ASPEN TECHNOLOGY INC /DE/
Form 10-Q
January 26, 2017
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

ý QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended December 31, 2016
or
o 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: 001-34630

ASPEN TECHNOLOGY, INC.
(Exact name of registrant as specified in its charter)

Delaware	04-2739697
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

20 Crosby Drive	
Bedford, Massachusetts	01730
(Address of principal executive offices)	(Zip Code)

(781) 221-6400
(Registrant's telephone number, including area code)

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 ý No o
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).
Yes ý No o
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ý	Accelerated filer o
Non-accelerated filer o (Do not check if	Smaller reporting company o

a smaller reporting
company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act): Yes o No ý
As of January 19, 2017, there were 76,072,181 shares of the registrant's common stock (par value $0.10 per share) outstanding.

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aspenONE is one of our registered trademarks. All other trade names, trademarks and service marks appearing in this Form 10-Q are the property of their respective owners.

Our fiscal year ends on June 30, and references to a specific fiscal year are to the twelve months ended June 30 of such year (for example, “fiscal 2017” refers to the year ending June 30, 2017).

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PART I - FINANCIAL INFORMATION

Item 1. Financial Statements.

Consolidated Financial Statements (unaudited)

ASPEN TECHNOLOGY, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

	Three Months Ended December 31,		Six Months Ended December 31,	
	2016	2015	2016	2015
	(Dollars in Thousands, Except per Share Data)			
Revenue:				
Subscription and software	$112,916	$110,126	$226,360	$221,985
Services and other	7,017	9,025	13,623	17,462
Total revenue	119,933	119,151	239,983	239,447
Cost of revenue:				
Subscription and software	5,176	4,967	10,245	10,209
Services and other	6,403	6,921	12,839	14,651
Total cost of revenue	11,579	11,888	23,084	24,860
Gross profit	108,354	107,263	216,899	214,587
Operating expenses:				
Selling and marketing	21,829	21,178	43,854	43,614
Research and development	18,597	15,981	37,229	32,578
General and administrative	11,863	13,805	25,020	26,667
Total operating expenses, net	52,289	50,964	106,103	102,859
Income from operations	56,065	56,299	110,796	111,728
Interest income	216	71	488	153
Interest expense	(892)	(13)	(1,762)	(14)
Other income (expense), net	697	(157)	1,344	739
Income before provision for income taxes	56,086	56,200	110,866	112,606
Provision for income taxes	19,076	19,517	38,855	39,152
Net income	$37,010	$36,683	$72,011	$73,454
Net income per common share:				
Basic	$0.48	$0.44	$0.92	$0.88
Diluted	$0.48	$0.44	$0.92	$0.87
Weighted average shares outstanding:				
Basic	76,905	83,315	77,977	83,596
Diluted	77,318	83,703	78,356	84,035

See accompanying Notes to these unaudited consolidated financial statements.

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ASPEN TECHNOLOGY, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)

	Three Months Ended December 31,		Six Months Ended December 31,	
	2016	2015	2016	2015
	(Dollars in Thousands)			
Net income	$37,010	$36,683	$72,011	$73,454
Other comprehensive loss:				
Net unrealized gains (losses) on available for sale securities, net of tax effects of ($5) and $10 for the three and six months ended December 31, 2016, and $8 and ($4) for the three and six months ended December 31, 2015	10	(15)	(17)	8
Foreign currency translation adjustments	(1,717)	(428)	(2,620)	(2,161)
Total other comprehensive loss	(1,707)	(443)	(2,637)	(2,153)
Comprehensive income	$35,303	$36,240	$69,374	$71,301

See accompanying Notes to these unaudited consolidated financial statements.

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ASPEN TECHNOLOGY, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(Unaudited)

	December 31, 2016	June 30, 2016
	(Dollars in Thousands, Except Share Data)	
ASSETS		
Current assets:		
Cash and cash equivalents	$67,026	$318,336
Short-term marketable securities	72,939	3,006
Accounts receivable, net	17,927	20,476
Prepaid expenses and other current assets	10,409	13,948
Prepaid income taxes	108	5,557
Total current assets	168,409	361,323
Property, equipment and leasehold improvements, net	14,992	15,825
Computer software development costs, net	571	720
Goodwill	53,033	23,438
Intangible assets, net	21,628	5,000
Non-current deferred tax assets	7,542	12,236
Other non-current assets	1,182	1,196
Total assets	$267,357	$419,738
LIABILITIES AND STOCKHOLDERS' DEFICIT		
Current liabilities:		
Accounts payable	$1,289	$3,559
Accrued expenses and other current liabilities	33,028	36,105
Income taxes payable	6,800	439
Borrowings under credit agreement	140,000	140,000
Current deferred revenue	213,883	252,520
Total current liabilities	395,000	432,623
Non-current deferred revenue	27,452	29,558
Other non-current liabilities	37,782	32,591
Commitments and contingencies (Note 16)		
Series D redeemable convertible preferred stock, $0.10 par value—		
Authorized— 3,636 shares as of December 31, 2016 and June 30, 2016	—	—
Issued and outstanding— none as of December 31, 2016 and June 30, 2016		
Stockholders' deficit:		
Common stock, $0.10 par value— Authorized—210,000,000 shares		
Issued— 102,331,673 shares at December 31, 2016 and 102,031,960 shares at June 30, 2016	10,233	10,203
Outstanding— 76,244,859 shares at December 31, 2016 and 80,177,950 shares at June 30, 2016		
Additional paid-in capital	672,041	659,287
Retained earnings (deficit)	66,334	(5,676)
Accumulated other comprehensive income	14	2,651
Treasury stock, at cost—26,086,814 shares of common stock at December 31, 2016 and 21,854,010 shares at June 30, 2016	(941,499)	(741,499)
Total stockholders' deficit	(192,877)	(75,034)
Total liabilities and stockholders' deficit	$267,357	$419,738

See accompanying Notes to these unaudited consolidated financial statements.

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ASPEN TECHNOLOGY, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Six Months Ended December 31, 2016	2015
	(Dollars in Thousands)	
Cash flows from operating activities:		
Net income	$ 72,011	$ 73,454
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	3,300	3,020
Net foreign currency gains	(2,301)	(1,444)
Stock-based compensation	9,630	7,935
Deferred income taxes	182	(133)
Provision for bad debts	56	176
Tax benefits from stock-based compensation	1,032	1,831
Excess tax benefits from stock-based compensation	(1,032)	(1,831)
Other non-cash operating activities	40	271
Changes in assets and liabilities, excluding initial effects of acquisitions:		
Accounts receivable	2,494	15,720
Prepaid expenses, prepaid income taxes, and other assets	3,661	1,993
Accounts payable, accrued expenses, income taxes payable and other liabilities	5,084	(3,307)
Deferred revenue	(40,740)	(58,513)
Net cash provided by operating activities	53,417	39,172
Cash flows from investing activities:		
Purchases of marketable securities	(683,748)	—
Maturities of marketable securities	613,379	32,049
Purchases of property, equipment and leasehold improvements	(1,374)	(1,781)
Payments for business acquisitions, net of cash acquired	(36,171)	—
Payments for capitalized computer software costs	(100)	—
Net cash (used in) provided by investing activities	(108,014)	30,268
Cash flows from financing activities:		
Exercises of stock options	4,843	2,445
Repurchases of common stock	(199,584)	(56,790)
Payments of tax withholding obligations related to restricted stock	(2,786)	(2,188)
Excess tax benefits from stock-based compensation	1,032	1,831
Net cash used in financing activities	(196,495)	(54,702)
Effect of exchange rate changes on cash and cash equivalents	(218)	(364)
(Decrease) increase in cash and cash equivalents	(251,310)	14,374
Cash and cash equivalents, beginning of period	318,336	156,249
Cash and cash equivalents, end of period	$ 67,026	$ 170,623
Supplemental disclosure of cash flow information:		
Income taxes paid, net	$ 25,000	$ 34,497
Interest paid	1,579	14
Supplemental disclosure of non-cash investing and financing activities:		
Change in purchases of property, equipment and leasehold improvements included in accounts payable and accrued expenses	$ 506	$ (295)
Change in common stock repurchases included in accrued expenses	416	(1,724)

See accompanying Notes to these unaudited consolidated financial statements.

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ASPEN TECHNOLOGY, INC. AND SUBSIDIARIES
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

1. Interim Unaudited Consolidated Financial Statements

The accompanying interim unaudited consolidated financial statements of Aspen Technology, Inc. and its subsidiaries have been prepared on the same basis as our annual consolidated financial statements. We have omitted certain information and footnote disclosures normally included in our annual consolidated financial statements. Such interim unaudited consolidated financial statements have been prepared in conformity with U.S. Generally Accepted Accounting Principles (GAAP), as defined in the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 270, Interim Reporting, for interim financial information and with the instructions to Rule 10-01 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements. It is suggested that these unaudited consolidated financial statements be read in conjunction with the audited consolidated financial statements for the year ended June 30, 2016, which are contained in our Annual Report on Form 10-K, as previously filed with the U.S. Securities and Exchange Commission (SEC). In the opinion of management, all adjustments, consisting of normal and recurring adjustments, considered necessary for a fair presentation of the financial position, results of operations, and cash flows at the dates and for the periods presented have been included and all intercompany accounts and transactions have been eliminated in consolidation. The results of operations for the three and six months ended December 31, 2016 are not necessarily indicative of the results to be expected for the subsequent quarter or for the full fiscal year.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions. These estimates and assumptions affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Unless the context requires otherwise, references to we, our and us refer to Aspen Technology, Inc. and its subsidiaries.

2. Significant Accounting Policies

(a) Principles of Consolidation

The accompanying consolidated financial statements include the accounts of Aspen Technology, Inc. and our wholly owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

(b) Significant Accounting Policies

Our significant accounting policies are described in Note 2 to the consolidated financial statements included in our Annual Report on Form 10-K for the fiscal year ended June 30, 2016. There were no material changes to our significant accounting policies during the three and six months ended December 31, 2016.

(c) Revenue Recognition

We generate revenue from the following sources: (1) Subscription and software revenue; and (2) Services and other revenue. We sell our software products to end users primarily under fixed-term licenses. We license our software products primarily through a subscription offering which we refer to as our aspenONE licensing model, which includes software maintenance and support, known as our Premier Plus SMS offering, for the entire term. Our aspenONE products are organized into three suites: 1) engineering; 2) manufacturing and supply chain, or MSC; and 3) asset performance management, or APM. The aspenONE licensing model provides customers with access to all of the products within the aspenONE suite(s) they license. We refer to these arrangements as token arrangements. Tokens are fixed units of measure. The amount of software usage is limited by the number of tokens purchased by the customer.

We also license our software through point product term arrangements, which include our Premier Plus SMS offering for the entire term, as well as perpetual license arrangements.

Four basic criteria must be satisfied before software license revenue can be recognized: persuasive evidence of an arrangement between us and an end user; delivery of our product has occurred; the fee for the product is fixed or determinable; and collection of the fee is probable.

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Persuasive evidence of an arrangement—We use a signed contract as evidence of an arrangement for software licenses and SMS. For professional services we use a signed contract and a work proposal to evidence an arrangement. In cases where both a signed contract and a purchase order are required by the customer, we consider both taken together as evidence of the arrangement.
Delivery of our product—Software and the corresponding access keys are generally delivered to customers via electronic delivery or via physical medium with standard shipping terms of Free Carrier, our warehouse (i.e., FCA, AspenTech). Our software license agreements do not contain conditions for acceptance.
Fee is fixed or determinable—We assess whether a fee is fixed or determinable at the outset of the arrangement. Significant judgment is involved in making this assessment.
As a standard business practice, we offer fixed-term license arrangements, which are generally payable on an annual basis.
We cannot assert that the fees under our aspenONE licensing model and point product arrangements with Premier Plus SMS are fixed or determinable because of the rights provided to customers, economics of the arrangements, and because we do not have an established history of collecting under the terms of these contracts without providing concessions to customers. As a result, the amount of revenue recognized for these arrangements is limited by the amount of customer payments that become due.
Collection of fee is probable—We assess the probability of collecting from each customer at the outset of the arrangement based on a number of factors, including the customer's payment history, its current creditworthiness, economic conditions in the customer's industry and geographic location, and general economic conditions. If in our judgment collection of a fee is not probable, revenue is recognized as cash is collected, provided all other conditions for revenue recognition have been met.
Vendor-Specific Objective Evidence of Fair Value (VSOE)

We have established VSOE for professional services and certain training offerings, but not for our software products or our SMS offerings. We assess VSOE for SMS, professional services, and training, based on an analysis of standalone sales of the offerings using the bell-shaped curve approach. We do not have a history of selling our Premier Plus SMS offering to customers on a standalone basis, and as a result are unable to establish VSOE for this deliverable.

Subscription and Software Revenue

Subscription and software revenue consists primarily of product and related revenue from our (i) aspenONE licensing model; (ii) point product arrangements with our Premier Plus SMS offering included for the contract term; and (iii) perpetual arrangements.

When a customer elects to license our products under our aspenONE licensing model, our Premier Plus SMS offering is included for the entire term of the arrangement and the customer receives, for the term of the arrangement, the right to any new unspecified future software products and updates that may be introduced into the licensed aspenONE software suite. Due to our obligation to provide unspecified future software products and updates and because we do not have VSOE for our Premier Plus SMS offering, we are required to recognize revenue ratably over the term of the arrangement, once the other revenue recognition criteria noted above have been met.

Our point product arrangements with Premier Plus SMS include SMS for the term of the arrangement. Since we do not have VSOE for our Premier Plus SMS offering, the SMS element of our point product arrangements is not separable. As a result, revenue associated with point product arrangements with Premier Plus SMS included for the contract term is recognized ratably over the term of the arrangement, once the other revenue recognition criteria have been met.

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Services and Other Revenue

Professional Services Revenue

Professional services are provided to customers on a time-and-materials (T&M) or fixed-price basis. We recognize professional services fees for our T&M contracts based upon hours worked and contractually agreed-upon hourly rates. Revenue from fixed-price engagements is recognized using the proportional performance method based on the ratio of costs incurred to the total estimated project costs. Project costs are typically expensed as incurred. The use of the proportional performance method is dependent upon our ability to reliably estimate the costs to complete a project. We use historical experience as a basis for future estimates to complete current projects. Additionally, we believe that costs are the best available measure of performance. Out-of-pocket expenses which are reimbursed by customers are recorded as revenue.

In certain circumstances, professional services revenue may be recognized over a longer time period than the period over which the services are performed. If the costs to complete a project are not estimable or the completion is uncertain, the revenue and related costs are recognized upon completion of the services. In circumstances in which professional services are sold as a single arrangement with, or in contemplation of, a new aspenONE license or point product arrangement with Premier Plus SMS, revenue is deferred and recognized on a ratable basis over the longer of (i) the period the services are performed, or (ii) the license term. When we provide professional services considered essential to the functionality of the software, we recognize the combined revenue from the sale of the software and related services using the completed contract or percentage-of-completion method.

We have occasionally been required to commit unanticipated additional resources to complete projects, which resulted in losses on those contracts. Provisions for estimated losses on contracts are made during the period in which such losses become probable and can be reasonably estimated.

Training Revenue

We provide training services to our customers, including on-site, Internet-based, public and customized training. Revenue is recognized in the period in which the services are performed. In circumstances in which training services are sold as a single arrangement with, or in contemplation of, a new aspenONE license or point product arrangement with Premier Plus SMS, revenue is deferred and recognized on a ratable basis over the longer of (i) the period the services are performed or (ii) the license term.

Deferred Revenue

Deferred revenue includes amounts billed or collected in advance of revenue recognition, including arrangements under the aspenONE licensing model, point product arrangements with Premier Plus SMS, professional services, and training. Deferred revenue is recorded as each invoice becomes due.

Other Licensing Matters

Our standard licensing agreements include a product warranty provision. We have not experienced significant claims related to software warranties beyond the scope of SMS support, which we are already obligated to provide, and consequently, we have not established reserves for warranty obligations.

Our agreements with our customers generally require us to indemnify the customer against claims that our software infringes third-party patent, copyright, trademark or other proprietary rights. Such indemnification obligations are generally limited in a variety of industry-standard respects, including our right to replace an infringing product. As of

December 31, 2016 and June 30, 2016, we had not experienced any material losses related to these indemnification obligations and no claims with respect thereto were outstanding. We do not expect significant claims related to these indemnification obligations, and consequently, have not established any related reserves.

(d) Loss Contingencies

We accrue estimated liabilities for loss contingencies arising from claims, assessments, litigation and other sources when it is probable that a liability has been incurred and the amount of the claim, assessment or damages can be reasonably estimated. We believe that we have sufficient accruals to cover any obligations resulting from claims, assessments or litigation that have met these criteria. Please refer to Note 16 for discussion of these matters and related liability accruals.

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(e) Foreign Currency Transactions

Foreign currency exchange gains and losses generated from the settlement and remeasurement of transactions denominated in currencies other than the functional currency of our subsidiaries are recognized in our results of operations as incurred as a component of other income (expense), net. Net foreign currency gains (losses) were $0.7 million and $1.3 million during the three and six months ended December 31, 2016 and $(0.2) million and $0.7 million during the three and six months ended and December 31, 2015, respectively.

(f) Research and Development Expense

We charge research and development expenditures to expense as the costs are incurred. Research and development expenses consist primarily of personnel expenses related to the creation of new products, enhancements and engineering changes to existing products and costs of acquired technology prior to establishing technological feasibility.

We acquired technology for $0.4 million and $0.3 million during the six months ended December 31, 2016 and December 31, 2015, respectively. At the time we acquired the technology, the projects to develop commercially available products did not meet the accounting definition of having reached technological feasibility and therefore the cost of the acquired technology was expensed as a research and development expense.

(g) Recently Issued Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2014-09, Revenue from Contracts with Customers (Topic 606). ASU No. 2014-09 supersedes the revenue recognition requirements in Revenue Recognition (Topic 605), and requires entities to recognize revenue when they transfer promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services. As currently issued and amended, ASU 2014-09 is effective for annual reporting periods beginning after December 15, 2017, including interim periods within that reporting period, though early adoption is permitted for annual reporting periods beginning after December 15, 2016. We will adopt ASU No. 2014-09 during the first quarter of fiscal 2019. Based on our preliminary assessment, the adoption of ASU No. 2014-09 will impact the timing of a portion of the revenue recognized from our term contracts. We are continuing to evaluate the impact of ASU No. 2014-09 on our consolidated financial statements and implementing accounting system changes related to the adoption.

In February 2016, the FASB issued ASU No. 2016-02, Leases (Topic 842). Under the amendment, lessees will be required to recognize virtually all of their leases on the balance sheet, by recording a right-of-use asset and lease liability. The ASU is effective for annual periods, including interim periods within those annual periods, beginning after December 15, 2018. Early adoption is permitted. We are currently evaluating the impact of ASU No. 2016-02 on our consolidated financial statements.

In March 2016, the FASB issued ASU No. 2016-09, Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting. The amendment identifies several areas for simplification applicable to entities that issue share-based payment awards to their employees, including income tax consequences, the option to recognize gross stock compensation expense with actual forfeitures recognized when they occur, and certain classifications on the statements of cash flows. The ASU is effective for annual periods, including interim periods within those annual periods, beginning after December 15, 2016. Early adoption is permitted. We are currently evaluating the impact of ASU No. 2016-09 on our consolidated financial statements.

In June 2016, the FASB issued ASU No. 2016-13, Financial Instruments - Credit Losses (Topic 326). The amendment changes the impairment model for most financial assets and certain other instruments. Entities will be required to use a model that will result in the earlier recognition of allowances for losses for trade and other receivables, held-to-maturity debt securities, loans, and other instruments. For available-for-sale debt securities with unrealized losses, the losses will be recognized as allowances rather than as reductions in the amortized cost of the securities. The ASU is effective for annual periods, including interim periods within those annual periods, beginning after December

15, 2019. Early adoption is permitted. We are currently evaluating the impact of ASU No. 2016-13 on our consolidated financial statements.

In August 2016, the FASB issued ASU No. 2016-15, Statement of Cash Flows (Topic 230). The amendment updates the guidance as to how certain cash receipts and cash payments should be presented and classified, and is intended to reduce the existing diversity in practice. The ASU is effective for annual periods, including interim periods within those annual periods, beginning after December 15, 2017. Early adoption is permitted. We are currently evaluating the impact of ASU No. 2016-15 on our consolidated financial statements.

In October 2016, the FASB issued ASU No. 2016-16, Income Taxes - Intra-Entity Transfers of Assets Other Than Inventory (Topic 740). The amendment changes accounting for the income tax consequences of intra-entity transfers of assets other than inventory by requiring an entity to recognize the income tax consequences when a transfer occurs, instead of when

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an asset is sold to an outside party. The amendment should be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. The ASU is effective for annual periods, including interim periods within those annual periods, beginning after December 15, 2017. Early adoption is permitted. We are currently evaluating the impact of ASU No. 2016-18 on our consolidated financial statements.

3. Marketable Securities

The following table summarizes the fair value, the amortized cost and unrealized holding gains (losses) on our marketable securities as of December 31, 2016 and June 30, 2016:

	Fair Value	Cost	Unrealized Gains	Unrealized Losses
	(Dollars in Thousands)			
December 31, 2016:				
U.S. corporate bonds	$72,939	$72,965	$ —	$ (26)
Total short-term marketable securities	$72,939	$72,965	$ —	$ (26)
June 30, 2016:				
U.S. corporate bonds	$3,006	$3,006	$ —	$ —
Total short-term marketable securities	$3,006	$3,006	$ —	$ —

Our marketable securities were classified as available-for-sale and reported at fair value on the unaudited consolidated balance sheets. Net unrealized gains (losses) were reported as a separate component of accumulated other comprehensive income, net of tax. Realized gains (losses) on investments were recognized in earnings as incurred. Our investments consisted primarily of investment grade fixed income corporate debt securities with maturity dates ranging from January 2017 through May 2017 as of December 31, 2016 and August 2016 as of June 30, 2016.

4. Fair Value

We determine fair value by utilizing a fair value hierarchy that ranks the quality and reliability of the information used in its determination. Fair values determined using “Level 1 inputs” utilize unadjusted quoted prices in active markets for identical assets or liabilities that we have the ability to access. Fair values determined using “Level 2 inputs” utilize data points that are observable, such as quoted prices, interest rates and yield curves for similar assets and liabilities.

Cash equivalents of $30.2 million and $286.2 million as of December 31, 2016 and June 30, 2016, respectively, were reported at fair value utilizing quoted market prices in identical markets, or “Level 1 inputs.” Our cash equivalents consist of short-term, highly liquid investments with remaining maturities of three months or less when purchased.

Marketable securities of $72.9 million and $3.0 million as of December 31, 2016 and June 30, 2016, respectively, were reported at fair value calculated in accordance with the market approach, utilizing market consensus pricing models with quoted prices that were directly or indirectly observable, or “Level 2 inputs.”

Financial instruments not measured or recorded at fair value in the accompanying unaudited consolidated financial statements consist of accounts receivable, installments receivable, accounts payable and accrued liabilities. The estimated fair value of these financial instruments approximates their carrying value. The estimated fair value of the borrowings under the Credit Agreement (described below in Note 11, Credit Agreement) approximates its carrying value due to the floating interest rate.

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5. Accounts Receivable

Our accounts receivable, net of the related allowance for doubtful accounts, were as follows as of December 31, 2016 and June 30, 2016:

	Gross	Allowance	Net
	(Dollars in Thousands)		
December 31, 2016:			
Accounts receivable	$19,256	$ 1,329	$17,927
	$19,256	$ 1,329	$17,927
June 30, 2016:			
Accounts receivable	$22,080	$ 1,604	$20,476
	$22,080	$ 1,604	$20,476

As of December 31, 2016, we had one customer receivable balance that individually represented approximately 15% of our total receivables.

6. Property and Equipment

Property, equipment and leasehold improvements in the accompanying unaudited consolidated balance sheets consisted of the following:

	December 31, 2016	June 30, 2016
	(Dollars in Thousands)	
Property, equipment and leasehold improvements - at cost:		
Computer equipment	$ 9,668	$ 10,387
Purchased software	23,725	23,705
Furniture & fixtures	6,862	6,712
Leasehold improvements	11,763	12,523
Accumulated depreciation	(37,026)	(37,502)
Property, equipment and leasehold improvements - net	$ 14,992	$ 15,825

During the six months ended December 31, 2016, we wrote off fully depreciated property, equipment and leasehold improvements that were no longer in use with gross book values of $2.2 million.

7. Acquisitions

Mtelligence Corporation

On October 26, 2016, we completed the acquisition of all the outstanding shares of Mtelligence Corporation (“Mtell”), a provider of predictive and prescriptive maintenance software and related services used to optimize asset performance, for total cash consideration of $37.4 million. The purchase price consisted of $31.9 million of cash paid at closing and an additional $5.5 million to be held back until April 2018 as security for certain representations, warranties, and obligations of the sellers. The holdback was recorded at its fair value as of the acquisition date of $5.3 million.

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A preliminary allocation of the purchase price is as follows. The valuation of the net assets acquired and the deferred tax liabilities are considered preliminary as of December 31, 2016.

	Amount (Dollars in Thousands)
Tangible assets acquired, net	$ 779
Identifiable intangible assets:	
Developed technology	11,385
Customer relationships	679
Non-compete agreements	553
Goodwill	28,160
Deferred tax liabilities, net	(4,371)
Total assets acquired	$ 37,185

We used the income approach to determine the values of the identifiable intangible assets. The weighted-average discount rate (or rate of return) used to determine the value of the Mtell intangible assets was 19% and the effective tax rate used was 34%. The values of the developed technology, customer relationships and non-compete agreements are being amortized on a straight-line basis, except technology which is being amortized on a proportional use basis, over their estimated useful lives of 12 years, 6 years and 3 years, respectively.

The goodwill, which is not deductible for tax purposes, reflects the value of the assembled workforce and the company-specific synergies we expect to realize by selling Mtell products and services to our existing customers. The results of operations of Mtell have been included prospectively in our results of operations since the date of acquisition.

Technology and Trademarks

In August 2016, we acquired certain technology and trademarks for total cash consideration of $6.0 million. The purchase price consisted of $5.4 million of cash paid at closing and up to an additional $0.6 million to be paid in August 2017. The acquisition met the definition of a business combination as it contained inputs and processes that are capable of being operated as a business. The preliminary allocation of the purchase price as of September 30, 2016 allocated $4.0 million to developed technology and $2.0 million to goodwill. The fair value of the developed technology of $4.0 million was determined using the replacement cost approach. The developed technology is being amortized on a straight-line basis over its estimated useful life of 6 years. The acquisition is treated as an asset purchase for tax purposes and accordingly, the goodwill resulting from the acquisition is expected to be deductible.

Fidelis Group, LLC

In June 2016, we completed the acquisition of all the outstanding shares of Fidelis Group, LLC ("Fidelis"), a provider of asset reliability software used to predict and optimize asset performance. The purchase price consisted of $8.0 million of cash paid at closing and up to an additional $2.0 million to be paid in December 2017.

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A preliminary allocation of the purchase price is as follows, including adjustments identified subsequent to the acquisition date. The valuation of the net assets acquired and the deferred tax liabilities are considered preliminary as of December 31, 2016.

	Amount (Dollars in Thousands)
Tangible assets acquired, net	$ 65
Identifiable intangible assets:	
Developed technology	1,272
Customer relationships	753
In-process research and development	3,097
Goodwill	6,706
Deferred tax liabilities, net	(1,893)
Total assets acquired	$ 10,000

8. Intangible Assets

We include in our amortizable intangible assets those intangible assets acquired in our business and asset acquisitions. We amortize acquired intangible assets with finite lives over their estimated economic lives, generally using the straight-line method. Each period, we evaluate the estimated remaining useful lives of acquired intangible assets to determine whether events or changes in circumstances warrant a revision to the remaining period of amortization. Acquired intangibles are removed from the accounts when fully amortized and no longer in use.

Intangible assets consist of the following as of December 31, 2016 and June 30, 2016:

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
	(Dollars in Thousands)		
December 31, 2016:			
Technology and patents	$19,150	$ (2,660)	$ 16,490
In process research & development	3,200	—	3,200
Customer relationships	1,432	(47)	1,385
Non-compete agreements	553	—	553
Total	$24,335	$ (2,707)	$ 21,628
June 30, 2016:			
Technology and patents	$3,696	$ (2,596)	$ 1,100
In process research & development	3,200	—	3,200
Customer relationships	700	—	700
Total	$7,596	$ (2,596)	$ 5,000

Total amortization expense related to intangible assets is included in operating expenses and amounted to approximately $0.1 million for the three and six months ended December 31, 2016 and December 31, 2015, respectively. Amortization expense is expected to be approximately $1.1 million in fiscal 2017, $1.7 million in fiscal 2018, $1.7 million in fiscal 2019, $1.8 million in fiscal 2020, $1.9 million in fiscal 2021, and $13.4 million thereafter.

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9. Goodwill

The changes in the carrying amount of goodwill for our subscription and software reporting unit during the six months ended December 31, 2016 was as follows:

	Gross Carrying Amount	Accumulated impairment losses	Effect of currency translation	Net Carrying Amount
	(Dollars in Thousands)			
Goodwill, net, at June 30, 2016	$89,007	$ (65,569)	$ —	$23,438
Goodwill from Mtell acquisition	28,160	—	—	28,160
Goodwill from technology acquisition	2,000	—	—	2,000
Subsequent Fidelis goodwill adjustment	(78)	—	—	(78)
Foreign currency translation and other	—	—	(487)	(487)
Goodwill, net, at December 31, 2016	$119,089	$ (65,569)	$ (487)	$53,033

We test goodwill for impairment annually (or more often if impairment indicators arise), at the reporting unit level. We first assess qualitative factors to determine whether the existence of events or circumstances indicates that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If we determine based on this assessment that it is more likely than not that the fair value of a reporting unit is less than its carrying amount, we perform the two-step goodwill impairment test. The first step requires us to determine the fair value of the reporting unit and compare it to the carrying amount, including goodwill, of such reporting unit. If the fair value exceeds the carrying amount, no impairment loss is recognized. However, if the carrying amount of the reporting unit exceeds its fair value, the goodwill of the unit may be impaired. The amount of impairment, if any, is measured based upon the implied fair value of goodwill at the valuation date.

Fair value of a reporting unit is determined using a combined weighted average of a market-based approach (utilizing fair value multiples of comparable publicly traded companies) and an income-based approach (utilizing discounted projected cash flows). In applying the income-based approach, we would be required to make assumptions about the amount and timing of future expected cash flows, growth rates and appropriate discount rates. The amount and timing of future cash flows would be based on our most recent long-term financial projections. The discount rate we would utilize would be determined using estimates of market participant risk-adjusted weighted-average costs of capital and reflect the risks associated with achieving future cash flows.

We have elected December 31st as the annual impairment assessment date and perform additional impairment tests if triggering events occur. We performed our annual impairment test for the subscription and software reporting unit as of December 31, 2016 and, based upon the results of our qualitative assessment, determined that it was not likely that its fair value was less than its carrying amount. As such, we did not perform the two-step goodwill impairment test and did not recognize impairment losses as a result of our analysis. If an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying value, goodwill will be evaluated for impairment between annual tests.

10. Accrued Expenses and Other Liabilities

Accrued expenses and other current liabilities in the accompanying unaudited consolidated balance sheets consist of the following:

	December 31, 2016	June 30, 2016
	(Dollars in Thousands)	

Royalties and outside commissions	$ 2,894	$ 2,640
Payroll and payroll-related	12,351	17,809
Other	17,783	15,656
Total accrued expenses and other current liabilities	$ 33,028	$ 36,105

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Other non-current liabilities in the accompanying unaudited consolidated balance sheets consist of the following:

	December 31, 2016	June 30, 2016
	(Dollars in Thousands)	
Deferred rent	$ 6,627	$ 6,361
Uncertain tax positions	20,704	23,535
Other	10,451	2,695
Total other non-current liabilities	$ 37,782	$ 32,591

11. Credit Agreement

On February 26, 2016, we entered into a $250.0 million Credit Agreement (the "Credit Agreement") with JPMorgan Chase Bank, N.A., as administrative agent, Silicon Valley Bank, as syndication agent, and the lenders and other parties named therein (the "Lenders"). The indebtedness evidenced by the Credit Agreement matures on February 26, 2021. Prior to the maturity of the Credit Agreement, any amounts borrowed may be repaid and, subject to the terms and conditions of the Credit Agreement, borrowed again in whole or in part without penalty. As of December 31, 2016 and June 30, 2016, we had $140.0 million in outstanding borrowings under the Credit Agreement. Debt issuance costs related to the Credit Agreement were recorded in prepaid expenses and other current assets in our consolidated balance sheet.

Borrowings under the Credit Agreement bear interest at a rate equal to either, at our option, the sum of (a) the highest of (1) the rate of interest publicly announced by JPMorgan Chase Bank, N.A. as its prime rate in effect, (2) the Federal Funds Effective Rate plus 0.5%, and (3) the one-month Adjusted LIBO Rate plus 1.0%, plus (b) a margin initially of 0.5% for the first full fiscal quarter ending after the date of the Credit Agreement and thereafter based on our Leverage Ratio; or the Adjusted LIBO Rate plus a margin initially of 1.5% for the first full fiscal quarter ending after the date of the Credit Agreement and thereafter based on our Leverage Ratio. We must also pay, on a quarterly basis, an unused commitment fee at a rate of between 0.2% and 0.3% per annum, based on our Leverage Ratio. The interest rate as of December 31, 2016 was 2.27%.

All borrowings under the Credit Agreement are secured by liens on substantially all of our assets. The Credit Agreement contains affirmative and negative covenants customary for facilities of this type, including restrictions on: incurrence of additional debt; liens; fundamental changes; asset sales; restricted payments; and transactions with affiliates. The Credit Agreement contains financial covenants regarding maintenance as of the end of each fiscal quarter, commencing with the quarter ending June 30, 2016, of a maximum Leverage Ratio of 3.0 to 1.0 and a minimum Interest Coverage Ratio of 3.0 to 1.0. As of December 31, 2016 we were in compliance with these covenants.

12. Stock-Based Compensation

The weighted average estimated fair value of option awards granted was $12.45 and $12.96 during the three and six months ended December 31, 2016 and $12.39 and $13.52 during the three and six months ended December 31, 2015, respectively.

We utilized the Black-Scholes option valuation model with the following weighted average assumptions:

Six Months
Ended
December 31,

	2016	2015
Risk-free interest rate	1.1 %	1.4 %
Expected dividend yield	0.0 %	0.0 %
Expected life (in years)	4.6	4.6
Expected volatility factor	31.4%	34.1%

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The stock-based compensation expense and its classification in the unaudited consolidated statements of operations for the three and six months ended December 31, 2016 and 2015 are as follows:

	Three Months Ended December 31,		Six Months Ended December 31,	
	2016	2015	2016	2015
	(Dollars in Thousands)			
Recorded as expenses:				
Cost of services and other	$374	$350	$743	$707
Selling and marketing	1,010	837	1,965	1,750
Research and development	1,495	848	2,558	1,672
General and administrative	1,792	1,477	4,364	3,806
Total stock-based compensation	$4,671	$3,512	$9,630	$7,935

A summary of stock option and RSU activity under all equity plans for the three and six months ended December 31, 2016 is as follows:

	Stock Options				Restricted Stock Units	
	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value (in 000's)	Shares	Weighted Average Grant Date Fair Value
Outstanding at June 30, 2016	1,314,142	$ 32.47	7.23	$ 12,340	493,332	$ 41.06
Granted	456,872	45.48			509,156	45.93
Settled (RSUs)	—				(163,970)	41.72
Exercised	(191,085)	25.84			—	
Cancelled / Forfeited	(42,702)	39.25			(35,987)	42.28
Outstanding at December 31, 2016	1,537,227	$ 36.97	7.72	$ 27,219	802,531	$ 43.96
Vested and exercisable at December 31, 2016	806,266	$ 30.97	6.54	$ 19,113	—	
Vested and expected to vest as of December 31, 2016	1,460,949	$ 36.60	7.65	$ 26,416	719,043	$ 43.87

The weighted average grant-date fair value of RSUs granted was $47.73 and $45.93 during the three and six months ended December 31, 2016 and $38.04 and $43.94 during the three and six months ended December 31, 2015, respectively. The total fair value of shares vested from RSU grants was $4.2 million and $8.3 million during the three and six months ended December 31, 2016 and $2.9 million and $6.3 million during the three and six months ended December 31, 2015, respectively.

At December 31, 2016, the total future unrecognized compensation cost related to stock options was $8.3 million and is expected to be recorded over a weighted average period of 2.9 years. At December 31, 2016, the total future unrecognized compensation cost related to RSUs was $31.4 million and is expected to be recorded over a weighted average period of 2.9 years.

The total intrinsic value of options exercised was $1.4 million and $4.1 million during the three and six months ended December 31, 2016 and $1.4 million and $2.3 million during the three and six months ended December 31, 2015, respectively. We received cash proceeds from option exercises of $4.8 million and $2.4 million during the six months ended December 31, 2016 and 2015, respectively. We withheld withholding taxes on vested RSUs of $2.8 million and

$2.2 million during the six months ended December 31, 2016 and 2015, respectively.

At December 31, 2016, common stock reserved for future issuance or settlement under equity compensation plans was 5.0 million shares.

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13. Stockholders' Deficit

Stock Repurchases

On January 28, 2015, our Board of Directors approved a share repurchase program for up to $450.0 million worth of our common stock. On April 26, 2016, the Board of Directors approved a $400.0 million increase in the share repurchase plan. The timing and amount of any shares repurchased are based on market conditions and other factors. All shares of our common stock repurchased have been recorded as treasury stock under the cost method.

On August 29, 2016, as part of our common stock repurchase program, we entered into an accelerated share repurchase program (the "ASR Program") with a third-party financial institution. Pursuant to the terms of the ASR Program, we made an upfront payment of $100.0 million in exchange for an initial delivery of approximately 1.76 million shares of our common stock, representing 80% of the total shares ultimately expected to be delivered over the program's term. The initial shares received, which had an aggregate cost of $80.0 million based on the August 29, 2016 closing share price, were recorded as an increase to treasury stock. As of September 30, 2016, $20.0 million, representing the difference between the upfront $100.0 million payment and the $80.0 million cost of the initial share delivery, was recorded as a reduction to additional paid-in capital in our consolidated balance sheet.

Upon the final settlement of the ASR Program during the three months ended December 31, 2016, we received an additional delivery of 0.35 million shares of our common stock. The total number of shares received under the ASR Program during the six months ended December 31, 2016 was 2.1 million shares, which was determined based on the volume-weighted average price per share of our common stock over the term of the ASR Program, less an agreed-upon discount.

During the three months ended December 31, 2016 we repurchased 987,237 and 348,854 shares of our common stock for $50.0 million and $20.0 million in the open market and as part of the ASR Program, respectively.

During the six months ended December 31, 2016 we repurchased 2,126,095 and 2,106,709 shares of our common stock for $100.0 million and $100.0 million in the open market and as part of the ASR Program, respectively

As of December 31, 2016, the total remaining value under the share repurchase program approved on January 28, 2015 and amended on April 26, 2016 was approximately $321.3 million.

Accumulated Other Comprehensive Income

As of December 31, 2016, accumulated other comprehensive income was comprised of foreign currency translation adjustments of less than $0.1 million and net unrealized losses on available for sale securities of less than $0.1 million. As of December 31, 2015, accumulated other comprehensive income was comprised of foreign currency translation adjustments of $4.3 million and net unrealized losses on available for sale securities of less than $0.1 million.

As of June 30, 2016, accumulated other comprehensive income was comprised of foreign currency translation adjustments of $2.7 million and net unrealized losses on available for sale securities of less than $0.1 million. As of June 30, 2015, accumulated other comprehensive income was comprised of foreign currency translation adjustments of $6.5 million and net unrealized losses on available for sale securities of less than $0.1 million.

14. Net Income Per Share

Basic income per share is determined by dividing net income by the weighted average common shares outstanding during the period. Diluted income per share is determined by dividing net income by diluted weighted average shares outstanding during the period. Diluted weighted average shares reflect the dilutive effect, if any, of potential common shares. To the extent their effect is dilutive, employee equity awards and other commitments to be settled in common stock are included in the calculation of diluted net income per share based on the treasury stock method.

The calculations of basic and diluted net income per share and basic and dilutive weighted average shares outstanding for the three and six months ended December 31, 2016 and 2015 are as follows:

	Three Months Ended December 31,		Six Months Ended December 31,	
	2016	2015	2016	2015
	(Dollars and Shares in Thousands, Except per Share Data)			
Net income	$ 37,010	$ 36,683	$ 72,011	$ 73,454
Weighted average shares outstanding	76,905	83,315	77,977	83,596
Dilutive impact from:				
Share-based payment awards	413	388	379	439
Dilutive weighted average shares outstanding	77,318	83,703	78,356	84,035
Income per share				
Basic	$ 0.48	$ 0.44	$ 0.92	$ 0.88
Dilutive	$ 0.48	$ 0.44	$ 0.92	$ 0.87

For the three and six months ended December 31, 2016 and 2015, certain employee equity awards were anti-dilutive based on the treasury stock method. Additionally, during the three and six months ended December 31, 2016, options to purchase 2,260 and 6,875 shares, respectively, of our common stock were not included in the computation of dilutive weighted average shares outstanding, because their exercise prices ranged from $47.40 per share to $54.22 per share and were greater than the average market price of our common stock during the periods then ended. These options were outstanding as of December 31, 2016 and expire at various dates through December 14, 2026.

The following employee equity awards were excluded from the calculation of dilutive weighted average shares outstanding because their effect would be anti-dilutive as of December 31, 2016 and 2015:

	Three Months Ended December 31,		Six Months Ended December 31,	
	2016	2015	2016	2015
	(Shares in Thousands)			
Employee equity awards	721	1,108	873	1,072

15. Income Taxes

The effective tax rate for the periods presented was primarily the result of income earned in the U.S., taxed at U.S. federal and state statutory income tax rates, income earned in foreign tax jurisdictions taxed at the applicable rates, as well as the impact of permanent differences between book and tax income.

Our effective tax rate for the three and six months ended December 31, 2016 was 33.9% and 35.0%, respectively, as compared to 34.7% and 34.8% for the corresponding periods of the prior fiscal year. Our effective tax rate changed slightly for the three and six months ended December 31, 2016 compared to the same periods in 2015 due to discrete items. During the three and six months ended December 31, 2016 and 2015, our income tax expense was driven primarily by pre-tax profitability in our domestic and foreign operations and the impact of permanent items. The permanent items are predominantly a U.S. domestic production activity deduction being slightly offset by non-deductible stock-based compensation expense.

We use the “with and without” ordering approach to calculate our tax provision when necessary. This methodology requires us to utilize all other tax attributes before recognizing excess tax benefits. Excess tax benefits are generated when the deductible value of stock-based compensation for income tax purposes exceeds the value recognized for financial statement purposes. Excess tax benefits are not included as a component of deferred tax assets. When realized, excess tax benefits reduce income taxes payable and increase additional paid in capital. In our unaudited consolidated statements of cash flows, the excess tax benefits of $1.0 million and $1.8 million were reported as sources of cash flows from financing activities with offsetting reductions to cash flows from operating activities during the six months ended December 31, 2016 and 2015, respectively.

Deferred income taxes are recognized based on temporary differences between the financial statement and tax bases of assets and liabilities. Deferred tax assets and liabilities are measured using the statutory tax rates and laws expected to apply to taxable income in the years in which the temporary differences are expected to reverse. Valuation allowances are provided against net deferred tax assets if, based upon the available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income and the timing of the temporary differences becoming deductible. Management considers, among other available information, scheduled reversals of deferred tax liabilities, projected future taxable income, limitations of availability of net operating loss carryforwards, and other matters in making this assessment.

We do not provide deferred taxes on unremitted earnings of foreign subsidiaries since we intend to indefinitely reinvest those earnings either currently or sometime in the foreseeable future. Unrecognized provisions for taxes on undistributed earnings of foreign subsidiaries, which are considered indefinitely reinvested, are not material to our consolidated financial position or results of operations.

16. Commitments and Contingencies

Operating Leases

We lease certain facilities under non-cancellable operating leases with terms in excess of one year. Rental expense on leased facilities under operating leases was approximately $2.1 million and $4.2 million during the three and six months ended December 31, 2016 and $2.1 million and $4.1 million during the three and six months ended December 31, 2015, respectively.

Standby letters of credit for $2.9 million as of December 31, 2016 secure our performance on professional services contracts, certain facility leases and potential liabilities. This is a decrease from $3.5 million as of June 30, 2016. The letters of credit expire at various dates through fiscal 2018.

Legal Matters

In the ordinary course of business, we are, from time to time, involved in lawsuits, claims, investigations, proceedings and threats of litigation. These matters include an April 2004 claim by a customer that certain of our software products and implementation services failed to meet the customer's expectations. In March 2014, a judgment was issued by the trial court against us in the amount of approximately 1.9 million Euro (“€”) plus interest and a portion of legal fees. We subsequently filed an appeal of that judgment. As of December 31, 2016, the appellate court determined that we are liable for damages in the amount of approximately €1.7 million plus interest, with the possibility of additional damages to be determined in further proceedings by the appellate court.

While the outcome of the proceedings and claims referenced above cannot be predicted with certainty, there were no such matters, as of December 31, 2016 that, in the opinion of management, are reasonably possible to have a material adverse effect on our financial position, results of operations or cash flows. Liabilities, if applicable, related to the aforementioned matters discussed in this Note have been included in our accrued liabilities at December 31, 2016, and are not material to our financial position for the period then ended. As of December 31, 2016, we do not believe that there is a reasonable possibility of a material loss exceeding the amounts already accrued for the proceedings or matters discussed above. However, the results of litigation (including the above-referenced appeal) and claims cannot be predicted with certainty; unfavorable resolutions are possible and could materially affect our results of operations, cash flows or financial position. In addition, regardless of the outcome, litigation could have an adverse impact on us because of attorneys' fees and costs, diversion of management resources and other factors.

17. Segment Information

Operating segments are defined as components of an enterprise that engage in business activities for which discrete financial information is available and regularly reviewed by the chief operating decision maker in deciding how to allocate resources and to assess performance. Our chief operating decision maker is our President and Chief Executive Officer.

The subscription and software segment is engaged in the licensing of process optimization software solutions and associated support services. The services segment includes professional services and training. We do not track assets or capital expenditures by operating segments. Consequently, it is not practical to present assets, capital expenditures, depreciation or amortization by operating segments.

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The following table presents a summary of our reportable segments' profits:

	Subscription and software	Services	Total
	(Dollars in Thousands)		
Three Months Ended December 31, 2016			
Segment revenue	$112,916	$7,017	$119,933
Segment expenses (1)	(45,602)	(6,403)	(52,005)
Segment profit	$67,314	$614	$67,928
Three Months Ended December 31, 2015			
Segment revenue	$110,126	$9,025	$119,151
Segment expenses (1)	(42,126)	(6,921)	(49,047)
Segment profit	$68,000	$2,104	$70,104
Six Months Ended December 31, 2016			
Segment revenue	$226,360	$13,623	$239,983
Segment expenses (1)	(91,328)	(12,839)	(104,167)
Segment profit	$135,032	$784	$135,816
Six Months Ended December 31, 2015			
Segment revenue	$221,985	$17,462	$239,447
Segment expenses (1)	(86,401)	(14,651)	(101,052)
Segment profit	$135,584	$2,811	$138,395

(1) Our reportable segments' operating expenses include expenses directly attributable to the segments. Segment expenses include selling and marketing, research and development, stock-based compensation and certain corporate expenses incurred in support of the segments. Segment expenses do not include allocations of general and administrative; interest income, net; and other income, net.

Reconciliation to Income before Income Taxes

The following table presents a reconciliation of total segment profit to income before income taxes for the three and six months ended December 31, 2016 and 2015:

	Three Months Ended December 31,		Six Months Ended December 31,	
	2016	2015	2016	2015
	(Dollars in Thousands)			
Total segment profit for reportable segments	$67,928	$70,104	$135,816	$138,395
General and administrative	(11,863)	(13,805)	(25,020)	(26,667)
Other income (expense), net	697	(157)	1,344	739
Interest (expense) income, net	(676)	58	(1,274)	139
Income before income taxes	$56,086	$56,200	$110,866	$112,606

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

You should read the following discussion in conjunction with our unaudited consolidated financial statements and related and notes thereto contained in this report. In addition to historical information, this discussion contains forward-looking statements that involve risks and uncertainties. You should read "Item 1A. Risk Factors," of Part II for a discussion of important factors that could cause our actual results to differ materially from our expectations.

Our fiscal year ends on June 30th, and references in this Quarterly Report to a specific fiscal year are to the twelve months ended June 30th of such year (for example, "fiscal 2017" refers to the year ending on June 30, 2017).

Recent Events

In November 2016, we announced the introduction of a new product suite, aspenONE Asset Performance Management (APM). The new suite expands the aspenONE product portfolio from the engineering and manufacturing and supply chain suites into maintenance, reliability, and predictive analytics to address business challenges that include process disruptions, low asset availability and unplanned downtime. The aspenONE APM suite enables companies to optimize their assets throughout the entire plant lifecycle and includes the Aspen Fidelis Reliability product and the Aspen Asset Analytics products.

On October 26, 2016, we completed the acquisition of all the outstanding shares of Mtelligence Corporation ("Mtell"), a California-based provider of predictive and prescriptive maintenance software and related services used to optimize asset performance, for total cash consideration of $37.4 million. The purchase price consisted of $31.9 million of cash paid at closing and up to an additional $5.5 million to be held back until April 2018 as security for certain representations, warranties, and obligations of the Sellers.

Business Overview

We are a leading global provider of process optimization software solutions designed to manage and optimize plant and process design, operational performance, and supply chain planning. Our aspenONE software and related services have been developed specifically for the process industries, including the energy, chemicals, and engineering and construction industries, as well as other industries in which asset optimization is a key component of operational performance. Customers use our solutions to improve their competitiveness and profitability by increasing throughput and productivity, reducing operating costs, enhancing capital efficiency, and decreasing working capital requirements. Our software incorporates our proprietary mathematical and empirical models of manufacturing and planning processes and reflects the deep domain expertise we have amassed from focusing on solutions for the process and other industries for over 35 years. We have developed our applications to design and optimize processes across three principal business areas: engineering, manufacturing and supply chain, and asset performance management. We are a recognized market and technology leader in providing process optimization software for each of these business areas.

We have established sustainable competitive advantages within our industry based on the following strengths:

- Innovative products that can enhance our customers' profitability;
- Long-term customer relationships;
- Large installed base of users of our software; and
- Long-term license contracts.

We have approximately 2,100 customers globally. Our customers consist of companies engaged in process industries such as energy, chemicals, engineering and construction, as well as transportation, power, metals and mining, pulp and paper, pharmaceuticals, consumer packaged goods, and biofuels.

Business Segments

We have two operating and reportable segments: i) subscription and software and ii) services. The subscription and software segment is engaged in the licensing of process optimization software solutions and associated support services. The services segment includes professional services and training.

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Key Components of Operations

Revenue

We generate revenue primarily from the following sources:

Subscription and Software Revenue. We sell our software products to end users primarily under fixed-term licenses. We license our software products primarily through a subscription offering which we refer to as our aspenONE licensing model. Our aspenONE products are organized into three suites: 1) engineering; 2) manufacturing and supply chain, or MSC; and 3) asset performance management, or APM. The aspenONE licensing model provides customers with access to all of the products within the aspenONE suite(s) they license. Customers can change or alternate the use of multiple products in a licensed suite through the use of exchangeable units of measurement, called tokens, licensed in quantities determined by the customer. This licensing system enables customers to use products as needed and to experiment with different products to best solve whatever critical business challenges they face. Customers can increase their usage of our software by purchasing additional tokens as business needs evolve.

We provide customers technical support, access to software fixes and updates and the right to any new unspecified future software products and updates that may be introduced into the licensed aspenONE software suite. Our technical support services are provided from our customer support centers throughout the world, as well as via email and through our support website.

We also license our software through point product arrangements with our Premier Plus SMS offering included for the contract term, as well as perpetual license arrangements.

Services and Other Revenue. We provide training and professional services to our customers. Our professional services are focused on implementing our technology in order to improve customers' plant performance and gain better operational data. Customers who use our professional services typically engage us to provide those services over periods of up to 24 months. We charge customers for professional services on a time-and-materials or fixed-price basis. We provide training services to our customers, including on-site, Internet-based and customized training.

Our services and other revenue consists of revenue related to professional services and training. The amount and timing of this revenue depend on a number of factors, including:

- whether the professional services arrangement was sold as a single arrangement with, or in contemplation of, a new aspenONE licensing arrangement;
- the number, value and rate per hour of service transactions booked during the current and preceding periods;
- the number and availability of service resources actively engaged on billable projects;
- the timing of milestone acceptance for engagements contractually requiring customer sign-off;
- the timing of collection of cash payments when collectability is uncertain; and
- the size of the installed base of license contracts.

Cost of Revenue

Cost of Subscription and Software. Our cost of subscription and software revenue consists of (i) royalties, (ii) amortization of capitalized software and intangibles, (iii) distribution fees, and (iv) costs of providing Premier Plus SMS bundled with our aspenONE licensing and point product arrangements.

Cost of Services and Other. Our cost of services and other revenue consists primarily of personnel-related and external consultant costs associated with providing customers professional services and training.

Operating Expenses

Selling and Marketing Expenses. Selling expenses consist primarily of the personnel and travel expenses related to the effort expended to license our products and services to current and potential customers, as well as for overall management of customer relationships. Marketing expenses include expenses needed to promote our company and our products and to conduct market research to help us better understand our customers and their business needs.

Research and Development Expenses. Research and development expenses consist primarily of personnel expenses related to the creation of new software products, enhancements and engineering changes to existing products and costs of acquired technology prior to establishing technological feasibility.

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General and Administrative Expenses. General and administrative expenses include the costs of corporate and support functions, such as executive leadership and administration groups, finance, legal, human resources and corporate communications, and other costs, such as outside professional and consultant fees and provision for bad debts.

Other Income and Expenses

Interest Income. Interest income is recorded for the accretion of interest on the investment in marketable securities and short-term money market instruments.

Interest Expense. During the three and six months ended December 31, 2016 , interest expense is primarily related to our Credit Agreement. During the three and six months ended December 31, 2015, interest expense was comprised of miscellaneous interest charges.

Other Income (Expense), Net. Other income (expense), net is comprised primarily of foreign currency exchange gains (losses) generated from the settlement and remeasurement of transactions denominated in currencies other than the functional currency of our operating units.

Provision for Income Taxes. Provision for income taxes is comprised of domestic and foreign taxes. Benefits from income taxes are comprised of any deferred benefit for tax deductions and credits that we expect to utilize in the future. We record interest and penalties related to income tax matters as a component of income tax expense. We expect the amount of income tax expense to vary each reporting period depending upon fluctuations in our taxable income by jurisdiction.

Key Business Metrics

We utilize certain key non-GAAP and other business measures to track and assess the performance of our business and we make these measures available to investors. We have refined the set of appropriate business metrics in the context of our evolving business and use the following non-GAAP business metrics in addition to GAAP measures to track our business performance:

- Annual spend;
- Free cash flow; and
- Non-GAAP operating income.

None of these metrics should be considered as an alternative to any measure of financial performance calculated in accordance with GAAP.

Annual Spend

Annual spend is an estimate of the annualized value of our portfolio of term license arrangements, as of a specific date. Management believes that this financial measure is a useful metric to investors as it provides insight into the growth component of license bookings during a fiscal period. Annual spend is calculated by summing the most recent annual invoice value of each of our active term license contracts. Annual spend also includes the annualized value of standalone SMS agreements purchased in conjunction with term license agreements. Comparing annual spend for different dates can provide insight into the growth and retention rates of our business, and since annual spend represents the estimated annualized billings associated with our active term license agreements, it provides insight into the future value of subscription and software revenue.

Annual spend increases as a result of:

- New term license agreements with new or existing customers;
-

Renewals or modifications of existing term license agreements that result in higher license fees due to price escalation or an increase in the number of tokens (units of software usage) or products licensed; and

- Escalation of annual payments in our active term license contracts.

Annual spend is adversely affected by term license and standalone SMS agreements that are not renewed.

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We estimate that annual spend grew by approximately 0.9% during the second quarter of fiscal 2017, from $446.2 million at September 30, 2016 to $450.1 million at December 31, 2016, and by approximately 2.0% during the first half of fiscal 2017, from $441.4 million at June 30, 2016.

Free Cash Flow

We use a non-GAAP measure of free cash flow to analyze cash flows generated from our operations. Management believes that this financial measure is useful to investors because it permits investors to view our performance using the same tools that management uses to gauge progress in achieving our goals. We believe this measure is also useful to investors because it is an indication of cash flow that may be available to fund investments in future growth initiatives or to repay borrowings under the credit agreement, and it is a basis for comparing our performance with that of our competitors. The presentation of free cash flow is not meant to be considered in isolation or as an alternative to cash flows from operating activities as a measure of liquidity.

Free cash flow is calculated as net cash provided by operating activities adjusted for the net impact of (a) purchases of property, equipment and leasehold improvements, (b) capitalized computer software development costs, (c) excess tax benefits from stock-based compensation, (d) non-capitalized acquired technology, and (e) other nonrecurring items, such as acquisition and litigation related payments.

The following table provides a reconciliation of net cash flows provided by operating activities to free cash flow for the indicated periods:

	Six Months Ended December 31,	
	2016	2015
	(Dollars in Thousands)	
Net cash provided by operating activities	$ 53,417	$ 39,172
Purchases of property, equipment, and leasehold improvements	(1,374)	(1,781)
Capitalized computer software development costs	(100)	—
Excess tax benefits from stock-based compensation	1,032	1,831
Non-capitalized acquired technology	846	1,250
Acquisition related fees	413	—
Free cash flows (non-GAAP)	$ 54,234	$ 40,472

Total free cash flow on a non-GAAP basis increased by $13.8 million during the six months ended December 31, 2016 as compared to the same period of the prior fiscal year primarily due to changes in working capital.

Excess tax benefits are related to stock-based compensation tax deductions in excess of book compensation expense and reduce our income taxes payable. We have included the impact of excess tax benefits in free cash flow to be consistent with the treatment of other tax activity.

In the six months ended December 31, 2016 and December 31, 2015, we acquired technology that did not meet the accounting requirements for capitalization and therefore the cost of the acquired technology was expensed as research and development. We have excluded the payment for the acquired technology from free cash flow to be consistent with transactions where the acquired technology assets were capitalized.

Non-GAAP Operating Income

Non-GAAP income from operations excludes certain non-cash and non-recurring expenses, and is used as a supplement to operating income presented on a GAAP basis. We believe that non-GAAP operating income is a useful financial measure because excluding non-recurring and certain non-cash items, provides additional insight into recurring profitability and cash flow from operations.

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The following table presents our operating income, as adjusted for stock-based compensation expense, non-capitalized acquired technology, amortization of intangibles, and acquisition related expenses, for the indicated periods:

	Three Months Ended December 31,		2016 Compared to 2015		Six Months Ended December 31,		2016 Compared to 2015	
	2016	2015	$	%	2016	2015	$	%
	(Dollars in Thousands)							
GAAP income from operations	$56,065	$56,299	$ (234)	(0.4)%	$110,796	$111,728	$ (932)	(0.8)%
Plus:								
Stock-based compensation	4,671	3,512	1,159	33.0 %	9,630	7,935	1,695	21.4 %
Non-capitalized acquired technology	—	—	—	— %	350	250	100	40.0 %
Amortization of intangibles	56	20	36	180.0 %	111	133	(22)	(16.5)%
Acquisition-related fees	99	1,028	(929)	(90.4)%	461	1,028	(567)	(55.2)%
Non-GAAP income from operations	$60,891	$60,859	$ 32	0.1 %	$121,348	$121,074	$ 274	0.2 %

In the six months ended December 31, 2016 and December 31, 2015, we acquired technology that did not meet the accounting requirements for capitalization and therefore the cost of the acquired technology was expensed as research and development. We have excluded the expense of the acquired technology from non-GAAP operating income to be consistent with transactions where the acquired assets were capitalized.

Critical Accounting Estimates and Judgments

Note 2, "Significant Accounting Policies" to the audited consolidated financial statements in our Annual Report on Form 10-K for the fiscal year ended June 30, 2016 describes the significant accounting policies and methods used in the preparation of the consolidated financial statements appearing in this report. The accounting policies that reflect our more significant estimates, judgments and assumptions in the preparation of our consolidated financial statements are described in "Management’s Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 of our Annual Report on Form 10-K for the fiscal year ended June 30, 2016, and include the following:

- revenue recognition;
- accounting for income taxes; and
- loss contingencies.

There were no significant changes to our critical accounting policies and estimates during the three and six months ended December 31, 2016.

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Results of Operations

Comparison of the Three and Six Months Ended December 31, 2016

The following table sets forth the results of operations and the period-over-period percentage change in certain financial data for the three and six months ended December 31, 2016:

	Three Months Ended December 31,		Increase / (Decrease) Change	Six Months Ended December 31,		Increase / (Decrease) Change
	2016	2015	%	2016	2015	%
	(Dollars in Thousands)					
Revenue:						
Subscription and software	$112,916	$110,126	2.5 %	$226,360	$221,985	2.0 %
Services and other	7,017	9,025	(22.2)%	13,623	17,462	(22.0)%
Total revenue	119,933	119,151	0.7 %	239,983	239,447	0.2 %
Cost of revenue:						
Subscription and software	5,176	4,967	4.2 %	10,245	10,209	0.4 %
Services and other	6,403	6,921	(7.5)%	12,839	14,651	(12.4)%
Total cost of revenue	11,579	11,888	(2.6)%	23,084	24,860	(7.1)%
Gross profit	108,354	107,263	1.0 %	216,899	214,587	1.1 %
Operating expenses:						
Selling and marketing	21,829	21,178	3.1 %	43,854	43,614	0.6 %
Research and development	18,597	15,981	16.4 %	37,229	32,578	14.3 %
General and administrative	11,863	13,805	(14.1)%	25,020	26,667	(6.2)%
Total operating expenses, net	52,289	50,964	2.6 %	106,103	102,859	3.2 %
Income from operations	56,065	56,299	(0.4)%	110,796	111,728	(0.8)%
Interest income	216	71	204.2 %	488	153	219.0 %
Interest expense	(892)	(13)	*	(1,762)	(14)	*
Other income, net	697	(157)	543.9 %	1,344	739	81.9 %
Income before provision for income taxes	56,086	56,200	(0.2)%	110,866	112,606	(1.5)%
Provision for income taxes	19,076	19,517	(2.3)%	38,855	39,152	(0.8)%
Net income	$37,010	$36,683	0.9 %	$72,011	$73,454	(2.0)%

* Percentage is not meaningful.

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The following table sets forth the results of operations as a percentage of net revenue for certain financial data for the three and six months ended December 31, 2016:

	Three Months Ended December 31,		Six Months Ended December 31,	
	2016	2015	2016	2015
	(% of Revenue)			
Revenue:				
Subscription and software	94.1 %	92.4 %	94.3 %	92.7 %
Services and other	5.9	7.6	5.7	7.3
Total revenue	100.0	100.0	100.0	100.0
Cost of revenue:				
Subscription and software	4.3	4.2	4.3	4.3
Services and other	5.3	5.8	5.3	6.1
Total cost of revenue	9.7	10.0	9.6	10.4
Gross profit	90.3	90.0	90.4	89.6
Operating expenses:				
Selling and marketing	18.2	17.8	18.3	18.2
Research and development	15.5	13.4	15.5	13.6
General and administrative	9.9	11.6	10.4	11.1
Total operating expenses, net	43.6	42.8	44.2	43.0
Income from operations	46.7	47.3	46.2	46.7
Interest income	0.2	0.1	0.2	0.1
Interest expense	(0.7)	(0.0)	(0.7)	(0.0)
Other income (expense), net	0.6	(0.1)	0.6	0.3
Income before provision for income taxes	46.8	47.2	46.2	47.0
Provision for income taxes	15.9	16.4	16.2	16.4
Net income	30.9 %	30.8 %	30.0 %	30.7 %

Revenue

Total revenue increased by $0.8 million and $0.5 million during the three and six months ended December 31, 2016 as compared to the corresponding periods of the prior fiscal year. The increase was primarily attributable to an increase in subscription and software revenue of $2.8 million and $4.4 million, respectively, partially offset by a decrease in services and other revenue of $2.0 million and $3.8 million, respectively.

During the six months ended December 31, 2015, we recognized revenue of $2.9 million related to the completion of customer arrangements recognized under completed contract accounting. This amount was recognized as $2.0 million of subscription and software revenue and $0.9 million of services and other revenue. No such events occurred during the six months ended December 31, 2016.

Subscription and Software Revenue

Three Months Ended December 31,		Period-to-Period Change		Six Months Ended December 31,		Period-to-Period Change	
2016	2015	$	%	2016	2015	$	%
(Dollars in Thousands)							

Subscription and software revenue	$112,916	$110,126	$2,790	2.5 %	$226,360	$221,985	$4,375	2.0 %
As a percent of revenue	94.1 %	92.4 %			94.3 %	92.7 %		

The increase in subscription and software revenue during the three and six months ended December 31, 2016 as compared to the corresponding period of the prior fiscal year was primarily the result of the growth of our base of license arrangements

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being recognized on a ratable basis. In the six months ended December 31, 2015, we recognized revenue of $2.0 million related to the completion of customer arrangements recognized under completed contract accounting, as noted above. No such events occurred during the six months ended December 31, 2016.

We expect subscription and software revenue to continue to increase as a result of: (i) having a larger base of license arrangements recognized on a ratable basis; (ii) increased customer usage of our software; (iii) adding new customers; and (iv) escalating annual payments.

Services and Other Revenue

	Three Months Ended December 31,		Period-to-Period Change		Six Months Ended December 31,		Period-to-Period Change	
	2016	2015	$	%	2016	2015	$	%
	(Dollars in Thousands)							
Services and other revenue	$7,017	$9,025	$(2,008)	(22.2)%	$13,623	$17,462	$(3,839)	(22.0)%
As a percent of revenue	5.9 %	7.6 %			5.7 %	7.3 %		

The decrease in services and other revenue during the three and six months ended December 31, 2016 as compared to the corresponding period of the prior fiscal year was primarily attributable to the timing and lower levels of activity of professional service arrangements.

Professional services revenue for the six months ended December 31, 2015 included recognition of $0.9 million of revenue related to customer contracts recognized under completed contract accounting, as noted above. No such events occurred during the six months ended December 31, 2016.

Under the aspenONE licensing model, revenue from committed professional service arrangements that are sold as a single arrangement with, or in contemplation of, a new aspenONE licensing transaction is deferred and recognized on a ratable basis over the longer of (a) the period the services are performed or (b) the term of the related software arrangement. As our typical contract term approximates five years, professional services revenue on these types of arrangements will usually be recognized over a longer period than the period over which the services are performed.

Gross Profit

Gross profit increased from $107.3 million million during the three months ended December 31, 2015 to $108.4 million during the corresponding period of the current fiscal year. The period-over-period increase in gross profit was primarily attributable to the growth of our subscription and software revenue of $2.8 million.

Gross profit increased from $214.6 million million during the six months ended December 31, 2015 to $216.9 million during the corresponding period of the current fiscal year. The period-over-period increase in gross profit was primarily attributable to the growth of our subscription and software revenue of $4.4 million.

Gross profit margin increased from 90.0% and 89.6% during the three and six months ended December 31, 2015 to 90.3% and 90.4% during the corresponding periods of the current fiscal year. For further discussion of subscription and software gross profit and services and other gross profit, please refer to the “Cost of Subscription and Software Revenue” and “Cost of Services and Other Revenue” sections below.

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Expenses

Cost of Subscription and Software Revenue

	Three Months Ended December 31,		Period-to-Period Change		Six Months Ended December 31,		Period-to-Period Change	
	2016	2015	$	%	2016	2015	$	%
	(Dollars in Thousands)							
Cost of subscription and software revenue	$5,176	$4,967	$ 209	4.2 %	10,245	10,209	$ 36	0.4 %
As a percent of revenue	4.3 %	4.2 %			4.3 %	4.3 %		

Cost of subscription and software revenue was consistent for the three and six months ended December 31, 2016 as compared to the corresponding periods of the prior fiscal year.

Subscription and software gross profit margin was consistent at 95.4% and 95.5% during the three months ended December 31, 2016 and 2015, respectively. Subscription and software gross profit margin was consistent at 95.5% and 95.4% during the six months ended December 31, 2016 and 2015, respectively.

Cost of Services and Other Revenue

	Three Months Ended December 31,		Period-to-Period Change		Six Months Ended December 31,		Period-to-Period Change	
	2016	2015	$	%	2016	2015	$	%
	(Dollars in Thousands)							
Cost of services and other revenue	$6,403	$6,921	$(518)	(7.5)%	$12,839	$14,651	$(1,812)	(12.4)%
As a percent of revenue	5.3 %	5.8 %			5.3 %	6.1 %		

The period-over-period decrease in cost of services and other revenue of $0.5 million and $1.8 million during the three and six months ended December 31, 2016, respectively, was primarily attributable to the timing of professional service arrangements and cost of revenue for projects accounted for under the completed contract method.

Cost of services and other revenue during the six months ended December 31, 2015 included the recognition of $0.6 million of costs related to customer contracts recognized under completed contract accounting, as noted above. No such events occurred during the six months ended December 31, 2016.

The timing of revenue and expense recognition on professional service arrangements can impact the comparability of cost and gross profit margin of professional services revenue from year to year.

Gross profit margin on services and other revenue of 8.8% for the three months ended December 31, 2016 decreased from the 23.3% for the corresponding period of the prior fiscal year, primarily due to lower revenue of $2.0 million.

Gross profit margin on services and other revenue of 5.8% for the six months ended December 31, 2016 decreased from the 16.1% for the corresponding period of the prior fiscal year, primarily due to lower revenue of $3.8 million.

Selling and Marketing Expense

	Period-to-Period		Period-to-Period

	Three Months Ended December 31,		Change		Six Months Ended December 31,		Change	
	2016	2015	$	%	2016	2015	$	%
	(Dollars in Thousands)							
Selling and marketing expense	$21,829	$21,178	$ 651	3.1 %	$43,854	$43,614	$ 240	0.6 %
As a percent of revenue	18.2 %	17.8 %			18.3 %	18.2 %		

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Selling and marketing expense was consistent for the three and six months ended December 31, 2016 as compared to the corresponding periods of the prior fiscal year.

Research and Development Expense

	Three Months Ended December 31,		Period-to-Period Change		Six Months Ended December 31,		Period-to-Period Change	
	2016	2015	$	%	2016	2015	$	%
	(Dollars in Thousands)							
Research and development expense	$18,597	$15,981	$2,616	16.4 %	$37,229	$32,578	$4,651	14.3 %
As a percent of revenue	15.5 %	13.4 %			15.5 %	13.6 %		

The period-over-period increase of $2.6 million in research and development expense during the three months ended December 31, 2016 was primarily attributable to higher compensation costs of $1.0 million related to an increase in headcount and higher overhead allocations of $0.7 million.

The period-over-period increase of $4.7 million in research and development expense during the six months ended December 31, 2016 was primarily attributable to higher compensation costs of $1.8 million related to an increase in headcount, higher overhead allocations of $1.4 million, higher stock-based compensation of $0.9 million, and higher consulting costs of $0.4 million.

In the six months ended December 31, 2016 and December 31, 2015, we acquired technology for $0.4 million and $0.3 million, respectively. At the time we acquired the technology, the projects to develop commercially available products did not meet the accounting definition of having reached technological feasibility and therefore the cost of the acquired technology was expensed as a research and development expense.

General and Administrative Expense

	Three Months Ended December 31,		Period-to-Period Change		Six Months Ended December 31,		Period-to-Period Change	
	2016	2015	$	%	2016	2015	$	%
	(Dollars in Thousands)							
General and administrative expense	$11,863	$13,805	$(1,942)	(14.1)%	$25,020	$26,667	$(1,647)	(6.2)%
As a percent of revenue	9.9 %	11.6 %			10.4 %	11.1 %		

The period-over-period decrease of $1.9 million in general and administrative expense during the three months ended December 31, 2016 was primarily attributable to lower acquisition costs of $0.9 million and lower overhead allocations of $0.9 million.

The period-over-period decrease of $1.6 million in general and administrative expense during the six months ended December 31, 2016 was primarily attributable to lower overhead allocations of $2.2 million and lower acquisition costs of $0.6 million, partially offset by higher hardware and software maintenance costs of $1.2 million.

Interest Income

Three Months Ended December 31,		Period-to-Period Change		Six Months Ended December 31,		Period-to-Period Change	
2016	2015	$	%	2016	2015	$	%

	(Dollars in Thousands)							
Interest income	$216	$71	$145	204.2 %	$488	$153	$335	219.0 %
As a percent of revenue	0.2 %	0.1 %			0.2 %	0.1 %		

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The period-over-period increase of $0.1 million and $0.3 million in interest income during the three and six months ended December 31, 2016, respectively, was attributable to a higher level of interest income from investments.

Interest Expense

	Three Months Ended December 31,		Period-to-Period Change		Six Months Ended December 31,		Period-to-Period Change	
	2016	2015	$	%	2016	2015	$	%
	(Dollars in Thousands)							
Interest expense	$(892)	$(13)	$ (879)	*	$(1,762)	$(14)	$ (1,748)	*
As a percent of revenue	(0.7)%	— %			(0.7)%	— %		

* Percentage is not meaningful.

The period-over-period increase of $0.9 million and $1.7 million in interest expense during the three and six months ended December 31, 2016, respectively, was attributable to interest expense related to our outstanding borrowings, which we entered into in February 2016, as described in the Liquidity and Capital Resources section below.

Other Income (Expense), net

	Three Months Ended December 31,		Period-to-Period Change		Six Months Ended December 31,		Period-to-Period Change	
	2016	2015	$	%	2016	2015	$	%
	(Dollars in Thousands)							
Other income (expense), net	$697	$(157)	$ 854	543.9 %	$1,344	$739	$ 605	81.9 %
As a percent of revenue	0.6 %	(0.1)%			0.6 %	0.3 %		

During the three months ended December 31, 2016 and 2015, other income (expense), net was comprised of $0.7 million of currency gains and $0.2 million of currency losses, respectively.

During the six months ended December 31, 2016 and 2015, other income, net was comprised of $1.3 million and $0.7 million of currency gains, respectively.

Provision for Income Taxes

	Three Months Ended December 31,		Period-to-Period Change		Six Months Ended December 31,		Period-to-Period Change	
	2016	2015	$	%	2016	2015	$	%
	(Dollars in Thousands)							
Provision for income taxes	$19,076	$19,517	$(441)	(2.3)%	$38,855	$39,152	$(297)	(0.8)%
Effective tax rate	33.9 %	34.7 %			35.0 %	34.8 %		0.002

The effective tax rate for the periods presented is primarily the result of income earned in the U.S. taxed at U.S. federal and state statutory income tax rates, income earned in foreign tax jurisdictions taxed at the applicable rates, as well as the impact of permanent differences between book and tax income.

Our effective tax rate decreased to 33.9% for the three months ended December 31, 2016 compared to 34.7% for the corresponding period of the prior fiscal year primarily due to discrete items.

Our effective tax rate increased to 35.0% for the six months ended December 31, 2016 compared to 34.8% for the corresponding period of the prior fiscal year primarily due to discrete items.

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Liquidity and Capital Resources

Resources

In recent years, we have financed our operations with cash generated from operating activities. As of December 31, 2016, our principal sources of liquidity consisted of $67.0 million in cash and cash equivalents and $72.9 million of marketable securities.
We believe our existing cash and cash equivalents and marketable securities, together with our cash flows from operating activities, will be sufficient to meet our anticipated cash needs for at least the next twelve months. We may need to raise additional funds in the event we decide to make one or more acquisitions of businesses, technologies or products. If additional funding is required beyond existing resources and our Credit Agreement described below, we may not be able to effect a receivable, equity or debt financing on terms acceptable to us or at all.
Credit Agreement

On February 26, 2016, we entered into a $250.0 million Credit Agreement (the "Credit Agreement") with various lenders. The Credit Agreement matures on February 26, 2021. Prior to the maturity of the Credit Agreement, any amounts borrowed may be repaid and, subject to the terms and conditions of the Credit Agreement, borrowed again whole or in part without penalty. As of December 31, 2016, we had $140.0 million in outstanding borrowings under the Credit Agreement.

For a more detailed description of the Credit Agreement, see Note 11, Credit Agreement, to our Unaudited Consolidated Financial Statements in Item 1 of this Form 10-Q.

Cash Equivalents and Cash Flows

Our cash equivalents of $30.2 million consist primarily of money market funds as of December 31, 2016. Our investments in marketable securities of $72.9 million as of December 31, 2016 consist primarily of investment grade fixed income corporate debt securities with maturities ranging from less than 1 month to 5 months. The fair value of our portfolio is affected by interest rate movements, credit and liquidity risks. The objective of our investment policy is to manage our cash and investments to preserve principal and maintain liquidity, while earning a return on our investment portfolio by investing available funds. We diversify our investment portfolio by investing in multiple types of investment-grade securities and attempt to mitigate a risk of loss by using a third-party investment manager.

The following table summarizes our cash flow activities for the periods indicated:

	Six Months Ended December 31,	
	2016	2015
	(Dollars in Thousands)	
Cash flow provided by (used in):		
Operating activities	$53,417	$39,172
Investing activities	(108,014)	30,268
Financing activities	(196,495)	(54,702)
Effect of exchange rates on cash balances	(218)	(364)
Decrease in cash and cash equivalents	$(251,310)	$14,374

Operating Activities

Our primary source of cash is from the annual installments associated with our software license arrangements and related software support services, and to a lesser extent from professional services and training. We believe that cash inflows from our term license business will grow as we benefit from the continued growth of our portfolio of term license contracts.

During fiscal 2015, we utilized our tax credits and net operating losses to offset U.S. corporate income taxes payable. We became a U.S. corporate tax payer in fiscal year 2016.

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Cash from operating activities provided $53.4 million during the six months ended December 31, 2016. This amount resulted from net income of $72.0 million, adjusted for non-cash items of $10.9 million and net uses of cash of $29.5 million related to changes in working capital.

Non-cash items consisted primarily of stock-based compensation expense of $9.6 million, depreciation and amortization expense of $3.3 million, and other net items of $0.1 million, partially offset by deferred income taxes of $0.2 million and net foreign currency gains of $2.3 million.

Cash used by working capital of $25.0 million was primarily attributable to cash outflows related to decreases in deferred revenue of $40.7 million (cash flows related to deferred revenue vary due to the timing of invoicing, in particular the anniversary dates of annual installments associated with multi-year software license arrangements), partially offset by cash inflows related to decreases in accounts receivable of $2.5 million, increases in accounts payable, accrued expenses and other current liabilities of $5.1 million and decreases in prepaid expenses, prepaid income taxes, and other assets of $3.7 million.

Investing Activities

During the six months ended December 31, 2016, we used $108.0 million of cash for investing activities. We used $683.7 million for purchases of marketable securities, $36.2 million for acquisition related payments, $1.4 million for capital expenditures and $0.1 million for capitalized computer software development costs, partially offset by sources of cash of $613.4 million resulting from the maturities of marketable securities.

Financing Activities

During the six months ended December 31, 2016, we used $196.5 million of cash for financing activities. We used $199.6 million for repurchases of our common stock and $2.8 million for withholding taxes on vested and settled restricted stock units, partially offset by proceeds of $4.8 million from the exercise of employee stock options and $1.0 million in excess tax benefits from stock-based compensation.

Contractual Obligations

Standby letters of credit for $2.9 million as of December 31, 2016 secure our performance on professional services contracts, certain facility leases and potential liabilities. This is a decrease from $3.5 million as of June 30, 2016. The letters of credit expire at various dates through fiscal 2018.

Recently Issued Accounting Pronouncements

Refer to Note 2 (g), “Recently Issued Accounting Pronouncements,” in the Notes to the Unaudited Consolidated Financial Statements for information about recent accounting pronouncements.

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Item 3. Quantitative and Qualitative Disclosures About Market Risk.

In the ordinary course of conducting business, we are exposed to certain risks associated with potential changes in market conditions. These market risks include changes in currency exchange rates and interest rates which could affect operating results, financial position and cash flows. We manage our exposure to these market risks through our regular operating and financing activities and, if considered appropriate, we may enter into derivative financial instruments such as forward currency exchange contracts.

Foreign Currency Risk

During the three months ended December 31, 2016 and 2015, 10.0% and 11.1% of our total revenue was denominated in a currency other than the U.S. dollar, respectively. During the six months ended December 31, 2016 and 2015, 10.0% and 13.8% of our total revenue was denominated in a currency other than the U.S. dollar, respectively. In addition, certain of our operating costs incurred outside the United States are denominated in currencies other than the U.S. dollar. We conduct business on a worldwide basis and as a result, a portion of our revenue, earnings, net assets, and net investments in foreign affiliates is exposed to changes in foreign currency exchange rates. We measure our net exposure for cash balance positions and for cash inflows and outflows in order to evaluate the need to mitigate our foreign exchange risk. We may enter into foreign currency forward contracts to minimize the impact related to unfavorable exchange rate movements, although we have not done so during the three and six months ended December 31, 2016 and 2015. Our largest exposures to foreign currency exchange rates exist primarily with the Euro, Pound Sterling, Canadian Dollar, and Japanese Yen.

During the three months ended December 31, 2016 and 2015, we recorded $0.7 million and ($0.2) million of net foreign currency exchange gains (losses) related to the settlement and remeasurement of transactions denominated in currencies other than the functional currency of our operating units. Our analysis of operating results transacted in various foreign currencies indicated that a hypothetical 10% change in the foreign currency exchange rates could have increased or decreased the consolidated results of operations by approximately $1.0 million and $1.1 million for the three months ended December 31, 2016 and 2015, respectively.

During the six months ended December 31, 2016 and 2015, we recorded $1.3 million and $0.7 million of net foreign currency exchange gains related to the settlement and remeasurement of transactions denominated in currencies other than the functional currency of our operating units. Our analysis of operating results transacted in various foreign currencies indicated that a hypothetical 10% change in the foreign currency exchange rates could have increased or decreased the consolidated results of operations by approximately $2.2 million and $2.4 million for the six months ended December 31, 2016 and 2015, respectively.

Interest Rate Risk

We place our investments in money market instruments and high quality, investment grade, fixed-income corporate debt securities that meet high credit quality standards, as specified in our investment guidelines.

We mitigate the risks by diversifying our investment portfolio, limiting the amount of investments in debt securities of any single issuer and using a third-party investment manager. Our debt securities are short- to intermediate- term investments with maturities ranging from less than 1 month to 5 months as of December 31, 2016 and from less than 1 month to 8 months as of December 31, 2015, respectively. We do not use derivative financial instruments in our investment portfolio.

Our analysis of our investment portfolio and interest rates at December 31, 2016 and 2015 indicated that a 100 basis point increase or decrease in interest rates would result in a decrease or increase of approximately $0.1 million and

$0.1 million in the fair value of our investment portfolio at December 31, 2016 and 2015, respectively, determined in accordance with income-based approach utilizing portfolio future cash flows discounted at the appropriate rates.

We maintain a revolving Credit Agreement that allows us to borrow up to $250.0 million. At December 31, 2016, we had $140.0 million in outstanding borrowings under our Credit Agreement. A hypothetical 10% increase or decrease in interest rates paid on outstanding borrowings under the Credit Agreement would not have a material impact on our financial position, results of operations or cash flows.

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Item 4. Controls and Procedures

a) Disclosure Controls and Procedures

Our management, with the participation of our chief executive officer and chief financial officer, evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2016. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Securities Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Securities Exchange Act is accumulated and communicated to the Company’s management, including its principal executive and principal financial officers, as appropriate 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. Based on the evaluation of our disclosure controls and procedures as of December 31, 2016, our chief executive officer and chief financial officer concluded that, as of such date, our disclosure controls and procedures were effective.

b) Changes in Internal Controls Over Financial Reporting

During the three and six months ended December 31, 2016, no changes were identified in our internal controls over financial reporting that materially affected, or were reasonably likely to materially affect, our internal controls over financial reporting.

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PART II - OTHER INFORMATION

Item 1. Legal Proceedings.

Refer to Note 16, “Commitments and Contingencies,” in the Notes to the Unaudited Consolidated Financial Statements for information regarding certain legal proceedings, the contents of which are herein incorporated by reference.

Item 1A. Risk Factors.

The risks described in Item 1A. Risk Factors, in our Annual Report on Form 10-K for the year ended June 30, 2016, could materially and adversely affect our business, financial condition and results of operations. These risk factors do not identify all risks that we face—our operations could also be affected by factors that are not presently known to us or that we currently consider to be immaterial to our operations. The Risk Factors section of our 2016 Annual Report on Form 10-K remains current in material respects, with the exception of the revised risk factors below.

Fluctuations in foreign currency exchange rates could result in declines in our reported revenue and operating results.

During the three months ended December 31, 2016 and 2015, 10.0% and 11.1% of our total revenue was denominated in a currency other than the U.S. dollar, respectively. During the six months ended December 31, 2016 and 2015, 10.0% and 13.8% of our total revenue was denominated in a currency other than the U.S. dollar, respectively. In addition, certain of our operating expenses incurred outside the United States are denominated in currencies other than the U.S. dollar. Our reported revenue and operating results are subject to fluctuations in foreign exchange rates. Foreign currency risk arises primarily from the net difference between non-U.S. dollar receipts from customers outside the United States and non-U.S. dollar operating expenses for subsidiaries in foreign countries. Currently, our largest exposures to foreign exchange rates exist primarily with the Euro, Pound Sterling, Canadian dollar and Japanese Yen against the U.S. dollar. During the three and six months ended December 31, 2016 and 2015, we did not enter into, and were not a party to any, derivative financial instruments, such as forward currency exchange contracts, intended to manage the volatility of these market risks. We cannot predict the impact of foreign currency fluctuations, and foreign currency fluctuations in the future may adversely affect our revenue and operating results. Any hedging policies we may implement in the future may not be successful, and the cost of those hedging techniques may have a significant negative impact on our operating results.

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

The following table provides information about purchases by us during the three months ended December 31, 2016 of shares of our common stock:

Period	Total Number of Shares Purchased (2)	Average Price Paid per Share (3)	Total Number of Shares Purchased as Part of Publicly Announced Program (1)	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Program (4)
October 1 to 31, 2016	352,660	$ 47.27	352,660	
November 1 to 30, 2016	215,350	$ 49.81	215,350	
December 1 to 31, 2016	768,081	$ 55.47	768,081	
Total	1,336,091	$ 52.39	1,336,091	$ 321,292,680

(1) On January 28, 2015, our Board of Directors approved a share repurchase program for up to $450 million worth of our common stock. On April 26, 2016, the Board of Directors approved a $400 million increase in the share

repurchase plan.

(2) As of December 31, 2016, the total number of shares of common stock repurchased under all programs approved by the Board of Directors was 26,086,814 shares, including purchases under the ASR Program. For a more detailed description of the ASR Program, see Note 13, Stockholders' Deficit, to our Unaudited Consolidated Financial Statements in Item 1 of this Form 10-Q.

(3) The total average price paid per share is calculated as the total amount paid for the repurchase of our common stock during the period divided by the total number of shares repurchased. During the period December 1 to 31, 2016, we received approximately 0.35 million shares of our common stock under final settlement the ASR Program, representing the remaining shares received over the program's term.

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(4) As of December 31, 2016, the total remaining value under the share repurchase program approved on January 28, 2015 and amended on April 26, 2016 was approximately $321.3 million.

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Item 6. Exhibits.

Exhibit Number	Description	Filed with this Form 10-Q	Incorporated by Reference		
			Form	Filing Date with SEC	Exhibit Number
10.1^	Aspen Technology, Inc. 2016 Omnibus Incentive Plan		8-K	December 12, 2016	10.1
10.2^	Form of Terms and Conditions of Restricted Stock Unit Agreement Granted Under Aspen Technology Inc. 2016 Omnibus Incentive Plan	X			
10.3^	Form of Terms and Conditions of Stock Option Agreement Granted Under Aspen Technology Inc. 2016 Omnibus Incentive Plan	X			
31.1	Certification of Principal Executive Officer pursuant to Exchange Act Rules 13a-14 and 15d-14, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	X			
31.2	Certification of Principal Financial Officer pursuant to Exchange Act Rules 13a-14 and 15d-14, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	X			
32.1	Certification of President and Chief Executive Officer and Executive Vice President and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	X			
101.INS	Instance Document	X			
101.SCH	XBRL Taxonomy Extension Schema Document	X			
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document	X			
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document	X			
101.LAB	XBRL Taxonomy Extension Label Linkbase Document	X			
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document	X			

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SIGNATURES

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

Aspen Technology, Inc.

Date: January 26, 2017 By: /s/ ANTONIO J. PIETRI
Antonio J. Pietri
President and Chief Executive Officer
(Principal Executive Officer)

Date: January 26, 2017 By: /s/ KARL E. JOHNSEN
Karl E. Johnsen
Senior Vice President and Chief Financial Officer
(Principal Financial and Accounting Officer)

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