UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended July 31, 2019

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: 001-38828

SEACHANGE INTERNATIONAL, INC.
(Exact name of registrant as specified in its charter)

Delaware	**04-3197974**
(State or other jurisdiction of incorporation or organization)	**(IRS Employer Identification No.)**
50 Nagog Park, Acton, MA	**01720**
Address of Principal Executive Offices	**Zip Code**

(978) 897-0100

Registrant's Telephone Number, Including Area Code

Former Name, Former Address and Former Fiscal Year, if Changed Since Last Report

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.01 Par Value	SEAC	The Nasdaq Global Select Market
Series A Participating Preferred Stock Purchase Rights	SEAC	The Nasdaq Global Select Market

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

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

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

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

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

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

The number of shares outstanding of the registrant's Common Stock on August 23, 2019 was 36,683,245.

SEACHANGE INTERNATIONAL, INC.

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PART I – FINANCIAL INFORMATION

ITEM 1. Financi al Statements

SEACHANGE INTERNATIONAL, INC.
CONSOLIDATED BALANCE SHEETS
(Unaudited, amounts in thousands, except share data)

	July 31, 2019	January 31, 2019
Assets		
Current assets:		
Cash and cash equivalents	$ 9,202	$ 20,317
Marketable securities	2,746	4,020
Accounts receivable, net of allowance for doubtful accounts of $575 and $577 at July 31, 2019 and January 31, 2019, respectively	11,019	19,267
Unbilled receivables	9,002	5,448
Inventory	198	924
Prepaid expenses and other current assets	6,087	6,033
Total current assets	38,254	56,009
Property and equipment, net	6,888	7,192
Operating lease right-of-use assets	1,745	—
Marketable securities, long-term	6,843	6,339
Intangible assets, net	2,977	—
Goodwill	9,783	8,753
Unbilled receivables, long-term	3,066	—
Other assets	636	450
Total assets	$ 70,192	$ 78,743
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 6,564	$ 4,503
Accrued expenses	6,417	7,762
Deferred revenue	7,142	8,104
Total current liabilities	20,123	20,369
Deferred revenue, long-term	2,014	2,642
Operating lease liabilities, long-term	1,222	—
Taxes payable, long-term	418	429
Deferred tax liabilities, long-term	—	203
Total liabilities	23,777	23,643
Commitments and contingencies (Note 7)		
Stockholders' equity:		
Common stock, $0.01 par value; 100,000,000 shares authorized at July 31, 2019 and January 31, 2019; 36,811,061 shares issued and 36,670,571 shares outstanding at July 31, 2019, 35,946,100 shares issued and 35,905,610 outstanding at January 31, 2019	367	359
Additional paid-in capital	243,514	242,442
Treasury stock, at cost; 140,490 shares at July 31, 2019 and 40,490 shares at January 31, 2019	(147)	(5)
Accumulated other comprehensive loss	(1,993)	(3,393)
Accumulated deficit	(195,326)	(184,303)
Total stockholders' equity	46,415	55,100
Total liabilities and stockholders' equity	$ 70,192	$ 78,743

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

SEACHANGE INTERNATIONAL, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(Unaudited, amounts in thousands, except per share data)

	For the Three Months Ended July 31,		For the Six Months Ended July 31,	
	2019	2018	2019	2018
Revenue:				
Product	$ 11,968	$ 1,462	$ 13,147	$ 4,553
Service	6,844	10,439	14,150	22,283
Total revenue	18,812	11,901	27,297	26,836
Cost of revenue:				
Product	3,039	490	3,948	816
Service	4,885	5,125	9,553	10,828
Total cost of revenue	7,924	5,615	13,501	11,644
Gross profit	10,888	6,286	13,796	15,192
Operating expenses:				
Research and development	3,775	5,185	8,027	10,914
Selling and marketing	2,963	3,932	5,815	7,599
General and administrative	4,150	4,903	8,399	9,475
Severance and restructuring costs	659	536	870	590
Total operating expenses	11,547	14,556	23,111	28,578
Loss from operations	(659)	(8,270)	(9,315)	(13,386)
Other expense, net	(78)	(1,962)	(1,869)	(2,811)
Loss before income taxes	(737)	(10,232)	(11,184)	(16,197)
Income tax benefit	(563)	(1,152)	(161)	(1,646)
Net loss	$ (174)	$ (9,080)	$ (11,023)	$ (14,551)
Net loss per share, basic and diluted	$ -	$ (0.26)	$ (0.30)	$ (0.41)
Weighted average common shares outstanding, basic and diluted	36,602	35,649	36,532	35,628
Comprehensive loss:				
Net loss	$ (174)	$ (9,080)	$ (11,023)	$ (14,551)
Other comprehensive income, net of tax:				
Foreign currency translation adjustment	133	856	1,340	1,431
Unrealized gains (losses) on marketable securities	25	11	60	(18)
Total other comprehensive income	158	867	1,400	1,413
Comprehensive loss	$ (16)	$ (8,213)	$ (9,623)	$ (13,138)

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

SEACHANGE INTERNATIONAL, INC.
CONSOLIDATED STATEMENTS OF STOC KHOLDERS' EQUITY
(Unaudited, amounts in thousands except share data)

	Common Stock		Additional	Treasury	Accumulated Other	Accumulated	Total
	Number of Shares	Par Value	Paid-in Capital	Stock	Comprehensive Loss	Deficit	Stockholders' Equity
Balances at January 31, 2019	35,946,100	$ 359	$ 242,442	$ (5)	$ (3,393)	$ (184,303)	$ 55,100
Issuance of common stock pursuant to acquisition of Xstream	541,738	5	869	—	—	—	874
Issuance of common stock pursuant to vesting of restricted stock units	57,368	1	(1)	—	—	—	—
Issuance of common stock pursuant to ESPP purchases	7,819	—	9	—	—	—	9
Stock-based compensation expense	—	—	(434)	—	—	—	(434)
Unrealized gains on marketable securities	—	—	—	—	35	—	35
Foreign currency translation adjustment	—	—	—	—	1,207	—	1,207
Net loss	—	—	—	—	—	(10,849)	(10,849)
Balances at April 30, 2019	36,553,025	365	242,885	(5)	(2,151)	(195,152)	45,942
Issuance of common stock pursuant to vesting of restricted stock units	258,036	2	(2)	—	—	—	—
Stock-based compensation expense	—	—	631	—	—	—	631
Repurchases of common stock	—	—	—	(142)	—	—	(142)
Unrealized gains on marketable securities	—	—	—	—	25	—	25
Foreign currency translation adjustment	—	—	—	—	133	—	133
Net loss	—	—	—	—	—	(174)	(174)
Balances at July 31, 2019	36,811,061	$ 367	$ 243,514	$ (147)	$ (1,993)	$ (195,326)	$ 46,415

	Common Stock		Additional	Treasury	Accumulated Other	Accumulated	Total
	Number of Shares	Par Value	Paid-in Capital	Stock	Comprehensive Loss	Deficit	Stockholders' Equity
Balances at January 31, 2018	35,634,984	$ 356	$ 239,423	$ (5)	$ (5,434)	$ (148,620)	$ 85,720
Adjustment resulting from the adoption of ASC 606	—	—	—	—	—	2,319	2,319
Issuance of common stock pursuant to exercise of stock options	5,875	—	17	—	—	—	17
Issuance of common stock pursuant to vesting of restricted stock units	8,356	—	—	—	—	—	—
Issuance of common stock pursuant to ESPP purchases	9,421	1	21	—	—	—	22
Stock-based compensation expense	—	—	879	—	—	—	879
Unrealized losses on marketable securities	—	—	—	—	(29)	—	(29)
Foreign currency translation adjustment	—	—	—	—	575	—	575
Net loss	—	—	—	—	—	(5,471)	(5,471)
Balances at April 30, 2018	35,658,636	357	240,340	(5)	(4,888)	(151,772)	84,032
Issuance of common stock pursuant to exercise of stock options	15,062	—	39	—	—	—	39
Issuance of common stock pursuant to vesting of restricted stock units	97,353	1	(1)	—	—	—	—
Adjustment to common stock pursuant to ESPP purchases	(1,604)	—	(4)	—	—	—	(4)
Stock-based compensation expense	—	—	923	—	—	—	923
Unrealized losses on marketable securities	—	—	—	—	11	—	11
Foreign currency translation adjustment	—	—	—	—	856	—	856
Net loss	—	—	—	—	—	(9,080)	(9,080)
Balances at July 31, 2018	35,769,447	$ 358	$ 241,297	$ (5)	$ (4,021)	$ (160,852)	$ 76,777

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

SEACHANGE INTERNATIONAL, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited, a mounts in thousands)

	For the Six Months Ended July 31,	
	2019	2018
Cash flows from operating activities:		
Net loss	$ (11,023)	$ (14,551)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization expense	1,093	1,552
Provision for bad debts	388	—
Stock-based compensation expense	197	1,802
Deferred income taxes	(203)	(758)
Unrealized foreign currency transaction gain	1,340	1,431
Other	67	76
Changes in operating assets and liabilities, including impact of acquisitions:		
Accounts receivable	8,482	10,115
Unbilled receivables	(6,598)	(2,335)
Inventory	726	(165)
Prepaid expenses and other current assets and other assets	196	(1,584)
Accounts payable	1,350	371
Accrued expenses and other liabilities	(2,463)	(10,640)
Deferred revenue	(1,590)	(5,729)
Other operating activities	—	2,430
Net cash used in operating activities	(8,038)	(17,985)
Cash flows from investing activities:		
Purchases of property and equipment	(153)	(284)
Cash paid for acquisitions, net	(3,838)	—
Purchases of marketable securities	(823)	(4,354)
Proceeds from sales and maturities of marketable securities	1,593	2,761
Other investing activities	—	(60)
Net cash used in investing activities	(3,221)	(1,937)
Cash flows from financing activities:		
Proceeds from issuance of common stock	9	74
Repurchases of common stock	(142)	—
Other financing activities	—	(35)
Net cash (used in) provided by financing activities	(133)	39
Effect of exchange rate on cash and cash equivalents	277	1,162
Net decrease in cash, cash equivalents and restricted cash	(11,115)	(18,721)
Cash, cash equivalents and restricted cash at beginning of period	20,317	43,661
Cash, cash equivalents and restricted cash at end of period	$ 9,202	$ 24,940
Supplemental disclosure of cash flow information		
Income taxes paid	$ 76	$ 2,735
Non-cash activities:		
Purchases of property and equipment included in accounts payable	$ 58	$ —
Fair value of common stock issued in acquisition	$ 874	$ —

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

1. Nature of Business and Basis of Presentation

SeaChange International, Inc., a Delaware corporation, was founded on July 9, 1993. We are an industry leader in the delivery of multiscreen, advertising and premium over-the-top ("OTT") video management solutions. Our software products and services are designed to empower video providers to create, manage and monetize the increasingly personalized, highly engaging experiences that viewers demand.

Liquidity

We continue to realize the savings related to our restructuring activities. During fiscal 2019, we made significant reductions to our headcount as part of our ongoing restructuring effort from which we expect to generate annualized savings of approximately $6 million. These measures are important steps in restoring us to profitability and positive cash flow. We believe that existing cash and investments and cash expected to be provided by future operating results, augmented by the plans highlighted below (see Note 9), are adequate to satisfy our working capital, capital expenditure requirements and other contractual obligations for at least the next 12 months.

If our expectations are incorrect, we may need to raise additional funds to fund our operations, to take advantage of unanticipated strategic opportunities or to strengthen our financial position. In the future, we may enter into other arrangements for potential investments in, or acquisitions of, complementary businesses, services or technologies, which could require us to seek additional equity or debt financing. If adequate funds are not available or are not available on acceptable terms, we may not be able to take advantage of market opportunities, to develop new products or to otherwise respond to competitive pressures.

Basis of Presentation and Principles of Consolidation

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("U.S. GAAP"). We consolidate the financial statements of our wholly-owned subsidiaries and all intercompany transactions and account balances have been eliminated in consolidation. In the opinion of management, the accompanying financial statements include all adjustments, consisting of only normal recurring items, necessary to present a fair presentation of the consolidated financial statements for the periods shown.

2. Significant Accounting Policies

Use of Estimates

The preparation of these consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses, and disclosure of contingent assets and liabilities. Significant estimates and assumptions reflected in these consolidated financial statements include, but are not limited to, those related to revenue recognition, allowance for doubtful accounts, goodwill and intangible assets, right-of-use operating leases, impairment of long-lived assets, accounting for income taxes, and the valuation of stock-based awards. We base our estimates on historical experience, known trends and other market-specific or relevant factors that are believed to be reasonable under the circumstances. On an ongoing basis, management evaluates its estimates as there are changes in circumstances, facts and experience. Changes in estimates are recorded in the period in which they become known. Actual results may differ from those estimates or assumptions.

Cash, cash equivalents and restricted cash

Cash and cash equivalents include cash on hand and on deposit and highly liquid investments in money market mutual funds, government sponsored enterprise obligations, treasury bills, commercial paper and other money market securities with remaining maturities at date of purchase of 90 days or less. All cash equivalents are carried at cost, which approximates fair value. Restricted cash represents cash that is restricted as to withdrawal or usage and consists primarily of cash held as collateral for performance obligations with our customers.

The following table provides a summary of cash, cash equivalents and restricted cash that constitutes the total amounts shown in the consolidated statements of cash flows for the six months ended July 31, 2019 and 2018:

	For the Six Months Ended July 31,	
	2019	2018
	(Amounts in thousands)	
Cash and cash equivalents	$ 9,202	$ 24,393
Restricted cash	-	547
Total cash, cash equivalents and restricted cash	$ 9,202	$ 24,940

Concentration of Credit Risk and of Significant Customers

Financial instruments which potentially expose us to concentrations of credit risk include cash and cash equivalents, marketable securities and accounts receivable. We have cash investment policies which, among other things, limit investments to investment-grade securities. We restrict our cash equivalents and marketable securities to repurchase agreements with major banks and U.S. government and corporate securities which are subject to minimal credit and market risk. We perform ongoing credit evaluations of our customers.

We sell our software products and services worldwide primarily to service providers, consisting of operators, telecommunications companies, satellite operators and broadcasters. Two customers accounted for 20% and 10%, respectively, of total revenue in the second quarter of fiscal 2020, and one customer accounted for 19% of total revenue in the second quarter of fiscal 2019. One customer accounted for 14% of total revenue in the first six months of fiscal 2020, and one customer accounted for 19% of total revenue in the first six months of fiscal 2019. Three customers accounted for 17%, 15% and 10%, respectively, of the accounts receivable balance as of July 31, 2019. Two customers accounted for 44% and 15%, respectively, of the accounts receivable balance as of January 31, 2019.

Marketable Securities

Our investments, consisting of debt securities, are classified as available-for-sale and are carried at fair value, with the unrealized gains and losses, net of tax, reported as a component of accumulated other comprehensive income (loss) in stockholders' equity. Realized gains and losses and declines in value determined to be other than temporary are based on the specific identification method and are included as a component of other income (expense), net in the consolidated statements of operations and comprehensive loss.

We evaluate our investments with unrealized losses for other-than-temporary impairment. When assessing investments for other-than-temporary declines in value, we consider such factors as, among other things, how significant the decline in value is as a percentage of the original cost, how long the market value of the investment has been less than its original cost, our ability and intent to retain the investment for a period of time sufficient to allow for any anticipated recovery in fair value and market conditions in general. If any adjustment to fair value reflects a decline in the value of the investment that we consider to be "other than temporary," we reduce the investment to fair value through a charge to the statement of operations and comprehensive loss. No such adjustments were necessary during the periods presented.

Fair Value Measurements

Certain assets and liabilities are carried at fair value under GAAP. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. Financial assets and liabilities carried at fair value are to be classified and disclosed in one of the following three levels of the fair value hierarchy, of which the first two are considered observable and the last is considered unobservable:

- Level 1—Quoted prices in active markets for identical assets or liabilities.
- Level 2—Observable inputs (other than Level 1 quoted prices), such as quoted prices in active markets for similar assets or liabilities, quoted prices in markets that are not active for identical or similar assets or liabilities, or other inputs that are observable or can be corroborated by observable market data.
- Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to determining the fair value of the assets or liabilities, including pricing models, discounted cash flow methodologies and similar techniques.

Our cash equivalents and marketable securities are carried at fair value determined according to the fair value hierarchy described above. The carrying values of our accounts and other receivables, unbilled receivables, accounts payable and accrued expenses approximate their fair values due to the short-term nature of these assets and liabilities.

Goodwill and Acquired Intangible Assets

We record goodwill when consideration paid in a business acquisition exceeds the value of the net assets acquired. Our estimates of fair value are based upon assumptions believed to be reasonable at that time but that are inherently uncertain and unpredictable. Assumptions may be incomplete or inaccurate, and unanticipated events or circumstances may occur, which may affect the accuracy or validity of such assumptions, estimates or actual results. Goodwill is not amortized, but rather is tested for impairment annually in our third quarter beginning August 1st of each year, or more frequently if facts and circumstances warrant a review, such as the ones mentioned in impairments of long-lived assets below. We have determined that there is a single reporting unit for the purpose of conducting this goodwill impairment assessment. We assess both the existence of potential impairment and the amount of impairment loss by comparing the fair value of the reporting unit with its carrying amount, including goodwill. Through July 31, 2019, we have recorded accumulated goodwill impairment charges of $54.8 million (see Note 6).

Intangible assets are recorded at their estimated fair values at the date of acquisition. We amortize acquired intangible assets over their estimated useful lives based on the pattern of consumption of the economic benefits or, if that pattern cannot be readily determined, on a straight-line basis.

Impairment of Long-Lived Assets

Long-lived assets primarily consist of property, plant and equipment and intangible assets with finite lives. Long-lived assets are evaluated for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset or group of assets may not be recoverable. Recoverability of long-lived assets or groups of assets is assessed based on a comparison of the carrying amount to the estimated future undiscounted cash flows. If estimated future undiscounted net cash flows are less than the carrying amount, the asset is considered impaired and expense is recorded at an amount required to reduce the carrying amount to fair value. Determining the fair value of long-lived assets includes significant judgment by management, and different judgments could yield different results.

We assess the useful lives and possible impairment of existing recognized long-lived assets whenever events or changes in circumstances occur that indicate that it is more likely than not that an impairment has occurred. We test long-lived assets for impairment by comparing the carrying amount to the sum of the net undiscounted cash flows expected to be generated by the asset whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. If the carrying amount of the asset exceeds its net undiscounted cash flows, then an impairment loss is recognized for the amount by which the carrying amount exceeds its fair value. We use a discounted cash flow approach or other methods, if appropriate, to assess fair value. Factors considered important which could trigger a review include:

- significant underperformance relative to historical or projected future operating results;
- significant changes in the manner of use of the acquired assets or the strategy for our overall business;
- identification of other impaired assets within a reporting unit;
- significant negative industry or economic trends;
- a significant decline in our stock price for a sustained period; and
- a decline in our market capitalization relative to net book value.

Determining whether a triggering event has occurred involves significant judgment. (see Note 6).

Revenue Recognition

Our revenue is derived from sales of hardware, software licenses, professional services, and maintenance fees related to the hardware and our software licenses.

Our contracts often contain multiple performance obligations. For contracts with multiple performance obligations, we account for individual performance obligations separately if they are distinct. The transaction price is allocated to the separate performance obligations on a relative standalone selling price basis. If the transaction price contains discounts or we expect to provide future price concessions, these elements are considered when determining the transaction price prior to allocation. Variable fees within the transaction price are estimated and recognized as revenue when we satisfy our performance obligations to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur. If the contract grants the client the option to acquire additional products or services, we assess whether or not any discount on the products and services is in excess of levels normally available to similar clients and, if so, we account for that discount as an additional performance obligation.

Hardware

We have concluded that hardware is either (1) a distinct performance obligation as the client can benefit from the product on its own or (2) a combined performance obligation with software licenses. This conclusion is dependent on the nature of the promise to the customer. In either scenario, hardware revenue is typically recognized at a point in time when control is transferred to the client, which is defined as the point in time when the client can use and benefit from the hardware. In situations where the hardware is distinct, it is delivered before services are provided and is functional without services, therefore the point in time when control is transferred is upon delivery or acceptance by the customer. When hardware and software are combined, we have determined standalone selling price for hardware utilizing the relative allocation method based on observable evidence.

Software licenses

We have concluded that our software licenses are either (1) a distinct performance obligation as the client can benefit from the software on its own or (2) a combined performance obligation with hardware, depending on the nature of the promise to the customer. In either scenario, software license revenue is typically recognized at a point in time when control is transferred to the client, which is defined as the point in time when the client can use and benefit from the license. The software license is delivered before related services are provided and is functional without services, updates, and technical support. Our license arrangements generally contain multiple performance obligations, including hardware, installation services, training, and maintenance. We have determined standalone selling price for software utilizing the relative allocation method based on observable evidence.

Maintenance

Maintenance revenue, which is included in services revenue in our consolidated statements of operations and comprehensive loss, includes revenue from client support and related professional services. Client support includes software upgrades on a when and-if available basis, telephone support, bug fixes or patches and general hardware maintenance support. Maintenance is priced as a percentage of the list price of the related software license and hardware. We determined the standalone selling price of maintenance based on this pricing relationship and observable data from standalone sales of maintenance.

We have identified three separate distinct performance obligations of maintenance:

- Software upgrades and updates;
- Technical support; and
- Hardware support.

These performance obligations are distinct within the contract and, although they are not sold separately, the components are not essential to the functionality of the other components. Each of the performance obligations included in maintenance revenue is a stand ready obligation that is recognized ratably over the passage of the contractual term for products sold on a standalone basis. For framework deals we have identified a single support service obligation which includes software upgrades and updates, installation services, and technical support.

Services

Our services revenue is comprised of software license implementation services, engineering services, training and reimbursable expenses. We have concluded that services are distinct performance obligations, with the exception of engineering services. Engineering services may be provided on a standalone basis, or bundled with a license, when we are providing custom development.

The standalone selling price for services in time and materials contracts is determined by observable prices in standalone services arrangements and recognized as revenue as the services are performed based on an input measure of hours incurred to total estimated hours.

We estimate the standalone selling price for fixed price services based on estimated hours adjusted for historical experience, at time and material rates charged in standalone services arrangements. Revenue for fixed price services is recognized over time as the services are provided based on an input measure of hours incurred to total estimated hours.

For framework deals we have identified a single support service obligation which includes software upgrades and updates, installations services, and technical support.

Contract modifications

We occasionally enter into amendments to previously executed contracts that constitute contract modifications. We assess each of these contract modifications to determine:

- If the additional products and services are distinct from the product and services in the original arrangement; and
- If the amount of consideration expected for the added products and services reflects the standalone selling price of those products and services.

A contract modification meeting both criteria is accounted for as a separate contract. A contract modification not meeting both criteria is considered a change to the original contract and is accounted for on either a prospective basis as a termination of the existing contract and the creation of a new contract, or a cumulative catch-up basis.

Significant Judgments

Our contracts with customers often include promises to transfer multiple products and services to a customer. Determining whether products and services are considered distinct performance obligations that should be accounted for separately versus together may require significant judgment. Once we determine the performance obligations, we determine the transaction price, which includes estimating the amount of variable consideration to be included in the transaction price, if any. We then allocate the transaction price to each performance obligation in the contract based on a relative standalone selling price method. The corresponding revenue is recognized as the related performance obligations are satisfied as discussed in the revenue categories above.

Judgment is required to determine the standalone selling price for each distinct performance obligation. We determine standalone selling price based on the price at which the performance obligation is sold separately. If the standalone selling price is not observable through past transactions, we estimate the standalone selling price taking into account available information such as market conditions and internally approved pricing guidelines related to the performance obligations.

With the exception of travel and entertainment expenses, our contracts do not generally include a variable component to the transaction price. With certain statements of work, we explicitly state that we are to be reimbursed for reasonable travel and entertainment expenses incurred as part of the delivery of professional services. In the cases when we are entitled to collect all travel and entertainment expenses incurred, an estimate of the fulfillment costs is made at the onset of the contract in order to determine the transaction price. The revenue associated with travel and entertainment expenses is then recognized over time along with the professional services.

Some of our contracts have payment terms that differ from the timing of revenue recognition, which requires us to assess whether the transaction price for those contracts include a significant financing component. We have elected the practical expedient that permits an entity to not adjust for the effects of a significant financing component if we expect that at the contract inception, the period between when the entity transfers a promised good or service to a customer and when the customer pays for that good or service will be one year or less. For those contracts in which the period exceeds the one-year threshold, this assessment, as well as the quantitative estimate of the financing component and its relative significance, requires judgment. We estimate the significant financing component provided to our customers with extended payment terms by determining the present value of the future payments by applying a discount rate that reflects the customer's creditworthiness.

Contract Balances

Contract assets consist of unbilled revenue, which is recognized as work progresses in accordance with agreed-upon contractualterms, either at periodic intervals or upon achievement of contractual milestones. Unbilled receivables expected to be billed and collected within one year are classified as current assets or long-term assets if expected to be billed and collected after one year. Contract liabilities consist of deferred revenue and customer deposits that arise when amounts are billed to or collected from customers in advance of revenue recognition.

Costs to Obtain and Fulfill a Contract

We recognize an asset for the incremental costs of obtaining a contract with a customer if we expect the benefit of those costs to be longer than one year. We have determined that commissions and special incentive payments ("Spiffs") for hardware and software maintenance and support and professional services paid under our sales incentive programs meet the requirements to be capitalized under ASC 340-40. Costs to obtain a contract are amortized as selling and marketing expense over the expected period of benefit in a manner that is consistent with the transfer of the related goods or services to which the asset relates. The judgments made in determining the amount of costs incurred include whether the commissions are in fact incremental and would not have occurred absent the customer contract and the estimate of the amortization period. The commissions and Spiffs related to professional services are amortized over time, as work is completed. The commissions and Spiffs for hardware and software maintenance are amortized over the life of the customer, which is estimated to be five years. These costs are periodically reviewed for impairment. We determined that no impairment existed as of July 31, 2019 or 2018. We have elected

to apply the practical expedient and recognize the incremental costs of obtaining contracts as an expense when incurred if the amortization period of the assets that we otherwise would have recognized is one year or less.

We capitalize incremental costs incurred to fulfill our contracts that (i) relate directly to the contract, (ii) are expected to generate resources that will be used to satisfy our performance obligation under the contract, and (iii) are expected to be recovered through revenue generated under the contract. Contract fulfillment costs include direct labor for support services, software enhancements, reimbursable expenses and professional services for customized software development costs. The revenue associated with the support services, software enhancements and reimbursable expenses is recognized ratably over time; therefore, the costs associated are expensed as incurred. The professional services associated with the customized software are not recognized until completion. As such, the professional services costs are capitalized and recognized upon completion of the services.

Leases

We account for our leases in accordance with ASC 842,*Leases*. A contract is accounted for as a lease when we have the right to control the asset for a period of time while obtaining substantially all of the asset's economic benefits. We determine if an arrangement is a lease or contains an embedded lease at inception. For arrangements that meet the definition of a lease, we determine the initial classification and measurement of our right-of-use operating lease asset and corresponding liability at the lease commencement date. We determine the classification and measurement of a modified lease at the date it is modified. The lease term includes only renewal options that it is reasonably assured to exercise. The present value of lease payments is typically determined by using its estimated secured incremental borrowing rate for the associated lease term as interest rates implicit in the leases are not normally readily determinable. Management's policy is to utilize the practical expedient to not record leases with an original term of twelve months or less on our consolidated balance sheets, and lease payments are recognized in the consolidated statements of operations and comprehensive loss on a straight-line basis over the lease term.

Our existing leases are for facilities, automobiles and equipment. None of our leases are with related parties.In addition to rent, office leases may require us to pay additional amounts for taxes, insurance, maintenance and other expenses, which are generally referred to as non-lease components. As a practical expedient, we account for the non-lease components together with the lease components as a single lease component for all of our leases. Only the fixed costs for leases are accounted for as a single lease component and recognized as part of a right-of-use asset and liability. Rent expense for operating leases is recognized on a straight-line basis over the reasonably assured lease term based on the total lease payments and is included in operating expense in the consolidated statements of operations.

Net Income (Loss) Per Share

Basic net income (loss) per share is computed by dividing net income (loss) by the weighted average number of unrestricted common shares outstanding during the period. Diluted net income (loss) per share is computed by dividing net income (loss) by the sum of the weighted average number of unrestricted common shares outstanding during the period and the weighted average number of potential common shares from the assumed exercise of stock options and the vesting of shares of restricted and deferred common stock units using the "treasury stock" method when the effect is not anti-dilutive. In periods in which we report a net loss, diluted net loss per share is the same as basic net loss per share.

The number of common shares used in the computation of diluted net income (loss) per share for the periods presented does not include the effect of the following potentially outstanding common shares because the effect would have been anti-dilutive:

	For the Three Months Ended July 31,		**For the Six Months Ended July 31,**	
	2019	**2018**	**2019**	**2018**
	(Amounts in thousands)			
Stock options	2,596	2,923	2,764	3,014
Restricted stock units	128	193	219	192
Deferred stock units	254	173	229	189
Performance stock units	120	352	111	291
	3,098	3,641	3,323	3,686

Recently Adopted Accounting Pronouncements

In August 2018, the FASB issued Accounting Standards Update ("ASU") 2018-15, "*Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract."* ASU 2018-15 aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal use software license). The accounting

for the service element of a hosting arrangement that is a service contract is not affected by these amendments. We adopted ASU 2018-15 on February 1, 2019, which did not have a material impact to our consolidated financial statements.

In August 2018, the FASB issued ASU 2018-13, "*Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement."* ASU 2018-13 modifies the disclosure requirements on fair value measurements. We adopted ASU 2018-13 on February 1, 2019, which did not have a material impact to our consolidated financial statements.

In June 2018, the FASB issued ASU 2018-07, *"Compensation – Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting."* ASU 2018-07 expands the scope of Topic 718 to include all share-based payment transactions for acquiring goods and services from nonemployees. We adopted ASU 2018-07 on February 1, 2019, which did not have a material impact to our consolidated financial statements.

In February 2018, the FASB issued ASU 2018-02, *"Income Statement – Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income."* On December 22, 2017, the U.S. federal government enacted a tax bill, H.R.1, *An Act to Provide for Reconciliation Pursuant to Titles II and V of the Concurrent Resolution on the Budget for Fiscal Year 2018 ("Tax Cuts and Jobs Act")*, which requires deferred tax liabilities and assets to be adjusted for the effect of a change in tax laws. ASU 2018-02 allows a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the Tax Reform Act. We adopted ASU 2018-02 effective February 1, 2019 and elected not to reclassify the income tax effects stranded in other comprehensive income to retained earnings and, as a result, there was no impact to our consolidated financial statements.

In March 2017, the FASB issued ASU No. 2017-08, *Receivables—Nonrefundable Fees and Other Costs (Subtopic 310-20): Premium Amortization on Purchased Callable Debt Securities* which requires companies to amend the amortization period for premiums on debt securities with explicit call features to be the earliest call date rather than through the contractual life of the debt instrument. This amendment aims to more closely align the recognition of interest income with the manner in which market participants price such instruments. We adopted this guidance on February 1, 2019, which did not have a material impact on our consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, *Leases*, which is intended to improve financial reporting about leasing transactions. In July 2018, the Financial Accounting Standards Board issued ASU 2018-11 to amend ASU 2016-02 and provide an additional (and optional) transition method to adopt the new lease standard. This transition method allows entities to apply the new lease standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption instead of using the original modified retrospective transition method of adoption which requires the restatement of all prior-period financial statements. Under this new transition method, the comparative periods in the financial statements will continue to be presented in accordance with prior GAAP. On February 1, 2019, we adopted the new lease standard on a prospective basis using the new transition method under ASU 2018-11. Under this guidance, as of February 2019, we recognized right-of-use assets and operating lease liabilities of $1.7 million for all leases with lease terms of more than 12 months. There was no impact to retained earnings as of that date. In addition, we adopted the guidance by electing the following practical expedients: (1) We did not reassess whether any expired or existing contracts contained leases, (2) We did not reassess the lease classification for any expired or existing leases, and (3) We excluded variable payments from the lease contract consideration and recorded those as incurred. The adoption of the standard did not have a material impact on our results of operations or cash flows. Our future commitments under lease obligations and additional disclosures are summarized in Note 8.

Recently Issued Accounting Pronouncement

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments—Credit Losses (Topic 326)*, which introduces a new methodology for accounting for credit losses on financial instruments, including available-for-sale debt securities and accounts receivable. The guidance establishes a new "expected loss model" that requires entities to estimate current expected credit losses on financial instruments by using all practical and relevant information. Any expected credit losses are to be reflected as allowances rather than reductions in the amortized cost of available-for-sale debt securities. ASU 2016-13 is effective in the first quarter of our fiscal 2021. We are currently evaluating if this guidance will have a material effect to our consolidated financial statements.

3. Fair Value Measurements

The following tables set forth our financial assets that were accounted for at fair value on a recurring basis. There were no fair value measurements of our financial assets using level 3 inputs for the periods presented:

	Total	Fair Value at July 31, 2019 Using Level 1	Level 2
		(Amounts in thousands)	
Assets:			
Cash equivalents	$ 333	$ -	$ 333
Marketable securities:			
U.S. Treasury Notes and bonds	6,585	6,585	—
U.S. Agency bonds	998	—	998
Corporate bonds	2,006	—	2,006
Total	$ 9,922	$ 6,585	$ 3,337

	Total	Fair Value at January 31, 2019 Using Level 1	Level 2
		(Amounts in thousands)	
Assets:			
Cash equivalents	$ 2,887	$ 2,724	$ 163
Marketable securities:			
U.S. Treasury Notes and bonds	7,072	7,072	—
U.S. Agency bonds	992	—	992
Corporate bonds	2,295	—	2,295
Total	$ 13,246	$ 9,796	$ 3,450

Cash equivalents include money market funds and U.S. treasury bills.

Marketable securities by security type consisted of the following:

	As of July 31, 2019			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
	(Amounts in thousands)			
U.S. Treasury Notes and bonds	$ 6,513	$ 72	$ —	$ 6,585
U.S. Agency bonds	1,000	—	(2)	998
Corporate bonds	2,007	—	(1)	2,006
	$ 9,520	$ 72	$ (3)	$ 9,589

	As of January 31, 2019			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
	(Amounts in thousands)			
U.S. Treasury Notes and bonds	$ 7,055	$ 17	$ —	$ 7,072
U.S. Agency bonds	1,001	—	(9)	992
Corporate Bonds	2,308	—	(13)	2,295
	$ 10,364	$ 17	$ (22)	$ 10,359

As of July 31, 2019, marketable securities consisted of investments that mature within one year, with the exception of investments with a fair value of $3.8 million that mature between one and three years.

4. Consolidated Balance Sheet Detail

Inventory

Inventory consists of the following:

	As of	
	July 31, 2019	January 31, 2019
	(Amounts in thousands)	
Components and assemblies	$ 156	$ 763
Finished products	42	161
Total inventory	$ 198	$ 924

Property and equipment, net

Property and equipment, net consists of the following:

	As of	
	July 31, 2019	January 31, 2019
	(Amounts in thousands)	
Buildings	$ 3,467	$ 3,467
Land	2,780	2,780
Computer equipment, software and demonstration equipment	11,868	12,316
Service and spare components	1,158	1,158
Office furniture and equipment	738	738
Leasehold improvements	524	531
	20,535	20,990
Less: Accumulated depreciation and amortization	(13,647)	(13,798)
Total property and equipment, net	$ 6,888	$ 7,192

Accrued expenses

Accrued expenses consist of the following:

	As of	
	July 31, 2019	January 31, 2019
	(Amounts in thousands)	
Accrued employee compensation and benefits	$ 1,666	$ 1,866
Accrued professional fees	1,002	1,521
Sales tax and VAT payable	274	1,502
Current obligation - right of use operating leases	667	—
Accrued payroll taxes and withholdings	425	295
Accrued restructuring (Note 9)	403	653
Customer deposits	1,066	-
Accrued other	914	1,925
Total accrued expenses	$ 6,417	$ 7,762

5. Acquisition

On February 6, 2019, we acquired all of the outstanding stock of Xstream A/S (“Xstream”) for $4.6 million in cash and 541,738 shares of common stock for a total transaction value of $5.4 million. Xstream provides a managed service, OTT video solution that serves more than five million active subscribers globally.

The acquisition has been accounted for as a business combination and, in accordance with ASC 805,*Business Combinations*, we have recorded the assets acquired and liabilities assumed at their respective fair values as of the acquisition date. The following table summarizes the preliminary purchase price allocation recorded

Estimated fair value of consideration:	
Cash	$ 4,552
Stock consideration	874
Total purchase price	$ 5,426

Estimated fair value of assets acquired and liabilities assumed:		
Cash and cash equivalents	$	714
Other current assets		927
Other long-term assets		152
Finite-life intangible assets		3,648
Goodwill		1,221
Current liabilities		(1,236)
Allocated purchase price	$	5,426

The significant intangible assets identified in the preliminary purchase price allocation discussed above include developed technology and customer relationships, which are amortized over their respective useful lives on a straight-line basis. Amortization of existing technology is included within research and development and amortization of customer relationships and tradenames is included within sales and marketing expense. To value the developed technology asset, the Company utilized the income approach, specifically a discounted cash-flow method known as the multi-period excess earnings method. Customer relationships represent the underlying relationships with certain customers to provide ongoing services for products sold. The Company utilized the income approach, specifically the distribution method, a subset of the excess-earnings method to value the customer relationships.

The following table presents the estimated fair values and useful lives of the identifiable intangible assets acquired:

	Useful Life		Fair Value (amounts in thousands)
Customer contracts	3 years	$	2,273
Existing technology	3 years		1,375
		$	3,648

Goodwill was recognized for the excess purchase price over the fair value of the net assets acquired.The goodwill reflects the value of the synergies the Company expects to realize and the assembled workforce. Goodwill from the Xstream acquisition is included within the Company's one reporting unit and is included in the Company's enterprise-level annual review for impairment. Goodwill resulting from the Xstream acquisition is not deductible for tax purposes.

The purchase price has been allocated to the tangible and intangible assets acquired and liabilities assumed based upon the respective estimates of fair value as of the date of the acquisition, which remains preliminary, and using assumptions that the Company's management believes are reasonable given the information then available. The final allocation of the purchase price may differ materially from the information presented in these consolidated financial statements. Any changes to the preliminary estimates of the fair value of the assets acquired and liabilities assumed will be recorded as adjustments to those assets and liabilities and residual amounts will be allocated to goodwill.

The revenues and loss before income taxes from Xstream included in our consolidated results for the six months ended July 31, 2019 were $1.9 million and $1.2 million, respectively. The Xstream results include expenses resulting from purchase accounting that include amortization of intangibles. We have not presented pro forma results of operations for the Xstream acquisition because it is not material to the Company's consolidated results of operations, financial position, or cash flows.

6. Goodwill and Intangible Assets

Goodwill represents the difference between the purchase price and the estimated fair value of identifiable assets acquired and liabilities assumed. We are required to perform impairment tests related to our goodwill annually, which we perform during the third quarter of each fiscal year, or when we identify certain triggering events or circumstances that would more likely than not reduce the estimated fair value of the goodwill below its carrying amount. The following table represents the changes in goodwill since January 31, 2019:

		Goodwill (Amounts in thousands)
Balance as of January 31, 2019	$	8,753
Goodwill arising from the Xstream acquisition		1,221
Cumulative translation adjustment		(191)
Balance as of July 31, 2019	$	9,783

Intangible assets, net, consisted of the following at July 31, 2019:

	As of July 31, 2019			
	Gross	Accumulated Amortization	Cumulative translation Adjustment	Net
	(Amounts in thousands)			
Finite-lived intangible assets:				
Acquired customer contracts	$ 2,233	$ 370	$ (8)	$ 1,855
Acquired existing technology	1,352	228	(2)	1,122
Total finite-lived intangible assets	$ 3,585	$ 598	$ (10)	$ 2,977

As a result of our impairment analysis in the fourth quarter of fiscal 2019, the carrying value of our intangible assets was zero as of January 31, 2019.

We recognized amortization expense of intangible assets in cost of revenue and operating expense categories as follows:

	For the Three Months Ended July 31,		For the Six Months Ended July 31,	
	2019	2018	2019	2018
	(Amounts in thousands)		(Amounts in thousands)	
Cost of revenue	$ —	$ 178	$ —	$ 356
Selling and marketing	185	149	370	294
Research and development	115	84	228	165
	$ 300	$ 411	$ 598	$ 815

Future estimated amortization expense of acquired intangibles as of July 31, 2019 is as follows:

For the Fiscal Years Ended January 31,	Estimated Amortization Expense
	(Amounts in thousands)
2020	$ 595
2021	1,191
2022	1,191
2023 and thereafter	—
Total	$ 2,977

7. Commitments and Contingencies

Indemnification and Warranties

We provide indemnification, to the extent permitted by law, to our officers, directors, employees and agents for liabilities arising from certain events or occurrences while the officer, director, employee or agent is, or was, serving at our request in such capacity. With respect to acquisitions, we provide indemnification to, or assume indemnification obligations for, the current and former directors, officers and employees of the acquired companies in accordance with the acquired companies' governing documents. As a matter of practice, we have maintained directors' and officers' liability insurance including coverage for directors and officers of acquired companies.

We enter agreements in the ordinary course of business with customers, resellers, distributors, integrators and suppliers. Most of our historical agreements require us to defend and/or indemnify the other party against intellectual property infringement claims brought by a third-party with respect to our products. From time to time, we also indemnify customers and business partners for damages, losses and liabilities they may suffer or incur relating to personal injury, personal property damage, product liability, and environmental claims relating to the use of our products and services or resulting from the acts or omissions of us, our employees, authorized agents or subcontractors. From time to time, we have received requests from customers for indemnification of patent litigation claims. Management cannot reasonably estimate any potential losses, but these claims could result in material liability for us. There are no current pending legal proceedings, in the opinion of management that would have a material adverse effect on our financial position, results from operations and cash flows. There is no assurance that future legal proceedings arising from ordinary course of business or otherwise, will not have a material adverse effect on our financial position, results from operations or cash flows.

We warrant that our products, including software products, will substantially perform in accordance with our standard published specifications in effect at the time of delivery. In addition, we provide maintenance support to our customers and therefore allocate a portion of the product purchase price to the initial warranty period and recognize revenue on a straight-line basis over

that warranty period related to both the warranty obligation and the maintenance support agreement. When we receive revenue for extended warranties beyond the standard duration, it is deferred and recognized on a straight-line basis over the contract period. Related costs are expensed as incurred.

8. Operating leases

The Company has noncancelable operating leases for facilities, automobiles and equipment expiring at various dates through 2023 and thereafter. As discussed in Note 2, the Company adopted ASC 842 as of February 1, 2019 on a prospective basis using the transition method under ASU 2018-11. In accordance with this method, the Company recognized a right of use asset and an operating lease liability of $1.7 million as of February 1, 2019.

The components of lease expense for the three and six months ended July 31, 2019 are as follows:

	Three Months Ended July 31, 2019	Six Months Ended July 31, 2019
	(Amounts in thousands)	
Operating lease cost	$ 206	$ 412
Short term lease cost	3	14
Total lease cost	$ 209	$ 426

Supplemental cash flow information related to the Company's operating leases was as follows:

	Six Months Ended July 31, 2019
	(Amounts in thousands)
Cash paid for amounts included in the measurement of lease liabilities	
Operating cash flows from operating leases	$ 406
Right-of-use assets obtained in exchange for lease obligations	
Operating leases	$ 348

Supplemental balance sheet information related to the Company's operating leases was as follows:

	July 31, 2019
	(Amounts in thousands)
Operating lease right-of-use assets	$ 1,745
Current portion, operating lease liabilities	667
Operating lease liabilities, long term	1,222
Total operating lease liabilities	$ 1,889
Weighted average remaining lease term	2.8 years
Weighted average incremental borrowing rate	7.0 %

The current portion, operating lease liabilities is included in the balance of accrued expenses at July 31, 2019. Rent payments for continuing operations were approximately $0.2 million and $0.4 million for the three and six months ended July 31, 2019. Future minimum lease payments for operating leases, with initial or remaining terms in excess of one year at July 31, 2019, are as follows:

For the fiscal years ended January 31,		Payments for Operating Leases (Amounts in thousands)
2020	$	392
2021		688
2022		660
2023		249
2024		19
Thereafter		—
Total lease payments		2,008
Less interest		119
Total operating lease liabilities	$	1,889

9. Severance and Restructuring Costs

During the three and six months ended July 31, 2019,we incurred severance and restructuring costs of $0.7 million and $0.9 million, respectively, primarily for employee-related benefits for terminated employees, partially offset by the reversal of deferred rent. In September 2018, we announced that we implemented cost-savings actions during the third quarter of fiscal 2019 (the "2019 Restructuring Program"). The primary element of this restructuring program was staff reductions across all of our functions and geographic areas and the program was substantially completed at the end of the first six months of fiscal 2020. Costs incurred in the 2019 Restructuring Program during the three and six months ended July 31, 2019 amounted to $0.7 million and $0.8 million, respectively.

The following table shows the change in accrued balances since January 31, 2019 of our 2019 Restructuring Program, reported as a component of other accrued expenses on the consolidated balance sheets:

	Employee-Related Benefits	Closure of Leased Facilities	Other Restructuring	Total
	(Amounts in thousands)			
Accrued balance as of January 31, 2019	$ 653	$ —	$ —	$ 653
Restructuring charges incurred	834	(125)	90	799
Cash payments	(1,077)	—	(90)	(1,167)
Other charges	(7)	125	—	118
Accrued balance as of July 31, 2019	$ 403	$ —	$ —	$ 403

10. Stock Repurchase Program

On June 6, 2019, the Board authorized a share repurchase program of up to $5 million of then-outstanding shares of the Company over the next year. Under the share repurchase program, the Company is authorized to repurchase, from time to time, outstanding shares of common stock in accordance with applicable laws both on the open market, including under trading plans established pursuant to Rule 10b5-1 under the Securities Exchange Act of 1934, as amended and in privately negotiated transactions.

The following table provides a summary of the Company's stock repurchase activities during the three months ended July 31, 2019 (in thousands, except per share amounts):

		For the Three Months Ended July 31, 2019
Shares repurchased		100
Average cost per share	$	1.42
Value of shares repurchased	$	142

11. Stock-based Compensation Expense

Equity Plans

2011 Compensation and Incentive Plan.

Our 2011 Compensation and Incentive Plan (the "2011 Plan") provides for the grant of incentive stock options, nonqualified stock options, restricted stock, restricted stock units ("RSUs"), deferred stock units ("DSUs"), performance stock units ("PSUs") and other equity based non-stock option awards as determined by the plan administrator to our officers, employees, consultants and directors. We may satisfy awards upon the exercise of stock options or the vesting of stock units with newly issued shares or treasury shares. The Board of Directors is responsible for the administration of the 2011 Plan and determining the terms of each award, award exercise price, the number of shares for which each award is granted and the rate at which each award vests. In certain instances, the Board of Directors may elect to modify the terms of an award. The number of shares authorized for issuance under the 2011 Plan is 9,300,000. Additionally, outstanding awards under the 2005 Equity Compensation and Incentive Plan that, since adoption of the 2011 Plan, expire, terminate, or are surrendered or canceled without having been fully exercised are available for issuance under the 2011 Plan. As of July 31, 2019, there were 2,523,690 shares available for future grant.

Nonemployee members of the Board of Directors may elect to receive DSUs in lieu of RSUs. The number of units subject to the DSUs is determined as of the grant date and shall fully vest one year from the grant date. The shares underlying the DSUs are not vested and issued until the earlier of the director ceasing to be a member of the Board of Directors (provided such time is subsequent to the first day of the succeeding fiscal year) or immediately prior to a change in control.

Option awards may be granted to employees at an exercise price per share of not less than 100% of the fair market value per common share on the date of the grant. Option awards granted under the 2011 Plan generally vest over a period of one to three years and expire ten years from the date of the grant.

We have a Long-Term Incentive ("LTI") Program, adopted in fiscal 2016, under which the named executive officers and other of our key employees may receive long-term equity-based incentive awards, which are intended to align the interests of our named executive officers and other key employees with the long-term interests of our stockholders and to emphasize and reinforce our focus on team success. Long-term equity-based incentive compensation awards are made in the form of stock options, RSUs and PSUs subject to vesting based in part on the extent to which employment continues.

2015 Employee Stock Purchase Plan

Under our 2015 Employee Stock Purchase Plan (the "ESPP), six-month offering periods begin on October 1 and April 1 of each year during which eligible employees may elect to purchase shares of our common stock according to the terms of the offering. On each purchase date, eligible employees can purchase our stock at a price per share equal to 85% of the closing price of our common stock on the exercise date, but no less than par value. The maximum number of shares of our common stock authorized for sale under the ESPP is 1,150,000 shares, of which 1,086,964 remain available under the ESPP as of July 31, 2019. Under the ESPP, 7,819 and 9,421 shares were purchased during the first six months of fiscal 2020 and fiscal 2019, respectively.

Award Activity

Market-Based Options

Our former CEO was granted 800,000 market-based options issued in fiscal 2016 and fiscal 2017. These stock options vest in approximately equal increments based upon the closing price of our common stock achieving a certain level and continued service conditions We measured the grant-date fair value of these options using a Monte Carlo simulation model and recognized the associated expense over the requisite service period. The fair value of these stock options was $2.1 million, which was recognized over three years. In February 2019, these options were cancelled upon the resignation of our CEO, at which time we reversed $0.5 million of stock-based compensation expense related to the final performance period for a portion of the grant.

We have not granted additional market-based options since fiscal 2017.

In the second quarter of fiscal 2020, we granted 995,000 option awards and 236,688 DSU awards with a combined fair value totaling $1.1 million.

Stock-based Compensation

We recognized stock-based compensation expense within the accompanying consolidated statements of operations and comprehensive loss as follows:

	For the Three Months Ended July 31,		For the Six Months Ended July 31,	
	2019	2018	2019	2018
	(Amounts in thousands)		(Amounts in thousands)	
Cost of revenue	$ 22	$ (1)	$ 19	$ -
Research and development	82	55	150	108
Sales and marketing	77	120	(9)	234
General and administrative	450	749	37	1,460
	$ 631	$ 923	$ 197	$ 1,802

A credit to stock-based compensation expense in the amount of $0.2 million for modifications to awards was recorded in the three and six months ended July 31, 2019. As of July 31, 2019, unrecognized stock-based compensation expense related to unvested stock options was approximately $1.6 million, which is expected to be recognized over a weighted average period of 2.4 years. As of July 31, 2019, unrecognized stock-based compensation expense related to unvested RSUs and DSUs was $1.2 million, which is expected to be recognized over a weighted average amortization period of 1.7 years. As of July 31, 2019, unrecognized stock-based compensation expense related to unvested PSUs was $0.1 million, which is expected to be recognized over a weighted average amortization period of 1.1 years.

12. Revenues from Contracts with Customers

Our products and services facilitate the aggregation, licensing, management and distribution of video and advertising content to cable television system operators, telecommunication companies, satellite operators and media companies. Offerings include and revenue is generated from the sales of software, hardware, professional services, maintenance and support in order to deploy SeaChange systems and provide ongoing functionality. These offerings can be sold on a standalone basis or as a component of a contract with multiple performance obligations. Contracts that contain multiple performance obligations require an allocation of the transaction price to each performance obligation based on a relative standalone selling price. The performance obligations include future credits, significant discounts and material rights in addition to the software, hardware, professional services, maintenance and support.

The revenue for perpetual licenses to software applications and hardware is recognized upon delivery or acceptance by the customer. Product maintenance and support services is recognized ratably over the stated or implied maintenance periods.

The professional services are either fixed price or time and material contracts, and consist of installation and integration, customized development and customized software, training, and on-site managed services. The installation and integration is recognized over time based on an input measure of hours incurred to total estimated hours. The customized development and software is recognized at a point in time upon delivery and acceptance of the final software product. The training and the on-site managed services are recognized over the service period.

Disaggregated Revenue

The following table shows our revenue disaggregated by revenue stream for the three and six months ended July 31, 2019 and 2018:

	For the Three Months Ended July 31,		For the Six Months Ended July 31,	
	2019	2018	2019	2018
	(Amounts in thousands)		(Amounts in thousands)	
Product	$ 11,968	$ 1,462	$ 13,147	$ 4,553
Professional services	1,845	3,426	3,926	8,063
Maintenance - first year	704	460	1,279	1,118
Maintenance - renewal	4,295	6,553	8,945	13,102
Total revenue	$ 18,812	$ 11,901	$ 27,297	$ 26,836

Transaction Price Allocated to Future Performance Obligations

The aggregate amount of transaction price that is allocated to performance obligations that have not yet been satisfied or are partially satisfied as of July 31, 2019 is $24.1 million. This amount includes amounts billed for undelivered services that are included in deferred revenue.

13. Segment Information, Significant Customers and Geographic Information

We have determined that we operate in one segment.

Geographic Information

The following summarizes revenue by customers' geographic locations:

	For the Three Months Ended July 31,				For the Six Months Ended July 31,			
	2019	%	2018	%	2019	%	2018	%
	(Amounts in thousands, except percentages)				(Amounts in thousands, except percentages)			
Revenue by customer's geographic locations:								
North America (1)	$ 11,567	62%	$ 5,932	50%	$ 15,656	57%	$ 13,046	49%
Europe and Middle East	2,724	14%	3,858	32%	5,694	21%	9,881	37%
Latin America	4,132	22%	1,575	13%	5,179	19%	3,071	11%
Asia Pacific	389	2%	536	5%	768	3%	838	3%
Total revenue	$ 18,812		$ 11,901		$ 27,297		$ 26,836	

(1) Includes total revenue for the United States for the periods shown as follows:

	For the Three Months Ended July 31,		For the Six Months Ended July 31,	
	2019	2018	2019	2018
	(Amounts in thousands, except percentages)		(Amounts in thousands, except percentages)	
US Revenue	$ 9,666	$ 5,102	$ 13,064	$ 10,889
% of total revenue	51 %	43 %	48 %	41 %

The following summarizes long-lived assets by geographic locations:

	As of July 31, 2019	%	As of January 31, 2019	%
	(Amounts in thousands, except percentages)			
Long-lived assets by geographic locations (1):				
North America	$ 8,620	71%	$ 7,148	93%
Europe and Middle East	3,580	29%	446	6%
Asia Pacific	46	0%	48	1%
Total long-lived assets by geographic location	$ 12,246		$ 7,642	

(1) Excludes long-term marketable securities and goodwill.

14. Income Taxes

Each interim period is considered an integral part of the annual period and, accordingly, we measure our income tax expense using an estimated annual effective tax rate. A company is required, at the end of each interim reporting period, to make its best estimate of the annual effective tax rate for the full fiscal year and use that rate to provide for income taxes on a current year-to-date basis, as adjusted for discrete taxable events that occur during the interim period.

We recorded an income tax benefit of $0.6 million and $0.2 million in the for the three and six months ended July 31, 2019, respectively, and we recorded income tax benefits of $1.2 million and $1.6 million for the three and six months ended July 31, 2018, respectively. Our effective tax rate in fiscal 2020 and in future periods may fluctuate on a quarterly basis as a result of changes in our jurisdictional forecasts where losses cannot be benefitted due to the existence of valuation allowances on our deferred tax assets, changes in actual results versus our estimates, or changes in tax laws, regulations, accounting principles or interpretations thereof.

The Company reviews all available evidence to evaluate the recovery of deferred tax assets, including the recent history of losses in all tax jurisdictions, as well as its ability to generate income in future periods. As of July 31, 2019, due to the uncertainty related to the ultimate use of certain deferred income tax assets, the Company has recorded a valuation allowance on certain of its deferred assets.

The U.S. Tax Cuts and Job Act (the “2017 Tax Act”) introduced significant changes to U.S. income tax law. Changes include, but are not limited to, a corporate tax rate decrease from 35% to 21% effective for tax years beginning after December 31, 2017, the transition of U.S. international taxation from a worldwide tax system to a territorial system and a one-time tax on the mandatory deemed repatriation of cumulative foreign earnings (the “Transition Tax”) as of December 31, 2017.

We file income tax returns in the U.S. federal jurisdiction, various state jurisdictions and various foreign jurisdictions. We have closed out an audit with the Internal Revenue Service (“IRS”) through fiscal 2013; however, the taxing authorities will still have the ability to review the propriety of certain tax attributes created in closed years if such tax attributes are utilized in an open tax year, such as our federal research and development credit carryovers.

On March 4, 2019, our Board approved and adopted a Tax Benefits Preservation Plan to potentially limit our ability to use net operating loss carryforwards and certain other tax attributes (“NOLs”) to reduce our potential future federal income tax obligations. In connection with the Tax Benefits Preservation Plan, we declared a dividend of one preferred share purchase right for each share of our common stock issued and outstanding as of March 15, 2019 to our stockholders of record on that date. The Tax Benefits Preservation Plan expires no later than March 4, 2022, and was approved by our stockholders at our 2019 annual meeting of stockholders on July 11, 2019.

15. Subsequent Event

Effective August 29, 2019, Yossi Aloni was appointed as our Chief Executive Officer. Mr. Bonney remains Executive Chair, though no longer functions as our principal executive officer. Concurrent with the appointment of Mr. Aloni as our Chief Executive Officer, Chad Hassler was appointed our Chief Commercial Officer and Senior Vice President. Mr. Hassler previously served as our head of North America Sales.

On August 8, 2019, we amended our Tax Benefits Preservation Plan, dated as of March 4, 2019, and the Cooperation Agreement, dated as of March 4, 2019, with Karen Singer and TAR Holdings LLC (collectively “TAR Holdings”) to permit TAR Holdings and its affiliates and associates, including for this purpose CCUR Holdings Inc. and its affiliates and associates, to own up to 25.0% of our securities.

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

Forward-Looking Statements

This Form 10-Q contains or incorporates forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, and such statements involve risks and uncertainties. The following information should be read in conjunction with the unaudited consolidated financial information and the notes thereto included in this Form 10-Q. You should not place undue reliance on these forward-looking statements. Actual events or results may differ materially due to competitive factors and other factors referred to in Part I, Item 1A. "Risk Factors" in our Form 10-K for our fiscal year ended January 31, 2019 and elsewhere in this Form 10-Q. These factors may cause our actual results to differ materially from any forward-looking statement. These forward-looking statements are based on current expectations, estimates, forecasts and projections about the industry and markets in which we operate, and management's beliefs and assumptions. We undertake no obligation to publicly update or revise the statements in light of future developments. In addition, other written or oral statements that constitute forward-looking statements may be made by us or on our behalf. Words such as "expect," "seek," "anticipate," "intend," "plan," "believe," "could," "estimate," "may," "target," "project," or variations of such words and similar expressions are intended to identify such forward-looking statements. These statements are not guarantees of future performance and involve certain risks, uncertainties, and assumptions that are difficult to predict.

Business Overview

SeaChange International, Inc., a Delaware corporation founded on July 9, 1993, is an industry leader in the delivery of multiscreen, advertising and premium over the top ("OTT") video management solutions, headquartered in Acton, Massachusetts. Our software products and services facilitate the aggregation, licensing, management and distribution of video and advertising content for service providers, telecommunications companies, satellite operators and broadcasters. We sell our software products and services worldwide, primarily to service providers including: operators, such as Liberty Global, plc. ("LGI"), Altice NV, Cox Communications, Inc. and Rogers Communications, Inc.; telecommunications companies, such as Verizon Communications, Inc., AT&T, Inc. and Frontier Communications Corporation; satellite operators such as Direct TV and Dish Network Corporation; and broadcasters.

Our software products and services are designed to empower video providers to create, manage and monetize the increasingly personalized, highly engaging experiences that viewers demand. Using our products and services, we believe customers can increase revenue by offering services such as video-on-demand ("VOD") programming on a variety of consumer devices, including televisions ("TVs"), mobile telephones ("smart phones"), personal computers ("PCs"), tablets and OTT streaming players. Our solutions enable service providers to offer other interactive television services that allow subscribers to receive personalized services and interact with their video devices, thereby enhancing their viewing experience. Our products also allow our customers to insert advertising into broadcast and VOD content.

SeaChange serves an exciting global marketplace where multiscreen viewing is increasing, consumer device options are evolving rapidly and viewing habits are shifting. The primary driver of our business is enabling the delivery of video assets in the changing multiscreen television environment. Through strategic collaborations, we have expanded our capabilities, products and services to address the delivery of content to devices other than television set-top boxes, namely PCs, tablets, smart phones and OTT streaming players. We believe that our strategy of expanding into adjacent product lines will also position us to further support and maintain our existing service provider customer base. Providing our customers with more scalable software platforms enables them to further reduce their infrastructure costs, improve reliability and expand service offerings to their customers. Additionally, we believe we are well positioned to capitalize on new customers entering the multiscreen marketplace and increasingly serving adjacent markets. Our core technologies provide a foundation for software products and services that can be deployed in next generation video delivery systems capable of increased levels of subscriber activity across multiple devices.

We have historically sold and licensed our products and services on a standalone basis. Commencing February 2019, we adopted a value-based selling approach as part of which we offer our customers the ability to license all of our product and services, including specified upgrades, for a fixed period of time for a fixed price which we refer to as framework deals.

In February 2019, we acquired Xstream A/S, a leading OTT media cloud platform provider with its primary operations in Warsaw, Poland. Xstream provides a managed service, OTT video solution that serves more than five million active subscribers globally. Xstream's MediaMaker video platform will enhance the SeaChange end-to-end video framework. We intend to use the acquisition of Xstream to accelerate our penetration in OTT and new market segments with a software-as-a-service ("SaaS") revenue model and fully cloud-based end-to-end video platform that operates in a hosted managed service environment.

In May 2016, we acquired DCC Labs, a developer of set-top and multiscreen device software. This acquisition enabled us to optimize the operations of our In-Home business and centralize our worldwide engineering team in Warsaw, Poland.

We have initiated restructuring programs in the past three years, to help us improve operations and optimize our cost structure. Our restructuring programs in 2017 included the wind down of the Timeline Labs operations, inclusive of an impairment charge of long-lived assets related to the Timeline Labs operations, the reorganization of our engineering teams and other company-wide-cost savings initiatives resulting in annualized cost savings of $38 million and aggregate charges of $9 million. In fiscal 2019, we took steps to reduce our costs further, for which to date we have incurred restructuring charges of more than $2 million and for which we expect annualized cost savings of approximately $6 million.

Notwithstanding the success of our restructuring programs, during the fourth quarter of fiscal 2019, we experienced a decline in stock price and actual operating results and, accordingly, revised our forecasts. These events were a trigger for an impairment review, as a result of which we determined that the carrying value of goodwill and certain long-lived assets exceeded their fair value, such that we recorded a $17.0 million impairment charge to reduce the carrying value of our building, included in property, plant and equipment, the remaining net book value of our intangible assets and our goodwill to fair value. The impact of this impairment charge is excluded from our non-GAAP operating results included in this report.

In January 2019, we announced the appointment of Yossi Aloni as Senior Vice President and Chief Commercial Officer.In February 2019, Edward Terino resigned as our Chief Executive Officer and as a Director, effective February 24, 2019, and we created an interim Office of the CEO, to provide ongoing leadership and oversight of the day-to-day operations of the Company. The Office of the CEO included Yossi Aloni, Chief Commercial Officer; Peter Faubert, Chief Financial Officer; Marek Kielczewski, Chief Technology Officer; and David McEvoy, General Counsel. On April 4, 2019, we appointed our existing Director, Mark Bonney, to serve as Executive Chair. The Executive Chair serves as Chairman of the Board and principal executive officer. In connection with that appointment, the Office of the CEO was eliminated, and Mr. Markey resigned as Chairman of the Board though continues as a member of the Board of Directors. Effective August 29, 2019, Yossi Aloni was appointed as our Chief Executive Officer. Mr. Bonney remains Executive Chair, though no longer functions as our principal executive officer. Concurrent with the appointment of Mr. Aloni as our Chief Executive Officer, Chad Hassler was appointed our Chief Commercial Officer and Senior Vice President. Mr. Hassler previously served as our head of North America Sales.

On February 28, 2019, we entered into a Cooperation Agreement with TAR Holdings LLC and Karen Singer (collectively, “TAR Holdings”). Pursuant to the Cooperation Agreement, TAR Holdings was limited to not owning more than 20.7% of our outstanding common stock. Pursuant to the Cooperation Agreement, we agreed to set the size of the Board at eight members, appoint Robert Pons to the Board as a Class II Director with a term to expire at the 2019 annual meeting of stockholders, and appoint Jeffrey Tuder to the Board as a Class III Director with a term to expire at the 2020 annual meeting of stockholders. Mr. Pons and Mr. Tuder were accordingly appointed to our Board upon execution of the Cooperation Agreement on February 28, 2019. On August 8, 2019, we amended the Cooperation Agreement to permit TAR Holdings, together with its affiliates, to own up to 25.0% of our securities.

On March 4, 2019, our Board approved and adopted a Tax Benefits Preservation Plan to potentially limit our ability to use net operating loss carryforwards and certain other tax attributes (“NOLs”) to reduce our potential future federal income tax obligations. In connection with the Tax Benefits Preservation Plan, we declared a dividend of one preferred share purchase right for each share of our common stock issued and outstanding as of March 15, 2019 to our stockholders of record on that date. The Tax Benefits Preservation Plan expires no later than March 4, 2022. On August 8, 2019, we amended the Tax Benefits Preservation Plan to permit TAR Holdings, together with its affiliates, to own up to 25.0% of our securities.

Results of Operations

The following discussion summarizes the key factors our management believes are necessary for an understanding of our consolidated financial statements.

Revenue and Gross Profit

The components of our total revenue and gross profit are described in the following table:

	For the Three Months Ended July 31,		Change		For the Six Months Ended July 31,		Change	
	2019	2018	$	%	2019	2018	$	%
	(Amounts in thousands, except for percentage data)				(Amounts in thousands, except for percentage data)			
Revenue:								
Product	$ 11,968	$ 1,462	$ 10,506	718.6 %	$ 13,147	$ 4,553	$ 8,594	188.8 %
Service	6,844	10,439	(3,595)	(34.4 %)	14,150	22,283	(8,133)	(36.5 %)
Total revenue	18,812	11,901	6,911	58.1 %	27,297	26,836	461	1.7 %
Cost of product revenue	3,039	490	2,549	520.2 %	3,948	816	3,132	383.8 %
Cost of service revenue	4,885	5,125	(240)	(4.7 %)	9,553	10,828	(1,275)	(11.8 %)
Total cost of revenue	7,924	5,615	2,309	41.1 %	13,501	11,644	1,857	15.9 %
Gross profit	$ 10,888	$ 6,286	$ 4,602	73.2 %	$ 13,796	$ 15,192	$ (1,396)	(9.2 %)
Gross product profit margin	74.6 %	66.5 %		8.1 %	70.0 %	82.1 %		(12.1 %)
Gross service profit margin	28.6 %	50.9 %		(22.3 %)	32.5 %	51.4 %		(18.9 %)
Gross profit margin	57.9 %	52.8 %		5.1 %	50.5 %	56.6 %		(6.1 %)

Fiscal Three and Six Months ended July 31, 2019 as Compared to Fiscal Three and Six Months ended July 31, 2018

Product Revenue. Product revenue increased by $10.5 million and $8.6 million for the three and six months ended July 31, 2019, respectively, as compared to the three and six months ended July 31, 2018. The increase for the three and six months ended July 31, 2019 was primarily due to revenue generated from our new framework offering partially offset by lower individual product sales and upgrades as a result of shift in our go-to-market sales to our end-end framework solution.

Service Revenue. Service revenue decreased by $3.6 million and $8.1 million for the three and six months ended July 31, 2019, respectively, as compared to the three and six months ended July 31, 2019. The decrease for the three and six months ended July 31, 2019 primarily due to a decrease in our legacy professional service revenue related to our individual product sales and upgrades and also a reduction to maintenance and support revenue provided on post warranty contracts as customers continue to provide their own solutions and legacy products are decommissioned.

Two customers accounted for 20% and 10%, respectively, of total revenue in the second quarter of fiscal 2020, and one customer accounted for 19% of total revenue in the second quarter of fiscal 2019. One customer accounted for 14% of total revenue in the first six months of fiscal 2020, and one customer accounted for 19% of total revenue in the first six months of fiscal 2019. See Part I Item I, Note 2, *"Summary of Significant Accounting Policies,"* to this Form 10-Q for more information.

International revenue accounted for 49% and 57% of total revenue in the three months ended July 31, 2019 and 2018, respectively. For the six months ended July 31, 2019 and 2018, international revenues accounted for 52% and 59% of total revenues, respectively. The decrease in international sales as a percentage of total revenue in the three and six months ended July 31, 2019 as compared to the same period in fiscal 2018, is primarily due to a decrease in revenue generated from one major customer in EMEA during fiscal 2019 compared to fiscal 2018.

Gross Profit and Margin. Cost of revenue consists primarily of the cost of resold third-party products and services, purchased components and subassemblies, labor and overhead relating to the assembly, testing and implementation and ongoing maintenance of complete systems.

Our gross profit margin increased by 5% for the three months ended July 31, 2019 compared to the three months ended July 31, 2018 primarily due to a change in the sales mix during the period. Product profit margin increased by 8% for the three months ended July 31, 2019 compared to the three months ended July 31, 2018, primarily due higher margin software revenue sales related to our end-end framework solution, partially offset by an increase in lower-margin hardware sales and online video platform (OVP) revenue from our Xstream acquisition in the first second quarter of 2019. Service profit margins decreased by 22% for the three months ended July 31, 2019 compared to the three months ended July 31, 2018, primarily due to lower service revenue to absorb our fixed costs from professional services and maintenance and support revenue during the three months ended July 31, 2019 as customers continue to provide their own solutions and legacy products are decommissioned.

Our gross profit margin decreased by 6% for the six months ended July 31, 2019 compared to the six months ended July 31, 2018 primarily due to a change in the sales mix during the period. Product profit margin decreased by 12% for the six months ended July 31, 2019 compared to the six months ended July 31, 2018, primarily due to an increase in lower-margin hardware sales and OVP platform revenue from our Xstream acquisition in the first quarter of 2019 as compared to higher-margin software license revenue, partially offset by higher margin sales related to our end-end framework solution in the six months

ended April 30, 2018. Service profit margins decreased by19% for the six months ended July 31, 2019 compared to the six months ended July 31, 2018, primarily due to lower service revenue to absorb our fixed costs from professional services and maintenance and support revenue during the six months ended July 31, 2019 as customers continue to provide their own solutions and legacy products are decommissioned.

Operating Expenses

Research and Development

Research and development expenses consist of salaries and related costs, including stock-based compensation, for personnel in software development and engineering functions as well as contract labor costs, depreciation of development and test equipment and an allocation of related facility expenses. The following table provides information regarding the change in research and development expenses during the periods presented:

	For the Three Months Ended July 31,		Change		For the Six Months Ended July 31,		Change	
	2019	2018	$	%	2019	2018	$	%
	(Amounts in thousands, except for percentage data)				(Amounts in thousands, except for percentage data)			
Research and development expenses	$ 3,775	$ 5,185	$ (1,410)	(27.2%)	$ 8,027	$ 10,914	$ (2,887)	(26.5%)
% of total revenue	20.1%	43.6%			29.4%	40.7%		

Fiscal Three and Six Months ended July 31, 2019 as Compared to Fiscal Three and Six Months ended July 31, 2018

Research and development expenses decreased by $1.4 million for the three months ended July 31, 2019 as compared to the same period in fiscal 2019primarily due to a decrease in labor costs associated with the lower headcount of $0.6 million and contract labor of $0.9 million resulting from the cost-savings efforts implemented as part of our restructuring programs in fiscal 2019.

Research and development expenses decreased by $2.9 million for the six months ended July 31, 2019 as compared to the same period in fiscal 2019primarily due to a decrease in labor costs associated with the lower headcount of $1.4 million and contract labor of $1.5 million resulting from the cost-savings efforts implemented as part of our restructuring programs in fiscal 2019.

Selling and Marketing

Selling and marketing expenses consist of salaries and related costs, including stock-based compensation, for personnel engaged in selling and marketing functions, as well as commissions, travel expenses, certain promotional expenses and an allocation of related facility expenses. The following table provides information regarding the change in selling and marketing expenses during the periods presented:

	For the Three Months Ended July 31,		Change		For the Six Months Ended July 31,		Change	
	2019	2018	$	%	2019	2018	$	%
	(Amounts in thousands, except for percentage data)				(Amounts in thousands, except for percentage data)			
Selling and marketing expenses	$ 2,963	$ 3,932	$ (969)	(24.6%)	$ 5,815	$ 7,599	$ (1,784)	(23.5%)
% of total revenue	15.8%	33.0%			21.3%	28.3%		

Fiscal Three and Six Months ended July 31, 2019 as Compared to Fiscal Three and Six Months ended July 31, 2018

Selling and marketing expenses decreased by $1.0 million for the three months ended July 31, 2019 as compared to the same period in fiscal 2019, primarily due to a decrease in labor costs associated with lower headcount from the cost-saving efforts implemented as part of our restructuring programs in fiscal 2019 and $0.1 million decrease in legal and professional fees.

Selling and marketing expenses decreased by $1.8 million for the six months ended July 31, 2019 as compared to the same period in fiscal 2019, primarily due to a decrease in labor costs associated with lower headcount from the cost-saving efforts implemented as part of our restructuring programs in fiscal 2019.

General and Administrative

General and administrative expenses consist of salaries and related costs, including stock-based compensation, for personnel in executive, finance, legal, human resources, information technology and administrative functions, as well as legal and accounting services, insurance premiums and an allocation of related facilities expenses. The following table provides information regarding the change in general and administrative expenses during the periods presented:

	For the Three Months Ended July 31,		Change		For the Six Months Ended July 31,		Change	
	2019	2018	$	%	2019	2018	$	%
	(Amounts in thousands, except for percentage data)				(Amounts in thousands, except for percentage data)			
General and administrative expenses	$ 4,150	$ 4,903	$ (753)	(15.4%)	$ 8,399	$ 9,475	$ (1,076)	(11.4%)
% of total revenue	22.1%	41.2%			30.8%	35.3%		

Fiscal Three Months ended July 31, 2019 as Compared to Fiscal Three Months ended July 31, 2018

General and administrative expenses decreased by $0.8 million for the three months ended July 31, 2019 as compared to July 31, 2018, primarily due to a $0.7 million decrease in labor costs associated with lower headcount from the cost-saving efforts implemented as part of our restructuring programs in fiscal 2019 and lower legal and professional fees of $0.3 million, partially offset by an increase in bad debt expense of $0.3 million.

Fiscal Six Months ended July 31, 2019 as Compared to Fiscal Six Months ended July 31, 2018

General and administrative expenses decreased by $1.1 million for the six months ended July 31, 2019 as compared to July 31, 2018, primarily due to a decrease in stock-based compensation of $1.4 million as a result of a reversal of expense related to terminations and $0.8 million decrease in labor costs associated with lower headcount from the cost-saving efforts implemented as part of our restructuring programs in fiscal 2019, partially offset by an increase in professional fees of $0.5 million related to costs associated with merger and acquisition activity, activist investors and adoption of the tax benefit preservation plan and an increase in bad debt expense of $0.5 million.

Severance and Restructuring Costs

Severance and other restructuring costs increased $0.1 million and $0.3 million for the three and six months ended July 31, 2019, respectively, as compared to the same period of fiscal 2019. Charges in the three and six months ended July 31, 2019 include cost reduction initiatives put in place during the second half of fiscal 2019.

Other Expense, Net

The table below provides detail regarding our other expense, net:

	For the Three Months Ended July 31,		Change		For the Six Months Ended July 31,		Change	
	2019	2018	$	%	2019	2018	$	
	(Amounts in thousands, except for percentage data)				(Amounts in thousands, except for percentage data)			
Interest income, net	$ 90	$ 102	$ (12)	(11.8%)	$ 173	$ 143	$ 30	21.0%
Foreign exchange losses, net	(186)	(2,035)	1,849	(90.9%)	(2,081)	(2,934)	853	(29.1%)
Miscellaneous income, net	18	(29)	47	>(100.0%)	39	(20)	59	>(100.0%)
	$ (78)	$ (1,962)	$ 1,884		$ (1,869)	$ (2,811)	$ 942	

The principal component of other expense, net, are foreign exchange losses, which amounted to $0.2 million and $2.1 million for the three and six months ended July 31, 2019, respectively, and amounted to $2.0 million and $2.9 million for the three and six months ended July 31, 2018, respectively. Our foreign exchange losses, net are primarily due to the revaluation of intercompany notes receivable.

Income Tax Provision (Benefit)

We recorded income tax benefits of $0.6 million and $0.2 million for the three and six months ended July 31, 2019, respectively, and income tax benefits of $1.2 million and $1.6 million for the three and six months ended July 31, 2018, respectively. Our effective tax rate in fiscal 2020 and in future periods may fluctuate on a quarterly basis, as a result of changes in our jurisdictional forecasts where losses cannot be benefitted due to the existence of valuation allowances on our deferred tax

assets, variance in actual results from our estimates, or changes in tax laws, regulations, accounting principlesor interpretations thereof.

The 2017 Tax Act introduced significant changes to U.S. income tax law. Changes include, but are not limited to, a corporate tax rate decrease from 35% to 21% effective for tax years beginning after December 31, 2017, the transition of U.S. international taxation from a worldwide tax system to a territorial system and a one-time tax on the mandatory deemed repatriation of cumulative foreign earnings (the "Transition Tax") as of December 31, 2017.

The Company reviews all available evidence to evaluate the recovery of deferred tax assets, including the recent history of losses in all tax jurisdictions, as well as its ability to generate income in future periods. As of July 31, 2019, due to the uncertainty related to the ultimate use of certain deferred income tax assets, the Company has recorded a valuation allowance on certain of its deferred assets.

We file income tax returns in the U.S. federal jurisdiction, various state jurisdictions, and various foreign jurisdictions. We have closed out an audit with the Internal Revenue Service ("IRS") through fiscal 2013. We are no longer subject to U.S. federal examinations before fiscal 2015. However, the taxing authorities will still have the ability to review the propriety of certain tax attributes created in closed years if such tax attributes are utilized in an open tax year, such as our federal research and development credit carryovers.

Non-GAAP Measures

We define non-GAAP loss from operations as U.S. GAAP operating loss plus stock-based compensation expenses, amortization of intangible assets, non-operating expense professional fees and severance and other restructuring costs. We discuss non-GAAP loss from operations in our quarterly earnings releases and certain other communications, as we believe non-GAAP operating loss from operations is an important measure that is not calculated according to U.S. GAAP. We use non-GAAP loss from operations in internal forecasts and models when establishing internal operating budgets, supplementing the financial results and forecasts reported to our Board of Directors, determining a component of bonus compensation for executive officers and other key employees based on operating performance and evaluating short-term and long-term operating trends in our operations. We believe that the non-GAAP loss from operations financial measure assists in providing an enhanced understanding of our underlying operational measures to manage the business, to evaluate performance compared to prior periods and the marketplace, and to establish operational goals. We believe that the non-GAAP financial adjustments are useful to investors because they allow investors to evaluate the effectiveness of the methodology and information used by management in our financial and operational decision-making.

Non-GAAP loss from operations is a non-GAAP financial measure and should not be considered in isolation or as a substitute for financial information provided in accordance with U.S. GAAP. This non-GAAP financial measure may not be computed in the same manner as similarly titled measures used by other companies. We expect to continue to incur expenses similar to the financial adjustments described above in arriving at non-GAAP loss from operations and investors should not infer from our presentation of this non-GAAP financial measure that these costs are unusual, infrequent or non-recurring. The following table includes the reconciliations of our U.S. GAAP loss from operations, the most directly comparable U.S. GAAP financial measure, to our non-GAAP loss from operations for the three and six months ended July 31, 2019 and 2018:

	For the Three Months Ended July 31,		For the Six Months Ended July 31,	
	2019	2018	2019	2018
	(Amounts in thousands)		(Amounts in thousands)	
GAAP loss from operations	$ (659)	$ (8,270)	$ (9,315)	$ (13,386)
Amortization of intangible assets	299	411	598	815
Stock-based compensation	631	923	197	1,802
Professional fees - other	61	-	1,180	-
Severance and other restructuring costs	659	536	870	590
Non-GAAP income (loss) from operations	$ 991	$ (6,400)	$ (6,470)	$ (10,179)

Liquidity and Capital Resources

The following table includes key line items of our consolidated statements of cash flows:

	For the Six Months Ended July 31,	
	2019	2018
	(Amounts in thousands)	
Net cash used in operating activities	$ (8,038)	$ (17,985)
Net cash used in investing activities	(3,221)	(1,937)
Net cash (used in) provided by financing activities	(133)	39
Effect of exchange rate changes on cash and cash equivalents	277	1,162
Net decrease in cash and cash equivalents	$ (11,115)	$ (18,721)

Historically, we have financed our operations and capital expenditures primarily with our cash and investments. Our cash, cash equivalents and marketable securities totaled $18.8 million at July 31, 2019.

In September 2018, we implemented the 2019 Restructuring Program. The primary element of this restructuring program was staff reductions across all of our functions and geographic areas. Annualized cost savings are expected to be approximately $6 million and severance and restructuring charges to date have exceeded $2 million. We believe that existing cash and investments and cash expected to be provided by future operating activities, augmented by the plans highlighted above, are adequate to satisfy our working capital, capital expenditure requirements and other contractual obligations for at least the next 12 months.

If our expectations are incorrect, we may need to raise additional funds to fund our operations, to take advantage of unanticipated strategic opportunities or to strengthen our financial position. In the future, we may enter into other arrangements for potential investments in, or acquisitions of, complementary businesses, services or technologies, which could require us to seek additional equity or debt financing. If adequate funds are not available or are not available on acceptable terms, we may not be able to take advantage of market opportunities, to develop new products or to otherwise respond to competitive pressures.

Net cash used in operating activities

We used net cash in operating activities of $8.0 million for the six months ended July 31, 2019. This cash used in operating activities was primarily the result of our net loss of $11.0 million and changes in working capital, which include a $6.6 million increase in unbilled receivables, partially offset by a decrease in accounts receivables of $8.5 million due to the timing of customer payments.

Net cash used in investing activities

Net cash used in investing activities was $3.2 million for the six months ended July 31, 2019. Cash used in investing activities was primarily due to $3.8 million of net cash used in the acquisition of Xstream, partially offset by a $0.8 million receipt of net cash related to the timing of purchases, sales and maturities of marketable securities.

Net cash used in financing activities

Net cash used in financing activities was $0.1 million for the six months ended July 31, 2019 related to the repurchase of common stock.

Critical Accounting Policies and Significant Judgments and Estimates

We prepare our consolidated financial statements in accordance with GAAP. The preparation of consolidated financial statements also requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, costs and expenses and related disclosures. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. Actual results could differ significantly from the estimates made by our management.

Other than the impact of the adoption of ASU 2016-02, *"Leases (Topic 842)* as disclosed in Note 2 to our unaudited consolidated financial statements included in this Quarterly Report on Form 10-Q, there have been no material changes to our critical accounting policies and estimates from those disclosed in our financial statements and the related notes and other financial information included in our Annual Report on Form 10-K on file with the SEC.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined in the rules and regulations of the Securities and Exchange Commission.

Recently Issued Accounting Pronouncements

A description of recently issued accounting pronouncements that may potentially impact our financial position and results of operations is disclosed in Note 2 to our unaudited consolidated financial statements included in this Quarterly Report on Form 10-Q.

ITEM 3. Quantitative and Qualitative Disclosures About Market Risk

We are a smaller reporting company, as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, for this reporting period and are not required to provide the information required under this item.

ITEM 4. Controls and Procedures

Evaluation of disclosure controls and procedures. We maintain "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is (1) recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms and (2) accumulated and communicated to our management, including our principal executive officer and chief financial officer, to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Changes in internal control over financial reporting. There were no changes in our internal controls over financial reporting during the three months ended July 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal controls over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. Legal Proceedings

We enter into agreements in the ordinary course of business with customers, resellers, distributors, integrators and suppliers. Most of our historical agreements require us to defend and/or indemnify the other party against intellectual property infringement claims brought by a third party with respect to our products. From time to time, we also indemnify customers and business partners for damages, losses and liabilities they may suffer or incur relating to personal injury, personal property damage, product liability, and environmental claims relating to the use of our products and services or resulting from the acts or omissions of us, our employees, authorized agents or subcontractors. Management cannot reasonably estimate any potential losses, but these claims could result in material liability for us.

ITEM 1A. Risk Factors

In addition to other information set forth in this Form 10-Q, you should carefully consider the risk factors discussed in Part I, “Item 1A. Risk Factors” in our Form 10-K for the fiscal year ended January 31, 2019, which could materially affect our business, financial conditions, and results of operations. The risks described in our Form 10-K are not the only risks that we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition or future results.

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

Issuer Repurchases

During the quarter ended July 31, 2019, we effected stock repurchases pursuant to our stock repurchase program. Shares repurchased by us each fiscal month of the quarter ended July 31, 2019 were as follows:

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plan or Program	Maximum Dollar Amount for Shares that May Yet Be Purchased Under the Plan or Program[1]
June 1, 2019 to June 30, 2019	100	$ 1.42	100	$ 4,999,858

(1) Refer to Note 10 in Item 1 of Part 1 of this Form 10-Q for additional information.

ITEM 6. Exhibits

(a) Exhibits

The following list of exhibits includes exhibits submitted with this Form 10-Q as filed with the SEC and those incorporated by reference to other filings.

Index to Exhibits

No.	Description
4.1	Amendment, dated as of June 28, 2019, by and between SeaChange International, Inc. and Computershare Inc., as Rights Agent (filed as Exhibit 4.1 to Current Report on Form 8-K filed on June 28, 2019 with the Commission and incorporated herein by reference).
4.2	Amendment, dated as of August 8, 2019, by and between SeaChange International, Inc. and Computershare Inc., as Rights Agent (filed as Exhibit 4.1 to Current Report on Form 8-K filed on August 8, 2019 with the Commission and incorporated herein by reference).
10.1	Amendment, dated as of August 8, 2019, by and among SeaChange International, Inc., Karen Singer and TAR Holdings LLC (filed as Exhibit 10.1 to Current Report on Form 8-K filed on August 8, 2019 and incorporated herein by reference).
10.2	Offer Letter, dated as of August 29, 2019, by and between SeaChange International, Inc. and Yossi Aloni (filed as Exhibit 10.1 to Current Report on Form 8-K filed on August 29, 2019 and incorporated herein by reference).
31.1	Certification Pursuant to Rule 13a-14(a) of the Exchange Act, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
31.2	Certification Pursuant to Rule 13a-14(a) of the Exchange Act, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
32.1	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith).
32.2	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith).
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema
101.CAL	XBRL Taxonomy Extension Calculation Linkbase
101.DEF	XBRL Taxonomy Extension Definition Linkbase
101.LAB	XBRL Taxonomy Extension Label Linkbase
101.PRE	XBRL Taxonomy Extension Presentation Linkbase

SIGNATURES

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

Dated: August 30, 2019

SEACHANGE INTERNATIONAL, INC.

by: /s/ YOSSI ALONI
Yossi Aloni
Chief Executive Officer

by: /s/ PETER R. FAUBERT
Peter R. Faubert
Chief Financial Officer, Senior Vice President and Treasurer

Exhibit 31.1

CERTIFICATION

I, Yossi Aloni, certify that:

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

Date: August 30, 2019

By: /s/ YOSSI ALONI
Yossi Aloni
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION

I, Peter R. Faubert, certify that:

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

Date: August 30, 2019

By: /s/ PETER R. FAUBERT
Peter R. Faubert
Chief Financial Officer, Senior Vice President and Treasurer
(Principal Financial and Accounting Officer)

Exhibit 32.1

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

In connection with the Quarterly Report of SeaChange International, Inc. (the "*Company*") on Form 10-Q for the period ending July 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "*Report*"), I, Yossi Aloni, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

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

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

Date: August 30, 2019

/s/ YOSSI ALONI
Yossi Aloni
Chief Executive Officer
(Principal Executive Officer)

Exhibit 32.2

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

In connection with the Quarterly Report of SeaChange International, Inc. (the "*Company*") on Form 10-Q for the period ending July 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "*Report*"), I, Peter R. Faubert, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

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

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

Date: August 30, 2019

/s/ PETER R. FAUBERT
Peter R. Faubert
Chief Financial Officer, Senior Vice President and Treasurer
(Principal Financial and Accounting Officer)