RAMBUS INC
Form 10-Q
October 27, 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 September 30, 2017
OR
¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to
Commission File Number: 000-22339

RAMBUS INC.
(Exact name of registrant as specified in its charter)

Delaware	94-3112828
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
1050 Enterprise Way, Suite 700 Sunnyvale, California	94089
(Address of principal executive offices)	(ZIP Code)

Registrant’s telephone number, including area code: (408) 462-8000

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, a smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer ý	Accelerated filer o
Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company o
Emerging growth company o	

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. o

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

The number of shares outstanding of the registrant's Common Stock, par value $.001 per share, was 109,778,058 as of September 30, 2017.

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NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q (“Quarterly Report”) contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Act of 1934. These forward-looking statements include, without limitation, predictions regarding the following aspects of our future:

- Success in the markets of our products and services or our customers’ products;
- Sources of competition;
- Research and development costs and improvements in technology;
- Sources, amounts and concentration of revenue, including royalties;
- Success in signing and renewing license agreements;
- Terms of our licenses and amounts owed under license agreements;
- Technology product development;
- Dispositions, acquisitions, mergers or strategic transactions and our related integration efforts, including our acquisitions of Smart Card Software Ltd., the assets of Semtech Corporation's Snowbush IP group and Inphi Corporation's Memory Interconnect Business;
- Impairment of goodwill and long-lived assets;
- Pricing policies of our customers;
- Changes in our strategy and business model, including the expansion of our portfolio of inventions, products, software, services and solutions to address additional markets in lighting, memory, chip, mobile payments, smart ticketing and security;
- Deterioration of financial health of commercial counterparties and their ability to meet their obligations to us;
- Effects of security breaches or failures in our or our customers’ products and services on our business;
- Engineering, sales and general and administration expenses;
- Contract revenue;
- Operating results;
- International licenses, operations and expansion;
- Effects of changes in the economy and credit market on our industry and business;
- Ability to identify, attract, motivate and retain qualified personnel;
- Effects of government regulations on our industry and business;
- Manufacturing, shipping and supply partners and/or sale and distribution channels;
- Growth in our business;
- Methods, estimates and judgments in accounting policies;
- Adoption of new accounting pronouncements, including our expectations regarding the new revenue recognition standard on our financial position, results of operations or cash flows;
- Effective tax rates;
- Restructurings and plans of termination;
- Realization of deferred tax assets/release of deferred tax valuation allowance;
- Trading price of our common stock;
- Internal control environment;
- The level and terms of our outstanding debt and the repayment or financing of such debt;
- Protection of intellectual property;
- Any changes in laws, agency actions and judicial rulings that may impact the ability to enforce intellectual property rights;
- Indemnification and technical support obligations;
- Equity repurchase plans;

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- Issuances of debt or equity securities, which could involve restrictive covenants or be dilutive to our existing stockholders;
- Effects of fluctuations in currency exchange rates;
- Outcome and effect of potential future intellectual property litigation and other significant litigation; and
- Likelihood of paying dividends.

You can identify these and other forward-looking statements by the use of words such as “may,” “future,” “shall,” “should,” “expects,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “intends,” “potential,” “continue,” “projecting” or the neg terms, or other comparable terminology. Forward-looking statements also include the assumptions underlying or relating to any of the foregoing statements.

Actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth under Part II: Item 1A, “Risk Factors.” All forward-looking statements included in this document are based on our assessment of information available to us at this time. We assume no obligation to update any forward-looking statements.

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PART I—FINANCIAL INFORMATION
Item 1. Financial Statements
RAMBUS INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(Unaudited)

	September 30, 2017	December 31, 2016
	(In thousands, except shares and par value)	
ASSETS		
Current assets:		
Cash and cash equivalents	$ 182,345	$ 135,294
Marketable securities	1,287	36,888
Accounts receivable	49,799	21,099
Inventories	5,015	5,633
Prepaids and other current assets	10,998	17,867
Total current assets	249,444	216,781
Intangible assets, net	102,545	132,388
Goodwill	209,318	204,794
Property, plant and equipment, net	54,035	58,442
Deferred tax assets	206,503	168,342
Other assets	2,283	2,749
Total assets	$ 824,128	$ 783,496
LIABILITIES & STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 7,016	$ 9,793
Accrued salaries and benefits	12,278	14,177
Convertible notes, short-term	131,490	—
Deferred revenue	21,224	16,932
Other current liabilities	10,731	10,399
Total current liabilities	182,739	51,301
Convertible notes, long-term	—	126,167
Long-term imputed financing obligation	37,471	38,029
Other long-term liabilities	14,381	15,217
Total liabilities	234,591	230,714
Commitments and contingencies (Notes 9 and 13)		
Stockholders' equity:		
Convertible preferred stock, $.001 par value:		
Authorized: 5,000,000 shares		
Issued and outstanding: no shares at September 30, 2017 and December 31, 2016	—	—
Common stock, $.001 par value:		
Authorized: 500,000,000 shares		
Issued and outstanding: 109,778,058 shares at September 30, 2017 and 111,053,734 shares at December 31, 2016	110	111
Additional paid-in capital	1,187,987	1,181,230
Accumulated deficit	(592,863)	(615,051)
Accumulated other comprehensive loss	(5,697)	(13,508)
Total stockholders' equity	589,537	552,782
Total liabilities and stockholders' equity	$ 824,128	$ 783,496

See Notes to Unaudited Condensed Consolidated Financial Statements

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RAMBUS INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
	(In thousands, except per share amounts)			
Revenue:				
Royalties	$72,787	$68,298	$211,733	$194,010
Product revenue	8,661	7,092	27,966	14,306
Contract and other revenue	17,686	14,465	51,506	30,722
Total revenue	99,134	89,855	291,205	239,038
Operating costs and expenses:				
Cost of product revenue*	5,152	7,031	17,882	12,581
Cost of contract and other revenue	14,456	12,393	43,274	33,139
Research and development*	36,196	33,820	109,718	91,100
Sales, general and administrative*	26,799	24,795	82,122	69,679
Gain from sale of intellectual property	(479)	—	(479)	—
Gain from settlement	—	—	—	(579)
Total operating costs and expenses	82,124	78,039	252,517	205,920
Operating income	17,010	11,816	38,688	33,118
Interest income and other income (expense), net	208	142	491	1,522
Interest expense	(3,287)	(3,193)	(9,754)	(9,497)
Interest and other income (expense), net	(3,079)	(3,051)	(9,263)	(7,975)
Income before income taxes	13,931	8,765	29,425	25,143
Provision for income taxes	6,236	4,254	16,119	14,878
Net income	$7,695	$4,511	$13,306	$10,265
Net income per share:				
Basic	$0.07	$0.04	$0.12	$0.09
Diluted	$0.07	$0.04	$0.12	$0.09
Weighted average shares used in per share calculation:				
Basic	109,555	110,214	110,353	109,951
Diluted	113,119	113,723	113,861	112,805

* Includes stock-based compensation:

Cost of product revenue	$20	$14	$53	$42
Research and development	$2,969	$2,337	$9,048	$6,526
Sales, general and administrative	$3,975	$3,092	$11,068	$8,788

See Notes to Unaudited Condensed Consolidated Financial Statements

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RAMBUS INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
(In thousands)	2017	2016	2017	2016
Net income	$ 7,695	$ 4,511	$ 13,306	$ 10,265
Other comprehensive income (loss):				
Foreign currency translation adjustment	2,581	(2,704)	7,177	(8,903)
Unrealized gain (loss) on marketable securities, net of tax	339	(374)	634	(745)
Total comprehensive income	$ 10,615	$ 1,433	$ 21,117	$ 617

See Notes to Unaudited Condensed Consolidated Financial Statements

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RAMBUS INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Nine Months Ended September 30, 2017	2016
	(In thousands)	
Cash flows from operating activities:		
Net income	$13,306	$10,265
Adjustments to reconcile net income to net cash provided by operating activities:		
Stock-based compensation	20,169	15,356
Depreciation	9,971	9,388
Amortization of intangible assets	31,436	26,045
Non-cash interest expense and amortization of convertible debt issuance costs	5,324	5,025
Deferred income taxes	(4,108)	(4,157)
Excess tax benefits from stock-based compensation	—	(927)
(Gain) loss from disposal of property, plant and equipment	169	(29)
Effect of exchange rate on assumed cash liability from acquisition	—	(985)
Change in operating assets and liabilities, net of impact of acquisitions:		
Accounts receivable	(23,656)	333
Prepaid expenses and other assets	6,824	(3,143)
Inventories	617	(744)
Accounts payable	(2,795)	2,302
Accrued salaries and benefits and other liabilities	(2,658)	(4,772)
Deferred revenue	3,248	7,532
Net cash provided by operating activities	57,847	61,489
Cash flows from investing activities:		
Purchases of property, plant and equipment	(5,444)	(4,750)
Acquisition of intangible assets	(120)	—
Purchases of marketable securities	—	(54,869)
Maturities of marketable securities	32,048	85,746
Proceeds from sale of marketable securities	4,450	50,546
Proceeds from sale of property, plant and equipment	28	—
Acquisitions of businesses, net of cash acquired	—	(202,523)
Net cash provided by (used in) investing activities	30,962	(125,850)
Cash flows from financing activities:		
Proceeds received from issuance of common stock under employee stock plans	10,792	12,277
Principal payments against lease financing obligation	(625)	(476)
Payments of taxes on restricted stock units	(3,525)	(1,861)
Repurchase and retirement of common stock, including prepayment under accelerated share repurchase program	(50,036)	—
Excess tax benefits from stock-based compensation	—	927
Net cash provided by (used in) financing activities	(43,394)	10,867
Effect of exchange rate changes on cash and cash equivalents	1,636	(791)
Net increase (decrease) in cash and cash equivalents	47,051	(54,285)
Cash and cash equivalents at beginning of period	135,294	143,764
Cash and cash equivalents at end of period	$182,345	$89,479

Non-cash investing activities during the period:

Property, plant and equipment received and accrued in accounts payable and other liabilities	$1,294	$1,344
Non-cash financing activities during the period:		
Additional purchase consideration from acquisition	$—	$10,779

See Notes to Unaudited Condensed Consolidated Financial Statements

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RAMBUS INC.
NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

1. Basis of Presentation

The accompanying unaudited condensed consolidated financial statements include the accounts of Rambus Inc. (“Rambus” or the “Company”) and its wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated in the accompanying unaudited condensed consolidated financial statements.

In the opinion of management, the unaudited condensed consolidated financial statements include all adjustments (consisting only of normal recurring items) necessary to state fairly the financial position and results of operations for each interim period presented. Interim results are not necessarily indicative of results for a full year.

The unaudited condensed consolidated financial statements have been prepared in accordance with the rules and regulations of the Securities and Exchange Commission (the “SEC”) applicable to interim financial information. Certain information and Note disclosures included in the financial statements prepared in accordance with generally accepted accounting principles have been omitted in these interim statements pursuant to such SEC rules and regulations. The information included in this Form 10-Q should be read in conjunction with the consolidated financial statements and notes thereto in Form 10-K for the year ended December 31, 2016.

Operating Segment Definitions

Operating segments are based upon Rambus' internal organization structure, the manner in which its operations are managed, the criteria used by its Chief Operating Decision Maker ("CODM") to evaluate segment performance and availability of separate financial information regularly reviewed for resource allocation and performance assessment. The Company determined its CODM to be the Chief Executive Officer and determined its operating segments to be: (1) Memory and Interfaces Division ("MID"), which focuses on the design, development, manufacturing through partnerships and licensing of technology and solutions that is related to memory and interfaces; (2) Rambus Security Division ("RSD"), which focuses on the design, development, deployment and licensing of technologies for chip, system and in-field application security, anti-counterfeiting, smart ticketing and mobile payments; (3) Emerging Solutions Division ("ESD"), which includes the Rambus Labs team, the computational sensing and imaging group as well as the development efforts in the area of emerging technologies; and (4) Rambus Lighting Division ("RLD"), which focuses on the design, development and licensing of technologies for advanced LED-based lighting solutions. For the three and nine months ended September 30, 2017, only MID and RSD were reportable segments as each of them met the quantitative thresholds for disclosure as a reportable segment. The results of the remaining other operating segments were shown under “Other.”

Reclassifications

Certain prior periods' amounts were reclassified to conform to the current year’s presentation. None of these reclassifications had an impact on reported net income for any of the periods presented. Product revenue and related cost of product revenue were reclassified from contract and other revenue and cost of contract and other revenue, respectively. Refer to the Unaudited Condensed Consolidated Statements of Operations.

2. Recent Accounting Pronouncements

In July 2017, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2017-11, "Earnings Per Share (Topic 260), Distinguishing Liabilities from Equity (Topic 480), Derivatives and Hedging (Topic 815)." The amendments in Part I of this ASU change the classification analysis of certain equity-linked financial instruments (or embedded features) with down round features. When determining whether certain financial instruments should be classified as liabilities or equity instruments, a down round feature no longer precludes equity classification when assessing whether the instrument is indexed to an entity’s own stock. The amendments also clarify existing disclosure requirements for equity-classified instruments. As a result, a freestanding equity-linked financial instrument (or embedded conversion option) no longer would be accounted for as a derivative liability at fair value as a result of the existence of a down round feature. For freestanding equity classified financial instruments, the amendments require entities that present earnings per share (EPS) in accordance with Topic 260 to recognize the effect of the down round feature when it is triggered. That effect is treated as a dividend and as a reduction of income available to common shareholders in basic EPS. Convertible instruments with embedded conversion options that have down round features are now subject to the specialized guidance for contingent beneficial

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conversion features (in Subtopic 470-20, Debt-Debt with Conversion and Other Options), including related EPS guidance (in Topic 260). The amendments in Part II of this ASU recharacterize the indefinite deferral of certain provisions of Topic 480 that now are presented as pending content in the FASB codification, to a scope exception. Those amendments do not have an accounting effect. This ASU is effective for interim and annual reporting periods beginning after December 15, 2018. Early adoption is permitted, including adoption in an interim period. The Company is currently evaluating the impact that this guidance will have on its consolidated financial statements.

In May 2017, the FASB issued ASU No. 2017-09, "Compensation—Stock Compensation (Topic 718): Scope of Modification Accounting," which amends the scope of modification accounting for share-based payment arrangements. Specifically, an entity would not apply modification accounting if the fair value, vesting conditions, and classification of the awards are the same immediately before and after the modification. This ASU is effective for interim and annual reporting periods beginning after December 15, 2017. Early adoption is permitted, including adoption in an interim period. The Company is currently evaluating the impact that this guidance will have on its consolidated financial statements.

In March 2017, the FASB issued ASU No. 2017-08, "Receivables - Nonrefundable Fees and Other Costs (Topic 310): Premium Amortization on Purchased Callable Debt Securities," which amends the amortization period for certain purchased callable debt securities held at a premium. This ASU will shorten the amortization period for the premium to be amortized to the earliest call date. This ASU does not apply to securities held at a discount, which will continue to be amortized to maturity. This ASU is effective for interim and annual reporting periods beginning after December 15, 2018. Early adoption is permitted, including adoption in an interim period. The Company is currently evaluating the impact that this guidance will have on its consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-04, "Intangibles-Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment," which removes Step 2 of the goodwill impairment test. A goodwill impairment will now be the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. This ASU is effective for interim and annual reporting periods beginning after December 15, 2019. Early adoption is permitted, including adoption in an interim period. The Company is currently evaluating the impact that this guidance will have on its consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017-01, "Business Combinations (Topic 805): Clarifying the Definition of a Business." The amendment seeks to clarify the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The definition of a business affects many areas of accounting including acquisitions, disposals, goodwill and consolidation. This ASU is effective for interim and annual reporting periods beginning after December 15, 2017, including interim periods within those periods. The amendments should be applied prospectively on or after the effective dates. The Company is currently evaluating the impact that this guidance will have on its consolidated financial statements.

In August 2016, the FASB issued ASU No. 2016-15 which amends the guidance on the classification of certain cash receipts and payments in the statement of cash flows. This ASU is effective for annual and interim reporting periods beginning after December 15, 2017 and is applied retrospectively. Early adoption is permitted including adoption in an interim period. The Company is currently evaluating the impact that this guidance will have on its financial condition and results of operations.

In June 2016, the FASB issued ASU No. 2016-13. The purpose of this ASU is to require a financial asset measured at amortized cost basis to be presented at the net amount expected to be collected. Credit losses relating to available-for-sale debt securities should be recorded through an allowance for credit losses. This ASU is effective for interim and annual reporting periods beginning after December 15, 2019. The Company is currently evaluating the impact that this guidance will have on its financial condition and results of operations.

In March 2016, the FASB issued ASU No. 2016-09, "Improvements to Employee Share-Based Payment Accounting." This ASU simplifies the accounting for share-based payment transactions including the accounting for income taxes, forfeitures, statutory tax withholding requirements and classification in the statement of cash flows. The updated standard no longer requires cash flows related to excess tax benefits to be presented as a financing activity separate from other income tax cash flows. The update also allows entities to repurchase more of an employee's shares for tax withholding purposes without triggering liability accounting, clarifies that all cash payments to taxing authorities made on an employee's behalf for withheld shares should be presented as a financing activity on the statement of cash flows, and provides for an accounting policy election to account for forfeitures as they occur. The Company adopted this ASU on January 1, 2017. The impact of the adoption is as follows:

•This ASU requires excess tax benefits to be recognized regardless of whether the benefit reduces taxes payable. The adoption of this guidance on a modified retrospective basis resulted in the recognition of a cumulative-effect adjustment of $38.2 million that reduced the Company's accumulated deficit and increased its deferred tax assets as of January 1, 2017. The previously unrecognized California excess tax effects were recorded as a deferred tax asset net of a valuation allowance.

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•The Company has elected to continue to estimate forfeitures expected to occur to determine the amount of stock-based compensation cost to be recognized in each period. As such, the guidance relating to forfeitures did not have an impact on its accumulated deficit as of January 1, 2017.
•Additionally, the Company anticipates the potential for increased periodic volatility in future effective tax rates as a result of the continued application of ASU No. 2016-09.

In February 2016, the FASB issued ASU No. 2016-02, "Leases." This ASU requires lessees to recognize right-of-use assets and liabilities for operating leases, initially measured at the present value of the lease payments, on the balance sheet. In addition, it requires lessees to recognize a single lease cost, calculated so that the cost of the lease is allocated over the lease term, generally on a straight-line basis. This ASU will become effective for the Company in the first quarter of fiscal year 2019, and requires adoption using a modified retrospective approach. The Company is evaluating the impact of adopting this new accounting standard update on its consolidated financial statements and related disclosures and anticipates this new guidance will materially impact the Company's financial statements given the Company has a significant number of operating leases.

In July 2015, the FASB issued ASU No. 2015-11, "Simplifying the Measurement of Inventory (Topic 330)," which applies to inventory that is measured using first-in, first-out ("FIFO") or average cost. Under the updated guidance, an entity should measure inventory that is within scope at the lower of cost and net realizable value, which is the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. Subsequent measurement is unchanged for inventory that is measured using last-in, last-out ("LIFO"). This ASU is effective for annual and interim periods beginning after December 15, 2016, and should be applied prospectively with early adoption permitted at the beginning of an interim or annual reporting period. The Company adopted this ASU on January 1, 2017. The adoption of this ASU did not have a material impact on the Company's consolidated financial statements.

In May 2014, the FASB issued ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606) ("Standard"). The core principle of the Standard is for a company to recognize revenue for goods or services transferred to customers in an amount that reflects the consideration to which it expects to be entitled in exchange for those goods or services. To do so, a company will be required to exercise more judgment and make more estimates than under current guidance, including in identifying the performance obligations included in the arrangement, estimating and revising the variable consideration, if any, to be included in the transaction price and allocating the transaction price to distinct performance obligations. The FASB further clarified the Standard by issuing ASU No. 2016-10 (Identifying Performance Obligations and Licensing); ASU No. 2016-12 (Narrow-Scope Improvements and Practical Expedients); and ASU No. 2016-20 (Technical Corrections and Improvements).

The Standard may be applied retrospectively to each prior period presented (full retrospective method) or retrospectively with the cumulative effect recognized as of the date of initial application (modified retrospective method). The Standard, as amended, is effective for the Company on January 1, 2018. The Company has yet to make a final decision regarding the adoption method it will use but believes it will adopt the Standard on a full retrospective basis, with a cumulative-effect adjustment to the opening balance of retained earnings on January 1, 2016 determined on the basis of the impact of the Standard on the accounting for contracts that are not completed as of that date. Although the Company has yet to finalize its evaluation and quantification of the effects that the Standard will have on its consolidated financial statements, and to finalize the design and implementation of related changes to its policies, procedures and controls, the Company expects the Standard to materially impact the timing of revenue recognition for its fixed-fee intellectual property (IP) licensing arrangements (including certain fixed-fee agreements that license the Company's existing IP portfolio as well as IP added to this portfolio during the license term) as a majority of such revenue would be recognized at inception of the license term, as opposed to over time as is the case under current U.S. GAAP, and the Company will be required to compute and recognize interest income over time as control over the IP generally transfers significantly in advance of cash being received from customers. In addition, the Company is currently assessing its minimum guarantee contracts to determine whether, under the Standard, revenue should be recognized at contract inception or over the contract term. The Company expects that any change to current revenue recognition practices may significantly increase volatility in its quarterly revenue trends.

In accordance with existing U.S. GAAP, the Company currently recognizes revenue from per-unit royalty-based IP licenses in the period the licensee reports its sales, generally in the quarter after the underlying sales by the licensee occurred. On adoption of the Standard, such royalties will be recognized as revenue during the period in which the licensee's sales are estimated to have occurred, which will result in an adjustment to revenue when actual amounts are subsequently reported by the Company's licensees.

As part of the Company’s assessment and implementation plan, the Company is evaluating and implementing changes to its policies, procedures and controls.

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3. Earnings Per Share

Basic earnings per share is calculated by dividing the net income by the weighted average number of common shares outstanding during the period. Diluted earnings per share is calculated by dividing the earnings by the weighted average number of common shares and potentially dilutive securities outstanding during the period. Potentially dilutive common shares consist of incremental common shares issuable upon exercise of stock options, employee stock purchases, restricted stock and restricted stock units and shares issuable upon the conversion of convertible notes. The dilutive effect of outstanding shares is reflected in diluted earnings per share by application of the treasury stock method. This method includes consideration of the amounts to be paid by the employees and the amount of unrecognized stock-based compensation related to future services. No potential dilutive common shares are included in the computation of any diluted per share amount when a net loss is reported.

The following table sets forth the computation of basic and diluted net income per share:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Net income per share:	(In thousands, except per share amounts)			
Numerator:				
Net income	$7,695	$4,511	$13,306	$10,265
Denominator:				
Weighted-average shares outstanding - basic	109,555	110,214	110,353	109,951
Effect of potential dilutive common shares	3,564	3,509	3,508	2,854
Weighted-average shares outstanding - diluted	113,119	113,723	113,861	112,805
Basic net income per share	$0.07	$0.04	$0.12	$0.09
Diluted net income per share	$0.07	$0.04	$0.12	$0.09

For the three months ended September 30, 2017 and 2016, options to purchase approximately 1.8 million and 1.8 million shares, respectively, and for the nine months ended September 30, 2017 and 2016, options to purchase approximately 1.9 million and 2.2 million shares, respectively, were excluded from the calculation because they were anti-dilutive after considering proceeds from exercise and related unrecognized stock-based compensation expense.

4. Intangible Assets and Goodwill

Goodwill

The following tables present goodwill information for each of the reportable segments for the nine months ended September 30, 2017:

Reportable Segment:	As of December 31, 2016	Additions to Goodwill (1)	Impairment of Goodwill	Effect of Exchange Rates (2)	As of September 30, 2017
	(In thousands)				
MID	$66,643	$ —	$ —	$ —	$ 66,643
RSD	138,151	803	—	3,721	142,675
Total	$204,794	$ 803	$ —	$ 3,721	$ 209,318

(1) During the first quarter of 2017, the Company corrected an immaterial error related to an overstatement in prepaids and other current assets that originated in 2016.

(2) Effect of exchange rates relates to foreign currency translation adjustments for the period.

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Reportable Segment:	As of September 30, 2017 Gross Carrying Amount	Accumulated Impairment Losses	Net Carrying Amount
	(In thousands)		
MID	$66,643	$ —	$66,643
RSD	142,675	—	142,675
Other	21,770	(21,770)	—
Total	$231,088	$ (21,770)	$209,318

Intangible Assets

The components of the Company's intangible assets as of September 30, 2017 and December 31, 2016 were as follows:

	Useful Life	As of September 30, 2017 Gross Carrying Amount (1)	Accumulated Amortization	Net Carrying Amount
		(In thousands)		
Existing technology	3 to 10 years	$258,792	$ (183,590)	$ 75,202
Customer contracts and contractual relationships	1 to 10 years	68,376	(46,133)	22,243
Non-compete agreements and trademarks	3 years	300	(300)	—
In-process research and development	Not applicable	5,100	—	5,100
Total intangible assets		$332,568	$ (230,023)	$ 102,545

(1) The change in gross carrying amount reflects the effects of exchange rates during the period.

	Useful Life	As of December 31, 2016 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
		(In thousands)		
Existing technology	3 to 10 years	$256,656	$ (156,577)	$ 100,079
Customer contracts and contractual relationships	1 to 10 years	65,109	(37,900)	27,209
Non-compete agreements and trademarks	3 years	300	(300)	—
In-process research and development	Not applicable	5,100	—	5,100
Total intangible assets		$327,165	$ (194,777)	$ 132,388

During the three and nine months ended September 30, 2017, the Company acquired patents related to its memory technology for an immaterial amount. During the three and nine months ended September 30, 2016, the Company did not sell any intangible assets.

Included in customer contracts and contractual relationships are favorable contracts which are acquired software and service agreements where the Company has no performance obligations. Cash received from these acquired favorable contracts reduces the favorable contract intangible asset. For the three months ended September 30, 2017 and 2016, the Company received $0.5 million and $0.6 million, respectively, related to the favorable contracts. For the nine months ended September 30, 2017 and 2016, the Company received $2.8 million and $4.7 million, respectively, related to the favorable contracts. As of September 30, 2017 and December 31, 2016, the net balance of the favorable contract intangible assets was $2.2 million and $3.6 million, respectively.

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Amortization expense for intangible assets for the three and nine months ended September 30, 2017 was $10.5 million and $31.4 million, respectively. Amortization expense for intangible assets for the three and nine months ended September 30, 2016, was $10.2 million and $26.0 million, respectively. The estimated future amortization of intangible assets as of September 30, 2017 was as follows (amounts in thousands):

Years Ending December 31:	Amount
2017 (remaining 3 months)	$11,775
2018	29,624
2019	19,877
2020	19,133
2021	12,653
Thereafter	9,483
	$102,545

It is reasonably possible that the businesses could perform significantly below the Company's expectations or a deterioration of market and economic conditions could occur. This would adversely impact the Company's ability to meet its projected results, which could cause the goodwill in any of its reporting units or long-lived assets in any of its asset groups to become impaired. Significant differences between these estimates and actual cash flows could materially affect the Company's future financial results. If the Company determines that its goodwill or long-lived assets are impaired, it would be required to record a non-cash charge that could have a material adverse effect on its results of operations and financial position.

5. Segments and Major Customers

For the three and nine months ended September 30, 2017, MID and RSD were reportable segments as each of them met the quantitative thresholds for disclosure as a reportable segment. The results of the remaining operating segments were shown under “Other.”

The Company evaluates the performance of its segments based on segment operating income (loss), which is defined as revenue minus segment operating expenses. Segment operating expenses are comprised of direct operating expenses.

Segment operating expenses do not include sales, general and administrative expenses and the allocation of certain expenses managed at the corporate level, such as stock-based compensation, amortization, and certain bonus and acquisition costs. The “Reconciling Items” category includes these unallocated sales, general and administrative expenses as well as corporate level expenses.

The tables below present reported segment operating income (loss) for the three and nine months ended September 30, 2017 and 2016, respectively.

	For the Three Months Ended September 30, 2017				For the Nine Months Ended September 30, 2017			
	MID	RSD	Other	Total	MID	RSD	Other	Total
	(In thousands)				(In thousands)			
Revenues	$68,787	$26,312	$4,035	$99,134	$206,784	$72,883	$11,538	$291,205
Segment operating expenses	21,130	11,796	7,802	40,728	65,187	36,409	25,191	126,787
Segment operating income (loss)	$47,657	$14,516	$(3,767)	$58,406	$141,597	$36,474	$(13,653)	$164,418
Reconciling items				(41,396)				(125,730)
Operating income				$17,010				$38,688
Interest and other income (expense), net				(3,079)				(9,263)
Income before income taxes				$13,931				$29,425

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	For the Three Months Ended September 30, 2016				For the Nine Months Ended September 30, 2016			
	MID	RSD	Other	Total	MID	RSD	Other	Total
	(In thousands)				(In thousands)			
Revenues	$63,142	$22,532	$4,181	$89,855	$171,154	$53,040	$14,844	$239,038
Segment operating expenses	20,060	12,493	6,840	39,393	44,797	37,507	21,594	103,898
Segment operating income (loss)	$43,082	$10,039	$(2,659)	$50,462	$126,357	$15,533	$(6,750)	$135,140
Reconciling items				(38,646)				(102,022)
Operating income				$11,816				$33,118
Interest and other income (expense), net				(3,051)				(7,975)
Income before income taxes				$8,765				$25,143

The Company's CODM does not review information regarding assets on an operating segment basis. Additionally, the Company does not record intersegment revenue or expense.

Accounts receivable from the Company's major customers representing 10% or more of total accounts receivable at September 30, 2017 and December 31, 2016, respectively, was as follows:

Customer	As of September 30, 2017	December 31, 2016
Customer 1 (RSD reportable segment)	*	17 %
Customer 2 (Other segment)	*	12 %
Customer 3 (MID reportable segment)	12 %	13 %
Customer 4 (MID reportable segment)	19 %	*
Customer 5 (MID reportable segment)	10 %	*

* Customer accounted for less than 10% of total accounts receivable in the period

Revenue from the Company's major customers representing 10% or more of total revenue for the three and nine months ended September 30, 2017 and 2016, respectively, was as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
Customer	2017	2016	2017	2016
Customer A (MID and RSD reportable segments)	18 %	17 %	17 %	20 %
Customer B (MID reportable segment)	12 %	19 %	13 %	20 %
Customer C (MID reportable segment)	13 %	13 %	13 %	13 %

Revenue from customers in the geographic regions based on the location of contracting parties was as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
(In thousands)	2017	2016	2017	2016
South Korea	$ 29,476	$ 32,519	$86,736	$95,604
USA	43,532	32,951	123,115	84,835
Japan	4,933	9,551	18,508	20,449
Europe	9,160	4,271	17,850	12,362
Canada	933	1,162	3,353	2,544
Singapore	4,927	4,429	17,563	13,574
Asia-Other	6,173	4,972	24,080	9,670
Total	$ 99,134	$ 89,855	$291,205	$239,038

6. Marketable Securities

Rambus invests its excess cash and cash equivalents primarily in U.S. government-sponsored obligations, commercial paper, corporate notes and bonds, money market funds and municipal notes and bonds that mature within three years. As of

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September 30, 2017 and December 31, 2016, all of the Company's cash equivalents and marketable securities had a remaining maturity of less than one year.

All cash equivalents and marketable securities are classified as available-for-sale. Total cash, cash equivalents and marketable securities are summarized as follows:

	As of September 30, 2017				
(In thousands)	Fair Value	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Weighted Rate of Return
Money market funds	$12,882	$12,882	$ —	$ —	0.90 %
U.S. Government bonds and notes	30,489	30,491	—	(2)	0.95 %
Corporate notes, bonds, commercial paper and other	98,887	98,900	—	(13)	1.13 %
Total cash equivalents and marketable securities	142,258	142,273	—	(15)	
Cash	41,374	41,374	—	—	
Total cash, cash equivalents and marketable securities	$183,632	$183,647	$ —	$ (15)	

	As of December 31, 2016				
(In thousands)	Fair Value	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Weighted Rate of Return
Money market funds	$10,681	$10,681	$ —	$ —	0.41 %
U.S. Government bonds and notes	48,292	48,291	1	—	0.39 %
Corporate notes, bonds, commercial paper and other	62,178	62,199	—	(21)	0.66 %
Total cash equivalents and marketable securities	121,151	121,171	1	(21)	
Cash	51,031	51,031	—	—	
Total cash, cash equivalents and marketable securities	$172,182	$172,202	$ 1	$ (21)	

Available-for-sale securities are reported at fair value on the balance sheets and classified as follows:

	As of September 30, 2017	December 31, 2016
	(In thousands)	
Cash equivalents	$140,971	$ 84,263
Short term marketable securities	1,287	36,888
Total cash equivalents and marketable securities	142,258	121,151
Cash	41,374	51,031
Total cash, cash equivalents and marketable securities	$183,632	$ 172,182

The Company continues to invest in highly rated quality, highly liquid debt securities. As of September 30, 2017, these securities have a remaining maturity of less than one year. The Company holds all of its marketable securities as available-for-sale, marks them to market, and regularly reviews its portfolio to ensure adherence to its investment policy and to monitor individual investments for risk analysis, proper valuation, and unrealized losses that may be other than temporary.

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The estimated fair value of cash equivalents and marketable securities classified by the length of time that the securities have been in a continuous unrealized loss position at September 30, 2017 and December 31, 2016 are as follows:

	Fair Value		Gross Unrealized Loss	
	September 30, 2017	December 31, 2016	September 30, 2017	December 31, 2016
	(In thousands)			
Less than one year				
U.S. Government bonds and notes	$27,489	$ 18,395	$ (2)	$ —
Corporate notes, bonds and commercial paper	97,600	54,377	(13)	(21)
Total Corporate notes, bonds, and commercial paper and U.S. Government bonds and notes	$125,089	$ 72,772	$ (15)	$ (21)

The gross unrealized loss at September 30, 2017 and December 31, 2016 was not material in relation to the Company's total available-for-sale portfolio. The gross unrealized loss can be primarily attributed to a combination of market conditions as well as the demand for and duration of the U.S. government-sponsored obligations and corporate notes and bonds. There is no need to sell these investments, and the Company believes that it can recover the amortized cost of these investments. The Company has found no evidence of impairment due to credit losses in its portfolio. Therefore, these unrealized losses were recorded in other comprehensive income. However, the Company cannot provide any assurance that its portfolio of cash, cash equivalents and marketable securities will not be impacted by adverse conditions in the financial markets, which may require the Company in the future to record an impairment charge for credit losses which could adversely impact its financial results.

See Note 7, "Fair Value of Financial Instruments," for discussion regarding the fair value of the Company's cash equivalents and marketable securities.

7. Fair Value of Financial Instruments

The following table presents the financial instruments that are carried at fair value and summarizes the valuation of its cash equivalents and marketable securities by the above pricing levels as of September 30, 2017 and December 31, 2016:

	As of September 30, 2017			
	Total	Quoted Market Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	(In thousands)			
Money market funds	$12,882	$ 12,882	$ —	$ —
U.S. Government bonds and notes	30,489	—	30,489	—
Corporate notes, bonds, commercial paper and other	98,887	1,287	97,600	—
Total available-for-sale securities	$142,258	$ 14,169	$ 128,089	$ —

	As of December 31, 2016			
	Total	Quoted Market Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	(In thousands)			
Money market funds	$10,681	$ 10,681	$ —	$ —

U.S. Government bonds and notes	48,292	—	48,292	—
Corporate notes, bonds, commercial paper and other	62,178	303	61,875	—
Total available-for-sale securities	$ 121,151	$ 10,984	$ 110,167	$ —

The Company monitors its investments for other-than-temporary impairment and records appropriate reductions in carrying value when necessary. The Company monitors its investments for other-than-temporary losses by considering current factors, including the economic environment, market conditions, operational performance and other specific factors relating to the business underlying the investment, reductions in carrying values when necessary and the Company's ability and intent to hold the investment for a period of time which may be sufficient for anticipated recovery in the market. Any other-than-temporary loss is reported under "Interest and other income (expense), net" in the condensed consolidated statement of operations.

For the three and nine months ended September 30, 2017 and 2016, there were no transfers of financial instruments between different categories of fair value.

The following table presents the financial instruments that are not carried at fair value but require fair value disclosure as of September 30, 2017 and December 31, 2016:

	As of September 30, 2017			As of December 31, 2016		
(In thousands)	Face Value	Carrying Value	Fair Value	Face Value	Carrying Value	Fair Value
1.125% Convertible Senior Notes due 2018 (the "2018 Notes")	$138,000	$131,490	$163,737	$138,000	$126,167	$173,961

The fair value of the convertible notes at each balance sheet date is determined based on recent quoted market prices for these notes which is a level 2 measurement. As discussed in Note 8, "Convertible Notes," as of September 30, 2017, the 2018 Notes are carried at their face value of $138.0 million, less any unamortized debt discount and unamortized debt issuance costs. The carrying value of other financial instruments, including accounts receivable, accounts payable and other liabilities, approximates fair value due to their short maturities.

8. Convertible Notes

The Company's convertible notes are shown in the following table:

(In thousands)	As of September 30, 2017	As of December 31, 2016
1.125% Convertible Senior Notes due 2018	$138,000	$138,000
Unamortized discount	(6,014)	(10,913)
Unamortized debt issuance costs	(496)	(920)
Total convertible notes	$131,490	$126,167
Less current portion	131,490	—
Total long-term convertible notes	$—	$126,167

As of September 30, 2017, the 2018 Notes were reclassed from a long-term liability to a short-term liability as they will be due on August 15, 2018.

Interest expense related to the notes for the three and nine months ended September 30, 2017 and 2016 was as follows:

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2017	2016	2017	2016
	(In thousands)			
2018 Notes coupon interest at a rate of 1.125%	$388	$388	1,164	1,164
2018 Notes amortization of discount and debt issuance costs at an additional effective interest rate of 5.5%	1,801	1,699	5,324	5,025
Total interest expense on convertible notes	$2,189	$2,087	$6,488	$6,189

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9. Commitments and Contingencies

As of September 30, 2017, the Company’s material contractual obligations were as follows (in thousands):

	Total	Remainder of 2017	2018	2019	2020	2021	Thereafter
Contractual obligations (1)							
Imputed financing obligation (2)	$17,511	$ 1,593	$6,447	$6,602	$2,869	$—	$ —
Leases and other contractual obligations	28,336	3,020	6,000	5,631	4,662	4,793	4,230
Software licenses (3)	16,317	2,609	10,176	3,532	—	—	—
Convertible notes	138,000	—	138,000	—	—	—	—
Interest payments related to convertible notes	1,552	—	1,552	—	—	—	—
Total	$201,716	$ 7,222	$162,175	$15,765	$7,531	$4,793	$ 4,230

(1) The above table does not reflect possible payments in connection with uncertain tax benefits of approximately $22.9 million including $20.7 million recorded as a reduction of long-term deferred tax assets and $2.2 million in long-term income taxes payable as of September 30, 2017. As noted below in Note 12, “Income Taxes,” although it is possible that some of the unrecognized tax benefits could be settled within the next 12 months, the Company cannot reasonably estimate the outcome at this time.

(2) With respect to the imputed financing obligation, the main components of the difference between the amount reflected in the contractual obligations table and the amount reflected on the unaudited condensed consolidated balance sheets are the interest on the imputed financing obligation and the estimated common area expenses over the future periods. The amount includes the amended Ohio lease and the amended Sunnyvale lease.

(3) The Company has commitments with various software vendors for non-cancellable agreements generally having terms longer than one year.

Building lease expense was approximately $1.2 million and $3.2 million for the three and nine months ended September 30, 2017, respectively. Building lease expense was approximately $1.1 million and $2.7 million for the three and nine months ended September 30, 2016, respectively. Deferred rent of $0.5 million and $0.5 million as of September 30, 2017 and December 31, 2016, respectively, was included primarily in other current liabilities.

Indemnification

From time to time, the Company indemnifies certain customers as a necessary means of doing business. Indemnification covers customers for losses suffered or incurred by them as a result of any patent, copyright, or other intellectual property infringement or any other claim by any third party arising as result of the applicable agreement with the Company. The Company generally attempts to limit the maximum amount of indemnification or liability that the Company could be exposed to under these agreements, however, this is not always possible. The fair value of the liability as of September 30, 2017 and December 31, 2016 is not material.

10. Equity Incentive Plans and Stock-Based Compensation

As of September 30, 2017, 5,287,247 shares of the 35,400,000 cumulative shares approved under both the current 2015 Equity Incentive Plan (the “2015 Plan”) and past 2006 Equity Incentive Plan (the “2006 Plan”) remain available for grant, which included an increase of 4,000,000 shares approved under the 2015 Plan. On April 23, 2015, the Company's stockholders approved the 2015 Plan, which authorizes 4,000,000 shares for future issuance plus the number of shares that remained available for grant under the 2006 Plan as of the effective date of the 2015 Plan. The 2015 Plan became effective and replaced the 2006 Plan on April 23, 2015. The 2015 Plan was the Company’s only plan for providing stock-based incentive awards to eligible employees, executive officers, non-employee directors and consultants as of September 30, 2017. No further awards will be made under the 2006 Plan, but the 2006 Plan will continue to govern awards previously granted under it. In addition, any shares subject to stock options or other awards granted under the 2006 Plan that on or after the effective date of the 2015 Plan are forfeited, cancelled, exchanged or surrendered or terminate under the 2006 Plan will become available for grant under the 2015 Plan.

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A summary of shares available for grant under the Company's plans is as follows:

	Shares Available for Grant
Shares available as of December 31, 2016	7,305,368
Stock options granted	(498,426)
Stock options forfeited	1,858,653
Nonvested equity stock and stock units granted (1) (2)	(4,376,615)
Nonvested equity stock and stock units forfeited (1)	998,267
Total available for grant as of September 30, 2017	5,287,247

(1) For purposes of determining the number of shares available for grant under the 2015 Plan against the maximum number of shares authorized, each share of restricted stock granted reduces the number of shares available for grant by 1.5 shares and each share of restricted stock forfeited increases shares available for grant by 1.5 shares.

(2) Amount includes 394,853 shares that have been reserved for potential future issuance related to certain performance unit awards granted in the first and third quarters of 2017 and discussed under the section titled "Nonvested Equity Stock and Stock Units" below.

General Stock Option Information

The following table summarizes stock option activity under the 2006 Plan and 2015 Plan for the nine months ended September 30, 2017 and information regarding stock options outstanding, exercisable, and vested and expected to vest as of September 30, 2017.

	Options Outstanding			
	Number of Shares	Weighted Average Exercise Price Per Share	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
	(In thousands, except per share amounts)			
Outstanding as of December 31, 2016	7,008,833	$ 9.34		
Options granted	498,426	$ 12.74		
Options exercised	(989,613)	$ 7.12		
Options forfeited	(1,858,653)	$ 10.54		
Outstanding as of September 30, 2017	4,658,993	$ 9.69	5.64	$ 19,594
Vested or expected to vest at September 30, 2017	4,592,934	$ 9.66	5.46	$ 19,533
Options exercisable at September 30, 2017	3,621,650	$ 9.13	4.87	$ 17,843

No stock options that contain a market condition were granted during the three and nine months ended September 30, 2017. As of September 30, 2017 and December 31, 2016, there were 50,000 and 1,135,000, respectively, stock options outstanding that require the Company to achieve minimum market conditions in order for the options to become exercisable. The fair values of the options granted with a market condition were calculated, on their respective grant dates, using a binomial valuation model, which estimates the potential outcome of reaching the market condition based on simulated future stock prices.

The aggregate intrinsic value in the table above represents the total pre-tax intrinsic value for in-the-money options at September 30, 2017, based on the $13.35 closing stock price of Rambus' common stock on September 29, 2017 on the NASDAQ Global Select Market, which would have been received by the option holders had all option holders exercised their options as of that date. The total number of in-the-money options outstanding and exercisable as of September 30, 2017 was 4,156,223 and 3,132,148, respectively.

Employee Stock Purchase Plan

Under the 2015 Employee Stock Purchase Plan ("2015 ESPP"), the Company issued 361,994 shares at a price of $10.33 per share during the nine months ended September 30, 2017. Under the 2015 ESPP, the Company issued

340,349 shares at a price of $8.96 per share during the nine months ended September 30, 2016. As of September 30, 2017, 1,089,649 shares under the 2015 ESPP remain available for issuance.

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Stock-Based Compensation

For the nine months ended September 30, 2017 and 2016, the Company maintained stock plans covering a broad range of potential equity grants including stock options, nonvested equity stock and equity stock units and performance based instruments. In addition, the Company sponsors the 2015 ESPP, whereby eligible employees are entitled to purchase common stock semi-annually, by means of limited payroll deductions, at a 15% discount from the fair market value of the common stock as of specific dates.

Stock Options

During the three months ended September 30, 2017, the Company did not grant any stock options. During the nine months ended September 30, 2017, the Company granted 498,426 stock options with an estimated total grant-date fair value of $2.1 million. During the three and nine months ended September 30, 2017, the Company recorded stock-based compensation expense related to stock options of $0.7 million and $2.1 million, respectively.

During the three months ended September 30, 2016, the Company did not grant any stock options. During the nine months ended September 30, 2016, the Company granted 440,000 stock options with an estimated total grant-date fair value of $2.1 million. During the three and nine months ended September 30, 2016, the Company recorded stock-based compensation expense related to stock options of $1.0 million and $3.3 million, respectively.

As of September 30, 2017, there was $4.0 million of total unrecognized compensation cost, net of expected forfeitures, related to non-vested stock-based compensation arrangements granted under the stock option plans. That cost is expected to be recognized over a weighted-average period of 2.4 years. The total fair value of shares vested as of September 30, 2017 was $18.9 million.

The total intrinsic value of options exercised was $1.9 million and $5.7 million for the three and nine months ended September 30, 2017, respectively. The total intrinsic value of options exercised was $3.0 million and $7.0 million for the three and nine months ended September 30, 2016, respectively. Intrinsic value is the total value of exercised shares based on the price of the Company's common stock at the time of exercise less the cash received from the employees to exercise the options.

During the nine months ended September 30, 2017, net proceeds from employee stock option exercises totaled approximately $7.1 million.

Employee Stock Purchase Plan

For the three and nine months ended September 30, 2017, the Company recorded compensation expense related to the 2015 ESPP of $0.4 million and $1.3 million, respectively. For the three and nine months ended September 30, 2016, the Company recorded compensation expense related to the 2015 ESPP of $0.3 million and $1.1 million, respectively.

As of September 30, 2017, there was $0.1 million of total unrecognized compensation cost related to stock-based compensation arrangements granted under the 2015 ESPP. That cost is expected to be recognized over one month.

Tax benefits realized as a result of employee stock option exercises, stock purchase plan purchases, and vesting of equity stock and stock units for the three and nine months ended September 30, 2017 calculated in accordance with accounting for share-based payments were $0.2 million and $0.8 million, respectively. There were no tax benefits realized as a result of employee stock option exercises, stock purchase plan purchases, and vesting of equity stock and stock units for the three and nine months ended September 30, 2016 calculated in accordance with accounting for share-based payments.

Valuation Assumptions

The fair value of stock awards is estimated as of the grant date using the Black-Scholes-Merton ("BSM") option-pricing model assuming a dividend yield of 0% and the additional weighted-average assumptions as listed in the table below.

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The following table presents the weighted-average assumptions used to estimate the fair value of stock options granted that contain only service conditions in the periods presented.

	Stock Option Plan Nine Months Ended September 30, 2017	2016
Stock Option Plan		
Expected stock price volatility	32 %	36 %
Risk free interest rate	1.8% - 1.9%	1.7 %
Expected term (in years)	5.3 - 5.4	6.1
Weighted-average fair value of stock options granted to employees	$4.12	$4.66

There were no stock options granted during the three months ended September 30, 2017 and 2016.

	Employee Stock Purchase Plan Nine Months Ended September 30, 2017	2016
Employee Stock Purchase Plan		
Expected stock price volatility	27 %	33 %
Risk free interest rate	0.98 %	0.41 %
Expected term (in years)	0.5	0.5
Weighted-average fair value of purchase rights granted under the purchase plan	$2.87	$2.86

Nonvested Equity Stock and Stock Units

The Company grants nonvested equity stock units to officers, employees and directors. During the three and nine months ended September 30, 2017, the Company granted nonvested equity stock units totaling 463,346 and 2,654,508 shares under the 2015 Plan. During the three and nine months ended September 30, 2016, the Company granted nonvested equity stock units totaling 884,724 and 2,909,364 shares under the 2015 Plan. These awards have a service condition, generally a service period of four years