increase in revenue to us because we charge subscription fees on a per-user basis and, to a lesser degree, non-user based single application licenses. As a result of this “land and expand” strategy, we have generated significant additional revenue from our customer base. Our ability to increase sales to existing customers will depend on a number of factors, including the size of our sales force and professional services teams, customers’ level of satisfaction with our platform and professional services, pricing, economic conditions, and our customers’ overall spending levels. We have also re-focused some of our professional services personnel to become customer success managers. Their role is to ensure the customer realizes value from our platform and support the “land and expand” strategy versus delivering billable hours.

- **Mix of Subscriptions and Professional Services Revenue.** We believe our professional services have driven customer success and facilitated the adoption of our platform by customers. During the initial period of deployment by a customer, we generally provide a greater amount of support in building applications and training than later in the deployment, with a typical engagement extending from two to six months. At the same time, many of our customers have historically purchased subscriptions only for a limited set of their total potential end users. As a result of these factors, the proportion of total revenue for a customer associated with professional services is relatively high during the initial deployment period. Over time, as the need for professional services associated with user deployments decreases and the number of end users increases, we expect subscriptions revenue as a percentage of total revenue to increase. In addition, we intend to further grow our base of strategic partners to provide broader customer coverage and solution delivery capabilities. These partners perform professional services with respect to any new service contracts they sign. As the usage of partners expands, we expect the proportion of our total revenue from subscriptions to increase over time relative to professional services. For the three months ended March 31, 2021, 71.8% of our revenue was derived from sales of subscriptions, while the remaining 28.2% was derived from the sale of professional services. For the three months ended March 31, 2020, 64.0% of our revenue was derived from sales of subscriptions, while the remaining 36.0% was derived from the sale of professional services.

- **Investments in Growth.** We have made, and plan to continue to make, investments for long-term growth, including investment in our platform and infrastructure to continuously maximize the power and simplicity of the platform to meet the evolving needs of our customers and to take advantage of our market opportunity. In addition, we continue to pursue strategic acquisitions that enhance our product offerings. We also intend to continue to invest in sales and marketing as we further expand our sales teams, increase our marketing activities, and grow our international operations.

Key Metrics

We monitor the following metrics to help us measure and evaluate the effectiveness of our operations. All dollar amounts are presented in thousands.

Cloud Subscription Revenue

	Three Months Ended March 31,	
	2021	2020
Cloud subscription revenue	$ 39,053	$ 28,390

Cloud subscription revenue includes SaaS subscriptions bundled with maintenance and support and hosting services. As we generally sell our SaaS subscriptions on a per-user basis, our cloud subscription revenue for any customer is primarily determined by the number of users who access and utilize the applications built on our platform as well as the price paid. We believe increasing cloud subscription revenue is an indicator of the demand for our platform, the pace at which the market for our solutions is growing, the productivity of our sales force and strategic relationships in growing our customer base, and our ability to further penetrate our existing customer base.

Cloud Subscription Revenue Retention Rate

	As of March 31,	
	2021	2020
Cloud subscription revenue retention rate	118 %	115 %

A key factor to our success is the renewal and expansion of subscription agreements with our existing customers. We calculate this metric over a set of customers who have been with us for at least one full year. To calculate our cloud subscription revenue retention rate for a particular trailing 12-month period, we first establish the recurring cloud subscription revenue for the previous trailing 12-month period. This effectively represents recurring dollars we should expect in the current trailing 12-month period from the cohort of customers from the previous trailing 12-month period without any expansion or contraction. We subsequently measure the recurring cloud subscription revenue in the current trailing 12-month period from the cohort of customers from the previous trailing 12-month period. Cloud subscription revenue retention rate is then calculated by dividing the aggregate recurring cloud subscription revenue in the current trailing 12-month period by the previous trailing 12-month period. This calculation includes the impact on our revenue from customer non-renewals, pricing changes, and growth in the number of users on our platform. Our cloud subscription revenue retention rate can fluctuate from period to period due to large customer contracts in any given period. Cloud subscription revenue retention rate increased year over year due to improved upsell rates in the latter half of 2020.

Key Components of Results of Operations

Revenue

We generate revenue primarily through sales of subscriptions to our platform as well as professional services. We generally sell our software on a per-user basis and, to a lesser degree, non-user based single application licenses. We generally bill customers and collect payment for subscriptions to our platform in advance on an annual, quarterly, or monthly basis. In certain instances, we have had customers pay their entire contract value up front.

Our revenue is comprised of the following:

Subscriptions

Subscriptions revenue is primarily derived from:

- SaaS subscriptions bundled with maintenance and support and hosting services; and
- On-premises term license subscriptions bundled with maintenance and support.

Our maintenance and support agreements provide customers with the right to unspecified software upgrades, maintenance releases and patches released during the term of the maintenance and support agreement on a when-and-if-available basis, and rights to technical support. On-premises term license subscriptions are offered when the customer prefers to self-manage the deployment of our platform within their own infrastructure. When our platform is delivered as a SaaS subscription, we manage their operational needs in third-party hosted data centers.

Professional Services

Our professional services revenue is comprised of fees for consulting services, including application development, deployment assistance, and training related to our platform. Over time, as the need for professional services associated with user deployments decreases and the number of end users increases, we expect professional services revenue as a percentage of total revenue to decrease. Additionally, professional services revenue may be negatively impacted if there is a decline in our procurement of new customers as a result of the COVID-19 pandemic.

We have several strategic partnerships, including with KPMG, PwC, Accenture, and Deloitte. Our agreements with our strategic partners have indefinite terms and may be terminated for convenience by either party. We intend to further grow our base of strategic partners to provide broader customer coverage and solution delivery capabilities. These partners refer software subscription customers to us and generally perform professional services with respect to any new service contracts they originate, increasing our subscriptions revenue without any change to our professional services revenue. As we expand the network of strategic partners, we expect professional services revenue to decline as a percentage of total revenue over time since our strategic partners may perform professional services associated with software subscriptions we sell. Professional services revenue may also decline in absolute dollars if we increasingly rely on our network to procure new customers.

Cost of Revenue

Subscriptions

Cost of subscriptions revenue consists primarily of fees paid to our third-party managed hosting providers and other third-party service providers, personnel costs, including payroll and benefits for our technology operations and customer support teams, and allocated facility costs and overhead. We expect cost of revenue to continue to increase in absolute dollars for the foreseeable future as our customer base grows.

Professional Services

Cost of professional services revenue includes all direct and indirect costs to deliver our professional services and training, including employee compensation for our global professional services and training personnel, third-party contractor costs, allocated facility costs and overhead, and the costs of billable expenses such as travel and lodging. The unpredictability of the timing of entering into significant professional services agreements sold on a standalone basis may cause significant fluctuations in our quarterly financial results and allocated facility costs and overhead.

Gross Margin

Gross profit and gross margin, or gross profit as a percentage of total revenue, have been, and will continue to be, affected by various factors, including the mix of SaaS subscriptions and on-premises term license subscriptions, the mix of total subscriptions revenue and professional services revenue, subscription pricing, the costs associated with third-party hosting facilities, and the extent to which we expand our professional services to support future growth. Our gross margin may fluctuate from period to period based on the above factors.

Subscriptions Gross Margin

Subscriptions gross margin is primarily affected by the growth in our subscriptions revenue as compared to the growth in, and timing of, costs to support such revenue. We expect to continue to invest in customer support and SaaS operations to support growth in our business, and the timing of those investments is expected to cause gross margins to fluctuate in the short term but improve over time.

Professional Services Gross Margin

Professional services gross margin is affected by the growth in our professional services revenue as compared to the growth in, and timing of, the cost of our Customer Success organization as we continue to invest in the growth of our business. Professional services gross margin is also impacted by the amount of services performed by subcontractors and partners as opposed to internal resources. More recently, we have reduced our usage of subcontractors, and the COVID-19 pandemic has resulted in fewer in-person professional services engagements and deployments, both of which have reduced certain classes of expenses and improved professional services margins. However, our improved margins may not be indicative of future trends and are subject to fluctuation based on the factors discussed above and uncertainties related to the COVID-19 pandemic outside of our control.

Operating Expenses

Operating expenses consist of sales and marketing, research and development, and general and administrative expenses. Salaries, bonuses, and other personnel-related costs are the most significant components of each of these expense categories. In general, our operating expenses are expected to continue to increase as we invest resources in growing our various teams.

Sales and Marketing Expense

Sales and marketing expense primarily includes personnel costs, including salaries, bonuses, commissions, stock-based compensation, and other personnel costs related to sales teams. Additional expenses in this category include travel and entertainment, marketing activities and promotional events, subcontracting fees, and allocated facility costs and overhead.

In order to continue to grow our business, geographical footprint, and brand awareness, we expect to continue investing resources in sales and marketing by increasing the number of sales and account management teams. As a result, we expect sales and marketing expense to increase in absolute dollars as we continue to invest to acquire new customers and further expand usage of our platform within our existing customer base.

Research and Development Expense

Research and development expense consists primarily of personnel costs for our employees who develop and enhance our platform, including salaries, bonuses, stock-based compensation, and other personnel costs. Also included are non-personnel costs such as subcontracting, consulting and professional fees to third party development resources, allocated facility costs, and overhead.

Our research and development efforts are focused on enhancing the speed and power of our software platform. We expect research and development expenses to continue to increase as they are critical to maintain and improve the quality of applications and our competitive position.

General and Administrative Expense

General and administrative expense consists primarily of personnel costs, including salaries, bonuses, stock-based compensation, and other personnel costs for our administrative, legal, information technology, human resources, finance, and accounting employees as well as our executives. Additional expenses included in this category are non-personnel costs such as travel-related expenses, contracting and professional fees, audit fees, tax service and legal fees, insurance and other corporate expenses, allocated facility costs and overhead, bad debt expenses, and depreciation and amortization costs.

We expect our general and administrative expense to increase in absolute dollars as we continue to support our growth.

Other (Income) Expense

Other (Income) Expense, Net

Other (income) expense, net consists primarily of unrealized and realized gains and losses related to changes in foreign currency exchange rates, interest income on our cash and cash equivalents and investments, gains or losses on the disposal of property and equipment, and other sources of income or expense not related to our core business operations.

Interest Expense

Interest expense consists primarily of interest on our finance leases and debt, unused credit facility fees, and commitment fees on our letters of credit.

Results of Operations

The following table sets forth our condensed consolidated statement of operations data (in thousands):

	Three Months Ended March 31,	
	2021	**2020**
Revenue		
Subscriptions	$ 63,766	$ 50,436
Professional services	25,089	28,428
Total revenue	88,855	78,864
Cost of revenue[(1)]		
Subscriptions	5,854	5,383
Professional services	17,675	18,736
Total cost of revenue	23,529	24,119
Gross profit	65,326	54,745
Operating expenses[(1)]		
Sales and marketing	35,984	34,172
Research and development	20,690	16,038
General and administrative	19,142	13,141
Total operating expenses	75,816	63,351
Operating loss	(10,490)	(8,606)
Other expense		
Other expense, net	2,893	3,114
Interest expense	81	143
Total other expense	2,974	3,257
Loss before income taxes	(13,464)	(11,863)
Income tax expense (benefit)	123	(194)
Net loss	$ (13,587)	$ (11,669)

[(1)] Stock-based compensation as a component of these line items is as follows:

	Three Months Ended March 31,	
	2021	**2020**
Cost of revenue		
Subscriptions	$ 297	$ 213
Professional services	641	212
Operating expenses		
Sales and marketing	1,108	753
Research and development	1,015	553
General and administrative	4,833	1,745
Total stock-based compensation expense	$ 7,894	$ 3,476

The following table sets forth our condensed consolidated statement of operations data expressed as a percentage of total revenue:

	Three Months Ended March 31,	
	2021	2020
Revenue		
Subscriptions	71.8 %	64.0 %
Professional services	28.2	36.0
Total revenue	100.0	100.0
Cost of revenue		
Subscriptions	6.6	6.8
Professional services	19.9	23.8
Total cost of revenue	26.5	30.6
Gross profit	73.5	69.4
Operating expenses		
Sales and marketing	40.5	43.3
Research and development	23.3	20.3
General and administrative	21.5	16.7
Total operating expenses	85.3	80.3
Operating loss	(11.8)	(10.9)
Other expense		
Other expense, net	3.3	3.9
Interest expense	0.1	0.2
Total other expense	3.4	4.1
Loss before income taxes	(15.2)	(15.0)
Income tax expense (benefit)	0.1	(0.2)
Net loss	(15.3)%	(14.8)%

Comparison of the Three Months Ended March 31, 2021 and 2020

Revenue

	Three Months Ended March 31,		
	2021	2020	% Change
	(dollars in thousands)		
Revenue			
Subscriptions	$ 63,766	$ 50,436	26.4 %
Professional services	25,089	28,428	(11.7)%
Total revenue	$ 88,855	$ 78,864	12.7 %

Total revenue increased $10.0 million, or 12.7%, in the three months ended March 31, 2021 compared to the same period in 2020 due to an increase in our subscriptions revenue of $13.3 million, partially offset by a decrease in our professional services revenue of $3.3 million. The increase in subscriptions revenue was driven largely by a $10.7 million increase in cloud subscription revenue and a $2.1 million increase in on-premises subscription revenue. With respect to new versus existing customers, there was a $6.6 million increase in subscriptions revenue stemming from expanded deployments and corresponding sales of additional subscriptions to existing customers while the remaining increase of $6.7 million was the result of sales of subscriptions to new customers. The decrease in professional services revenue was due primarily to a $12.9 million decrease in revenue from existing customers which was substantially offset by a $9.6 million increase in sales to new customers. Further contributing to the decrease in professional services revenue was our increased usage of partners to perform professional services in the three months ended March 31, 2021 as compared to the same period in 2020, which has resulted in increases to our subscriptions revenue without any change to our professional services revenue.

Cost of Revenue

	Three Months Ended March 31,		% Change
	2021	2020	
	(dollars in thousands)		
Cost of revenue			
Subscriptions	$ 5,854	$ 5,383	8.7 %
Professional services	17,675	18,736	(5.7)%
Total cost of revenue	$ 23,529	$ 24,119	(2.4)%
Subscriptions gross margin	90.8 %	89.3 %	
Professional services gross margin	29.6 %	34.1 %	
Total gross margin	73.5 %	69.4 %	

Cost of revenue decreased $0.6 million, or 2.4%, in the three months ended March 31, 2021 compared to the same period in 2020, primarily due to a $2.3 million decrease in contractor costs coupled with a $1.2 million decrease in billable expenses and a $0.1 million decrease in facility and overhead costs. These decreases were partially offset by a $2.3 million increase in professional services and product support personnel costs and a $0.8 million increase in other cost of revenue. Contractor costs decreased in the three months ended March 31, 2021 compared to the same period in 2020 due to a decrease in the usage of subcontractors for professional services engagements. Billable expenses decreased primarily due to lower travel and entertainment related expenses as a result of our shift to largely remote work, while the decrease in facility and overhead costs was due largely to a reduction in certain allocated employee costs. Personnel costs increased due to an increase in professional services and product support personnel headcount of 9.8% from March 31, 2020 to March 31, 2021. The increase in other cost of revenue was due to increased hosting costs as sales of our cloud offering increased in the three months ended March 31, 2021.

Subscriptions gross margin increased to 90.8% for the three months ended March 31, 2021 compared to 89.3% in the same period in 2020 due to an increase in subscriptions revenue during the three months ended March 31, 2021 as compared to the three months ended March 31, 2020, partially offset by increased hosting costs as sales of our cloud offering increased and became a larger proportion of our overall subscriptions revenue. Professional services gross margin decreased to 29.6% for the three months ended March 31, 2021 compared to 34.1% in the same period in 2020 due to a decrease in professional services revenue during the three months ended March 31, 2021 coupled with higher personnel costs, partially offset by decreases in the usage of subcontractors for professional services engagements and travel and entertainment-related expenses as a result of our shift to largely remote work. Given the higher percentage of subscriptions revenue for the comparable periods and the aforementioned decline in professional services revenue, gross margin rose to 73.5% in the three months ended March 31, 2021 as compared to 69.4% in the same period in 2020.

Sales and Marketing Expense

	Three Months Ended March 31,		% Change
	2021	2020	
	(dollars in thousands)		
Sales and marketing	$ 35,984	$ 34,172	5.3 %
% of revenue	40.5 %	43.3 %	

Sales and marketing expense increased $1.8 million, or 5.3%, in the three months ended March 31, 2021 compared to the same period in 2020, primarily due to a $5.5 million increase in sales and marketing personnel costs and a $0.3 million increase in professional fees, which were offset by a $2.8 million decrease in facility and overhead costs and a $1.2 million decrease in marketing costs. Personnel costs increased due to an increase in sales and marketing personnel headcount of 15.4% from

March 31, 2020 to March 31, 2021, increased sales commissions driven by our subscriptions revenue growth, and a $0.4 million increase in stock-based compensation expense. Professional fees increased due to an increase in consulting fees to support our growth. Facility and overhead costs decreased due to lower travel and entertainment-related expenses as a result of our shift to largely remote work. Marketing costs decreased due to a reduction of in-person marketing events and lower spending associated with hosting our annual user conference Appian World during the three months ended March 31, 2021 as compared to the three months ended March 31, 2020.

Research and Development Expense

	Three Months Ended March 31,		
	2021	2020	% Change
	(dollars in thousands)		
Research and development	$ 20,690	$ 16,038	29.0 %
% of revenue	23.3 %	20.3 %	

Research and development expense increased $4.7 million, or 29.0%, in the three months ended March 31, 2021 compared to the same period in 2020, primarily due to a $4.2 million increase in research and development personnel costs, a $0.4 million increase in facility and overhead costs, and a $0.1 million increase in professional fees. Personnel costs increased due to an increase in research and development personnel headcount of 19.3% from March 31, 2020 to March 31, 2021. Facility and overhead costs increased due to higher information technology spending to support our growth. Professional fees increased due to an increase in consulting fees.

General and Administrative Expense

	Three Months Ended March 31,		
	2021	2020	% Change
	(dollars in thousands)		
General and administrative expense	$ 19,142	$ 13,141	45.7 %
% of revenue	21.5 %	16.7 %	

General and administrative expense increased $6.0 million, or 45.7%, in the three months ended March 31, 2021 compared to the same period in 2020, primarily due to a $5.2 million increase in general and administrative personnel costs and a $1.3 million increase in professional fees, which were offset by a $0.5 million decrease in facility and overhead costs. Personnel costs increased due to the acceleration of $3.3 million in stock-based compensation expense stemming from the vesting of the 2019 CEO grant, coupled with an increase in general and administrative personnel headcount of 12.8% from March 31, 2020 to March 31, 2021. Professional fees increased due to increased legal fees. Facility and overhead costs decreased primarily due to reduced human resource costs during the three months ended March 31, 2021, combined with lower travel and entertainment related expenses as a result of our shift to largely remote work.

Other Expense, Net

	Three Months Ended March 31,		
	2021	2020	% Change
	(dollars in thousands)		
Other expense, net	$ 2,893	$ 3,114	(7)%
% of revenue	3.3 %	3.9 %	

Other expense, net decreased by $0.2 million in the three months ended March 31, 2021 compared to the same period in 2020, primarily due to $3.0 million in foreign exchange losses in the three months ended March 31, 2021 compared to $3.5 million in foreign exchange losses in the three months ended March 31, 2020. The decrease in foreign exchange losses was primarily due to currency fluctuations of the Australian dollar, Swedish krona, Swiss franc, British Pound Sterling, Euro, and Singapore dollar versus the U.S. dollar during the three months ended March 31, 2021 compared to the same period in 2020.

Interest Expense

	Three Months Ended March 31,		
	2021	2020	% Change
	(dollars in thousands)		
Interest expense	$ 81	$ 143	(43.4)%
% of revenue	0.1 %	0.2 %	

Interest expense decreased by $0.1 million in the three months ended March 31, 2021 compared to the same period in 2020, primarily due to lower commitment fees on the letter of credit outstanding.

Liquidity and Capital Resources

The following table presents selected financial information and statistics as of March 31, 2021 and December 31, 2020 as well as for the three months ended March 31, 2021 and 2020 (in thousands):

	As of	
	March 31, 2021	December 31, 2020
Cash and cash equivalents	$ 114,752	$ 112,462
Short-term investments and marketable securities	118,012	109,826
Property and equipment, net	34,682	35,404
Long-term investments	22,317	36,120
Working capital	220,465	209,532

	Three Months Ended March 31,	
	2021	2020
Net cash used in operating activities	$ (2,810)	$ (3,859)
Net cash provided by (used in) investing activities	5,157	(6,340)
Net cash provided by financing activities	625	313

As of March 31, 2021, we had $114.8 million of cash and cash equivalents and $118.0 million of short-term investments and marketable securities. We believe our existing cash and cash equivalents and short-term investments and marketable securities, together with any positive cash flows from operations and available borrowings under our line of credit, will be sufficient to support working capital and capital expenditure requirements for at least the next 12 months. Our future capital requirements will depend on many factors, including our growth rate, the timing and extent of spending to support research and development efforts, the expansion of sales and marketing activities, particularly internationally, the introduction of new and enhanced products and functions as well as platform enhancements and professional services offerings, the level of market acceptance of our applications, spending we may incur on expansion of our headquarters, and the global economic uncertainty and financial market conditions caused by the COVID-19 pandemic and its impact on our business.

In the event additional financing is required from outside sources, we may be unable to raise the funds on acceptable terms, if at all. To the extent existing cash and cash equivalents and investments and cash from operations are not sufficient to fund future activities, we may need to raise additional funds. We may seek to raise additional funds through equity, equity-linked, or debt financings. If we raise additional funds through the incurrence of indebtedness, such indebtedness may have rights that are senior to holders of our equity securities and could contain covenants that restrict operations. Any additional equity financing may be dilutive to our existing stockholders. We recently have, and in the future may, enter into investments in or acquisitions of complementary businesses, products, or technologies, which could also require us to seek additional equity financing, incur indebtedness, or use cash resources. We have no present binding agreements or commitments to enter into any such acquisitions. If we are unable to raise additional capital when desired, our business, operating results, and financial condition could be adversely affected.

Sources of Funds

We have financed our operations in large part with equity and debt financing arrangements, including net proceeds of $77.8 million from our initial public offering in May 2017, net proceeds of $57.8 million from our underwritten public offering in August 2018, net proceeds of $101.3 million from our underwritten public offering in September 2019, and net proceeds of $107.9 million from our underwritten public offering in June 2020. In addition, we have financed our operations through sales of subscriptions and professional services and borrowings under our credit facilities.

We also have the ability to draw upon a $20.0 million revolving line of credit which we entered into in November 2017. The facility matures in November 2022. We may elect whether amounts drawn on the revolving line of credit bear interest at a floating rate per annum equal to either the LIBOR or the Prime rate plus an additional interest rate margin that is determined by the availability of borrowings under the revolving line of credit. The additional interest rate margin will range from 2.00% to 2.50% in the case of LIBOR advances and from 1.00% to 1.50% in the case of Prime rate advances. The revolving line of credit contains an unused facility fee in an amount between 0.15% and 0.25% of the average unused portion of the revolving line of credit, which is payable quarterly. The agreement contains certain customary affirmative and negative covenants and requires us to maintain (i) an adjusted quick ratio of at least 1.35 and (ii) minimum adjusted EBITDA in the amounts and for the periods set forth in the agreement. Any amounts borrowed under the credit facility are collateralized by substantially all of our assets. We were in compliance with all covenants as of March 31, 2021. As of March 31, 2021, we had not made any borrowings under this revolving line of credit, and we had outstanding letters of credit totaling $11.2 million in connection with securing our leased office space.

Uses of Funds

Our current principal uses of cash are funding operations and other working capital requirements. In the past, we utilized cash to pay for the acquisition of an entity we believe to be complementary to our business, and we may pursue similar opportunities in the future. Over the past several years, revenue has increased significantly from year to year and, as a result, cash flows from customer collections have increased. However, operating expenses have also increased as we have invested in growing our business. Our uses of cash in 2021 to date have included modest capital expenditures while cash uses in the prior year through March 31, 2020 consisted primarily of the acquisition of Novayre.

Historical Cash Flows

Operating Activities

For the three months ended March 31, 2021, net cash used in operating activities of $2.8 million consisted of a net loss of $13.6 million, offset by $2.1 million of cash provided by changes in working capital and $8.7 million in adjustments for non-cash items. Adjustments for non-cash items consisted primarily of stock-based compensation of $7.9 million, depreciation and amortization expense of $1.3 million, and deferred income tax adjustments of $0.4 million. The increase in cash and cash equivalents resulting from changes in working capital primarily consisted of a $12.7 million decrease in accounts receivable stemming from increased cash collections as well as the timing of billings, a $1.2 million increase in accounts payable and accrued expenses primarily due to the timing of payments, a $0.2 million increase in operating lease liabilities, and a $0.2 million increase in other current and non-current liabilities. These increases to working capital were partially offset by a $7.2 million net decrease in deferred revenue as a result of decreased subscription sales, a $2.6 million increase in deferred commissions due to increased sales activity, a $2.0 million decrease in accrued compensation and related benefits as a result of lower employee benefit accruals for such costs as commissions and bonuses, and a $0.3 million increase in prepaid expenses and other assets primarily due to the timing of payments.

For the three months ended March 31, 2020, net cash used in operating activities of $3.9 million consisted of a net loss of $11.7 million, offset by $5.2 million in adjustments for non-cash items and $2.6 million of cash provided by changes in working capital. Adjustments for non-cash items consisted of stock-based compensation of $3.5 million, depreciation and amortization expense of $1.5 million, and bad debt expense of $0.2 million. The increase in cash and cash equivalents resulting from changes in working capital primarily consisted of a $5.8 million decrease in accounts receivable stemming from increased cash collections during the three months ended March 31, 2020, a $1.2 million increase in operating lease liabilities, and a $0.5 million decrease in deferred commissions. These increases to working capital were partially offset by a $2.5 million decrease in deferred revenue as a result of decreased subscription sales, a $1.8 million decrease in accounts payable and accrued expenses primarily due to the timing of payments, and a $0.4 million decrease in accrued compensation expense due largely to a decrease in employee reimbursable expenses.

Investing Activities

For the three months ended March 31, 2021, net cash provided by investing activities was $5.2 million, which was due to $5.6 million in proceeds from the sale of investments, partially offset by $0.5 million in purchases of property and equipment.

For the three months ended March 31, 2020, net cash used in investing activities was $6.3 million which was primarily the result of $6.1 million in payments, net of cash acquired, related to the acquisition of Novayre. In addition, there were approximately $0.2 million in purchases of property and equipment.

Financing Activities

For the three months ended March 31, 2021, net cash provided by financing activities was $0.6 million, consisting entirely of proceeds received from stock option exercises.

For the three months ended March 31, 2020, net cash provided by financing activities was $0.3 million, consisting of $0.7 million in proceeds received from stock option exercises partially offset by $0.4 million in principal payments on finance leases.

Off-Balance Sheet Arrangements

As of March 31, 2021, we did not have any relationships with unconsolidated entities or financial partnerships, including entities sometimes referred to as structured finance or special purpose entities, that were established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. We do not engage in off-balance sheet financing arrangements. In addition, we do not engage in trading activities involving non-exchange traded contracts. As a result, we believe we are not materially exposed to any financing, liquidity, market, or credit risks that could arise if we had engaged in these relationships.

Critical Accounting Estimates

The preparation of our condensed consolidated financial statements in conformity with U.S. GAAP requires us to make estimates and judgments that affect the amounts reported in our financial statements and accompanying notes. Although we believe the estimates we use are reasonable, due to the inherent uncertainty involved in making those estimates, actual results reported in future periods could differ from those estimates. Significant estimates and judgments embedded in the condensed consolidated financial statements for the periods presented include revenue recognition, income taxes and the related valuation allowance, stock-based compensation, the valuation of goodwill and intangible assets, valuation of financial instruments, leases, and costs to obtain a contract with a customer.

There have been no material changes in our critical accounting policies from those disclosed in our Annual Report on Form 10-K for the year ended December 31, 2020, filed with the SEC on February 18, 2021. Furthermore, while we continue to monitor the developments surrounding the COVID-19 pandemic, we are not aware of any specific events or circumstances that would require us to update our estimates, assumptions, and judgments.

Recent Accounting Pronouncements

See Note 2 to the unaudited condensed consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q for a discussion of recent accounting pronouncements.

Item 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risks in the ordinary course of our business. Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily the result of fluctuations in interest rates and foreign currency exchange rates. The uncertainty that exists with respect to the economic impact of the global COVID-19 pandemic has also introduced significant volatility in the financial markets.

Interest Rate Risk

We had total cash and cash equivalents of $114.8 million as of March 31, 2021, which consisted of $49.9 million invested in a money market fund, cash in readily available checking accounts, and overnight repurchase investments. These securities, which are not dependent on interest rate fluctuations that may cause principal amounts to fluctuate, are held for reinvestment and working capital purchases.

In addition, as of March 31, 2021, we held $140.3 million of fixed income securities such as U.S. treasury bonds, commercial paper, corporate bonds, and asset-backed securities. These securities are subject to market risk due to fluctuations in interest rates, which may affect our interest income and the fair value of our investments. We classify investments as available-for-sale, including those with stated maturities beyond twelve months. As such, no gains or losses due to changes in interest rates are recognized in our condensed consolidated statements of operations unless such securities are sold prior to maturity or due to expected credit losses. A hypothetical 100 basis point change in interest rates would not have had a material effect on the fair market value of our investment portfolio as of March 31, 2021. To date, fluctuations in interest income have also not been significant. Our investments are made for the purpose of preserving capital, fulfilling liquidity needs, and maximizing total return. We do not enter into investments for trading or speculative purposes.

At March 31, 2021, we had no outstanding borrowings.

Inflation Risk

We do not believe inflation has had a material effect on our business, financial condition, or results of operations. If our costs become subject to significant inflationary pressures, we may not be able to fully offset such higher costs through price increases. Our inability or failure to do so could harm our business, financial condition, and results of operations.

Foreign Currency Exchange Risk

Our reporting currency is the U.S. dollar. Due to our international operations, we have foreign currency risks related to revenue and operating expenses denominated in currencies other than the U.S. dollar, primarily the Australian dollar, Swedish krona, Swiss franc, British pound sterling, Euro, and Singapore dollar. Our sales contracts are primarily denominated in the local currency of the customer making the purchase. In addition, a portion of operating expenses are incurred outside the United States and are denominated in foreign currencies. Decreases in the relative value of the U.S. dollar to other currencies may negatively affect revenue and other operating results as expressed in U.S. dollars. We do not believe an immediate 10% increase or decrease in the relative value of the U.S. dollar to other currencies would have a material effect on operating results.

We have experienced and will continue to experience fluctuations in net loss as a result of transaction gains or losses related to remeasuring certain current asset and current liability balances denominated in currencies other than the functional currency of the entities in which they are recorded. We have not engaged in the hedging of foreign currency transactions to date although we may choose to do so in the future.

Item 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures as defined in Rule 13a-15(e) and Rule 15d-15(e) under the Exchange Act that are designed to ensure information required to be disclosed by a company in the reports it files or submits under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure information required to be disclosed by a company in the reports it files or submits under the Exchange Act is accumulated and communicated to our management, including our principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure.

Our management, with the participation of our Chief Executive Officer and our Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of March 31, 2021. Based on the evaluation of our disclosure controls and procedures as of March 31, 2021, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control Over Financial Reporting

There was no change in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the period covered by this Quarterly Report on Form 10-Q that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on Effectiveness of Controls

Our management, including our Chief Executive Officer and Chief Financial Officer, believes our disclosure controls and procedures and internal control over financial reporting are designed to provide reasonable assurance of achieving their objectives and are effective at the reasonable assurance level. However, our management does not expect our disclosure controls and procedures or our internal control over financial reporting will prevent all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance the objectives of the control system are met. Further, the design of a control system must reflect the fact there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. These inherent limitations include the realities that judgments in decision making can be faulty, and breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

PART II—OTHER INFORMATION

Item 1. LEGAL PROCEEDINGS

From time to time, we may become involved in legal proceedings or be subject to claims arising in the ordinary course of our business. We are not presently a party to any legal proceedings that, if determined adversely to us, would individually or taken together have a material adverse effect on our business, operating results, financial condition, or cash flows. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources, and other factors.

Item 1A. RISK FACTORS

Our business is subject to risks and events that, if they occur, could adversely affect our financial condition and results of operations and the trading price of our securities. In addition to the other information set forth in this Quarterly Report on Form 10-Q, you should carefully consider the factors described in "Part I, Item 1A. Risk Factors" of our Annual Report on Form 10-K for the year ended December 31, 2020, filed with the SEC on February 18, 2021. There have been no material changes to the risk factors described in that report.

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

a. Recent Sales of Unregistered Equity Securities

Not applicable.

b. Use of Proceeds

Not applicable.

c. Issuer Purchases of Equity Securities

Not applicable.

Item 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

Item 4. MINE SAFETY DISCLOSURES

Not applicable.

Item 5. OTHER INFORMATION

Not applicable.

Item 6. EXHIBITS

Exhibit No.	Description	Reference
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.	Attached.
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.	Attached.
32.1	Certifications of Principal Executive Officer and Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	Attached.
101.INS	XBRL Instance Document - The instance document does not appear in the interactive data file because its XBRL tags are embedded within the inline XBRL document.	Attached.
101.SCH	XBRL Taxonomy Extension Schema Document	Attached.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document	Attached.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document	Attached.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document	Attached.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document	Attached.
104	Cover page formatted as Inline XBRL and contained in Exhibit 101	Attached.

SIGNATURE

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.

APPIAN CORPORATION

May 6, 2021	By:	/s/ Matthew Calkins
		Name: Matthew Calkins
		Title: Chief Executive Officer and Chairman of the Board (on behalf of the Registrant and as Principal Executive Officer)

Exhibit 31.1

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

I, Matthew Calkins, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended March 31, 2021 of Appian Corporation (the “registrant”);

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

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

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

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

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

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

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

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

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

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

Date: May 6, 2021

/s/ Matthew Calkins
Matthew Calkins
Chief Executive Officer
(principal executive officer)

Exhibit 31.2

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

I, Mark Lynch, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended March 31, 2021 of Appian Corporation (the “registrant”);

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

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

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

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

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

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

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

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

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

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

Date: May 6, 2021

/s/ Mark Lynch
Mark Lynch
Chief Financial Officer
(principal financial officer)

Exhibit 32.1

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

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, (the “Exchange Act”) and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), Matthew Calkins, Chief Executive Officer of Appian Corporation (the “Company”), and Mark Lynch, Chief Financial Officer of the Company, each hereby certifies that, to the best of his knowledge:

1. The Company’s Quarterly Report on Form 10-Q for the period ended March 31, 2021, to which this Certification is attached as Exhibit 32.1 (the “Periodic Report”), fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and

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

IN WITNESS WHEREOF, the undersigned have set their hands hereto as of the 6th day of May, 2021.

/s/ Matthew Calkins	/s/ Mark Lynch
Matthew Calkins	Mark Lynch
Chief Executive Officer (principal executive officer)	Chief Financial Officer (principal financial officer)

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