

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

FORM 10-Q

(MARK ONE)

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

FOR THE QUARTERLY PERIOD ENDED JANUARY 31, 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: 000-19807

SYNOPSIS[®]

SYNOPSIS, INC.

(Exact name of registrant as specified in its charter)

DELAWARE

(State or other jurisdiction of
incorporation or organization)

56-1546236

(I.R.S. Employer
Identification Number)

**690 EAST MIDDLEFIELD ROAD
MOUNTAIN VIEW, CA 94043**

(Address of principal executive offices, including zip code)

(650) 584-5000

(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 ☒ No ☐

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 ☒ No ☐

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.

[Table of Contents](#)

Large accelerated
filer

☒

Accelerated Filer

☐

Non-accelerated
filer

☐ (Do not check if a smaller reporting company)

Smaller reporting com
pany

☐

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

As of February 15, 2017, there were 150,497,680 shares of the registrant's common stock outstanding.

SYNOPSYS, INC.
QUARTERLY REPORT ON FORM 10-Q
FOR THE FISCAL QUARTER ENDED JANUARY 31, 2017

TABLE OF CONTENTS

	Page
PART I. Financial Information	1
Item 1. Financial Statements	1
Unaudited Condensed Consolidated Balance Sheets	1
Unaudited Condensed Consolidated Statements of Operations	2
Unaudited Condensed Consolidated Statements of Comprehensive Income	3
Unaudited Condensed Consolidated Statements of Cash Flows	4
Notes to Unaudited Condensed Consolidated Financial Statements	5
Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations	23
Item 3. Quantitative and Qualitative Disclosures about Market Risk	34
Item 4. Controls and Procedures	35
PART II. Other Information	36
Item 1. Legal Proceedings	36
Item 1A. Risk Factors	38
Item 2. Unregistered Sales of Equity Securities and Use of Proceeds	49
Item 6. Exhibits	50
Signatures	52

PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

SYNOPSYS, INC.

UNAUDITED CONDENSED CONSOLIDATED BALANCE SHEETS (in thousands, except par value amounts)

	January 31, 2017	October 31, 2016*
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 827,709	\$ 976,620
Short-term investments	138,648	140,695
Total cash, cash equivalents and short-term investments	966,357	1,117,315
Accounts receivable, net	331,984	438,873
Income taxes receivable and prepaid taxes	54,596	56,091
Prepaid and other current assets	131,106	104,659
Total current assets	1,484,043	1,716,938
Property and equipment, net	256,811	257,035
Goodwill	2,652,257	2,518,245
Intangible assets, net	301,922	266,661
Long-term prepaid taxes	15,800	13,991
Long-term deferred income taxes	355,469	281,926
Other long-term assets	197,952	185,569
Total assets	<u>\$ 5,264,254</u>	<u>\$ 5,240,365</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued liabilities	\$ 251,098	\$ 401,451
Accrued income taxes	9,583	22,693
Deferred revenue	1,018,834	1,085,802
Short-term debt	177,040	205,000
Total current liabilities	1,456,555	1,714,946
Long-term accrued income taxes	37,394	39,562
Long-term deferred revenue	74,955	79,856
Long-term debt	142,500	—
Other long-term liabilities	228,165	210,855
Total liabilities	1,939,569	2,045,219
Stockholders' equity:		
Preferred stock, \$0.01 par value: 2,000 shares authorized; none outstanding	—	—
Common stock, \$0.01 par value: 400,000 shares authorized; 150,428 and 151,454 shares outstanding, respectively	1,505	1,515
Capital in excess of par value	1,640,036	1,644,675
Retained earnings	2,137,395	1,947,585
Treasury stock, at cost: 6,836 and 5,811 shares, respectively	(355,257)	(294,052)
Accumulated other comprehensive income (loss)	(98,994)	(104,577)
Total stockholders' equity	3,324,685	3,195,146
Total liabilities and stockholders' equity	<u>\$ 5,264,254</u>	<u>\$ 5,240,365</u>

* Derived from audited financial statements.

See accompanying notes to unaudited condensed consolidated financial statements.

SYNOPSYS, INC.

UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share amounts)

	Three Months Ended January 31,	
	2017	2016
Revenue:		
Time-based products	\$ 489,365	\$ 464,280
Upfront products	79,609	43,437
Maintenance and service	83,812	60,887
Total revenue	652,786	568,604
Cost of revenue:		
Products	96,971	76,393
Maintenance and service	37,303	22,525
Amortization of intangible assets	21,472	30,526
Total cost of revenue	155,746	129,444
Gross margin	497,040	439,160
Operating expenses:		
Research and development	212,648	196,705
Sales and marketing	126,511	122,620
General and administrative	40,866	39,697
Amortization of intangible assets	8,036	6,935
Restructuring charges	12,105	2,093
Total operating expenses	400,166	368,050
Operating income	96,874	71,110
Other income (expense), net	11,487	(6,768)
Income before income taxes	108,361	64,342
Provision (benefit) for income taxes	21,773	4,307
Net income	\$ 86,588	\$ 60,035
Net income per share:		
Basic	\$ 0.57	\$ 0.39
Diluted	\$ 0.56	\$ 0.39
Shares used in computing per share amounts:		
Basic	150,782	152,968
Diluted	154,433	155,283

See accompanying notes to unaudited condensed consolidated financial statements.

SYNOPSYS, INC.

UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in thousands)

	Three Months Ended January 31,	
	2017	2016
	(in thousands)	
Net income	\$ 86,588	\$ 60,035
Other comprehensive income (loss):		
Change in foreign currency translation adjustment	(4,661)	(14,455)
Changes in unrealized gains (losses) on available-for-sale securities, net of tax of \$0 for periods presented	(63)	(47)
Cash flow hedges:		
Deferred gains (losses), net of tax of \$(681) and \$3,652, respectively	6,453	(12,634)
Reclassification adjustment on deferred (gains) losses included in net income, net of tax of \$(850) and \$(1,381), respectively	3,854	3,716
Other comprehensive income (loss), net of tax effects	5,583	(23,420)
Comprehensive income	<u>\$ 92,171</u>	<u>\$ 36,615</u>

See accompanying notes to unaudited condensed consolidated financial statements.

SYNOPSYS, INC.

UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Three Months Ended January 31,	
	2017	2016
Cash flows from operating activities:		
Net income	\$ 86,588	\$ 60,035
Adjustments to reconcile net income to net cash provided by (used in) operating activities:		
Amortization and depreciation	49,464	56,436
Stock compensation	25,834	23,013
Allowance for doubtful accounts	229	250
(Gain) loss on sale of investments	(1)	3
Write-down of long-term investments	1,300	—
Deferred income taxes	12,989	(3,955)
Net changes in operating assets and liabilities, net of acquired assets and liabilities:		
Accounts receivable	122,192	30,365
Prepaid and other current assets	(24,893)	(27,825)
Other long-term assets	(13,931)	9,008
Accounts payable and accrued liabilities	(129,316)	(145,229)
Income taxes	(14,201)	(5,174)
Deferred revenue	(69,372)	(32,097)
Net cash provided by (used in) operating activities	46,882	(35,170)
Cash flows from investing activities:		
Proceeds from sales and maturities of short-term investments	37,284	40,489
Purchases of short-term investments	(35,338)	(34,933)
Proceeds from sales of long-term investments	—	161
Purchases of property and equipment	(18,178)	(15,337)
Cash paid for acquisitions and intangible assets, net of cash acquired	(187,624)	(18,941)
Capitalization of software development costs	(1,033)	(920)
Other	2,100	—
Net cash used in investing activities	(202,789)	(29,481)
Cash flows from financing activities:		
Proceeds from credit facility and term loan	150,000	30,000
Repayment of debt	(35,000)	(7,500)
Issuances of common stock	7,205	1,486
Payments for taxes related to net share settlement of equity awards	(6,887)	(5,211)
Purchase of equity forward contract	(20,000)	(40,000)
Purchases of treasury stock	(80,000)	(160,000)
Other	559	(1,030)
Net cash provided by (used in) financing activities	15,877	(182,255)
Effect of exchange rate changes on cash and cash equivalents	(8,881)	(6,296)
Net change in cash and cash equivalents	(148,911)	(253,202)
Cash and cash equivalents, beginning of year	976,620	836,188
Cash and cash equivalents, end of period	\$ 827,709	\$ 582,986

See accompanying notes to unaudited condensed consolidated financial statements.

SYNOPSYS, INC.

NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

Note 1. Description of Business

Synopsys, Inc. (Synopsys or the Company) provides software, intellectual property and services used by designers across the entire silicon to software spectrum, from engineers creating advanced semiconductors to software developers ensuring the quality and security of their applications. The Company is a global leader in supplying the electronic design automation (EDA) software that engineers use to design and test integrated circuits (ICs), also known as chips. The Company also offers intellectual property (IP) products, which are pre-designed circuits that engineers use as components of larger chip designs rather than design those circuits themselves. The Company provides software and hardware used to develop the electronic systems that incorporate chips and the software that runs on them. To complement these offerings, the Company provides technical services and support to help its customers develop advanced chips and electronic systems. The Company is also a leading provider of software tools and services that improve the quality and security of software code in a wide variety of industries, including electronics, financial services, energy, industrials, and automotive.

Note 2. Summary of Significant Accounting Policies

The Company has prepared the accompanying unaudited condensed consolidated financial statements pursuant to the rules and regulations of the Securities and Exchange Commission (SEC). Pursuant to these rules and regulations, the Company has condensed or omitted certain information and footnote disclosures it normally includes in its annual consolidated financial statements prepared in accordance with U.S. generally accepted accounting principles (U.S. GAAP). In management's opinion, the Company has made all adjustments (consisting only of normal, recurring adjustments, except as otherwise indicated) necessary to fairly present its unaudited condensed consolidated balance sheets, results of operations, comprehensive income and cash flows. The Company's interim period operating results do not necessarily indicate the results that may be expected for any other interim period or for the full fiscal year. These financial statements and accompanying notes should be read in conjunction with the consolidated financial statements and notes thereto in Synopsys' Annual Report on Form 10-K for the fiscal year ended October 31, 2016 as filed with the SEC on December 12, 2016.

Use of Estimates. To prepare financial statements in conformity with U.S. GAAP, management must make estimates and assumptions that affect the amounts reported in the unaudited condensed consolidated financial statements and accompanying notes. Actual results could differ from these estimates and may result in material effects on the Company's operating results and financial position.

Principles of Consolidation. The unaudited condensed consolidated financial statements include the accounts of the Company and all of its subsidiaries. All significant intercompany accounts and transactions have been eliminated.

Fiscal Year End. The Company's fiscal year ends on the Saturday nearest to October 31 and consists of 52 weeks, with the exception that approximately every five years, the Company has a 53-week year. Fiscal 2017 and 2016 are both 52-week years. The first fiscal quarters of fiscal 2017 and 2016 ended on January 28, 2017 and January 30, 2016, respectively, and the prior fiscal year ended on October 29, 2016. For presentation purposes, the unaudited condensed consolidated financial statements and accompanying notes refer to the closest calendar month end.

Note 3. Business Combinations

During the three months ended January 31, 2017, the Company completed acquisitions with an aggregate total purchase consideration of \$188.1 million, net of cash acquired. The Company assumed unvested stock options with a fair value of \$4.4 million using the Black-Scholes option-pricing model and will expense the options over their remaining service periods on a straight-line basis. The Company does not consider these acquisitions to be material, individually or in the aggregate, to the Company's consolidated financial statements. The preliminary purchase price allocations resulted in \$132.9 million of goodwill, of which \$11.9 million is deductible for tax purposes, and \$64.9 million of acquired identifiable intangible assets valued using the income or cost methods. The intangible assets are being amortized over their respective useful lives ranging from one to seven years. The acquisition-related costs for these acquisitions totaling \$3.1 million were expensed as incurred in the unaudited condensed consolidated statement of operations. The Company funded the acquisitions with existing cash and debt.

The preliminary fair value estimates for the assets acquired and liabilities assumed for all fiscal 2017 acquisitions are not yet finalized and may change as additional information becomes available during the respective

measurement periods. The primary areas of those preliminary estimates relate to certain tangible assets and liabilities, identifiable intangible assets, and income taxes. Additional information, which existed as of the acquisition date but is yet unknown to the Company, may become known to the Company during the remainder of the measurement period, a period not to exceed 12 months from the acquisition date. Changes to the provisional amounts recorded as assets or liabilities during the measurement period may result in an adjustment to goodwill.

Note 4. Goodwill and Intangible Assets

Goodwill as of January 31, 2017 and October 31, 2016 consisted of the following:

	(in thousands)
As of October 31, 2016	\$ 2,518,245
Additions	132,892
Adjustments(1)	—
Effect of foreign currency translation	1,120
As of January 31, 2017	<u>\$ 2,652,257</u>

- (1) Adjustments relate to changes in estimates for acquisitions that closed in the prior fiscal year for which the purchase price allocation was finalized during the reporting period.

Intangible assets as of January 31, 2017 consisted of the following:

	Gross Assets	Accumulated Amortization (in thousands)	Net Assets
Core/developed technology	\$ 622,954	\$ 479,000	\$ 143,954
Customer relationships	276,625	146,731	129,894
Contract rights intangible	173,249	164,730	8,519
Trademarks and trade names	25,129	14,763	10,366
In-process research and development (IPR&D)(2)	4,600	—	4,600
Capitalized software development costs	30,675	26,086	4,589
Total	<u>\$ 1,133,232</u>	<u>\$ 831,310</u>	<u>\$ 301,922</u>

- (2) IPR&D is reclassified to core/developed technology upon completion or is written off upon abandonment.

Intangible assets as of October 31, 2016 consisted of the following:

	Gross Assets	Accumulated Amortization (in thousands)	Net Assets
Core/developed technology	\$ 610,812	\$ 460,722	\$ 150,090
Customer relationships	235,997	139,932	96,065
Contract rights intangible	171,248	162,183	9,065
Trademarks and trade names	20,729	13,821	6,908
Capitalized software development costs	29,642	25,109	4,533
Total	<u>\$ 1,068,428</u>	<u>\$ 801,767</u>	<u>\$ 266,661</u>

Amortization expense related to intangible assets consisted of the following:

	Three Months Ended January 31,	
	2017	2016
	(in thousands)	
Core/developed technology	\$ 18,283	\$ 22,256
Customer relationships	6,892	6,193
Contract rights intangible	3,392	8,221
Trademarks and trade names	941	791
Capitalized software development costs(3)	977	915
Total	<u>\$ 30,485</u>	<u>\$ 38,376</u>

- (3) Amortization of capitalized software development costs is included in cost of products revenue in the unaudited condensed consolidated statements of operations.

The following table presents the estimated future amortization of the existing intangible assets:

Fiscal Year	(in thousands)
Remainder of fiscal 2017	\$ 80,057
2018	81,585
2019	56,668
2020	39,470
2021	21,332
2022 and thereafter	18,210
IPR&D(4)	4,600
Total	<u>\$ 301,922</u>

- (4) IPR&D assets are amortized over their useful lives upon completion or written off upon abandonment.

Note 5. Financial Assets and Liabilities

Cash equivalents and short-term investments. The Company classifies time deposits and other investments with maturities less than three months as cash equivalents. Debt securities and other investments with maturities longer than three months are classified as short-term investments. The Company's investments generally have a term of less than three years and are classified as available-for-sale carried at fair value, with unrealized gains and losses included in the unaudited condensed consolidated balance sheets as a component of accumulated other comprehensive income (loss), net of tax. Those unrealized gains or losses deemed other than temporary are reflected in other income (expense), net. The cost of securities sold is based on the specific identification method and realized gains and losses are included in other income (expense), net.

[Table of Contents](#)

As of January 31, 2017, the balances of our available-for-sale securities are:

	Cost	Gross Unrealized Gains	Gross Unrealized Losses Less Than 12 Months	Gross Unrealized Losses 12 Months or Longer	Estimated Fair Value(1)
			(in thousands)		
Cash equivalents:					
Money market funds	\$ 188,002	\$ —	\$ —	\$ —	\$ 188,002
Commercial paper	2,849	—	—	—	2,849
Total:	<u>\$ 190,851</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 190,851</u>
Short-term investments:					
U.S. government agency securities	\$ 12,305	\$ —	\$ (25)	\$ —	\$ 12,280
Certificates of deposit	20,963	—	—	—	20,963
Commercial paper	24,831	1	—	—	24,832
Corporate debt securities	53,806	29	(36)	—	53,799
Asset-backed securities	18,978	7	(18)	—	18,967
Non-U.S. government agency securities	3,401	—	(1)	—	3,400
Other	4,407	—	—	—	4,407
Total:	<u>\$ 138,691</u>	<u>\$ 37</u>	<u>\$ (80)</u>	<u>\$ —</u>	<u>\$ 138,648</u>

- (1) See Note 6. *Fair Value Measures* for further discussion on fair values of cash equivalents and short-term investments.

As of October 31, 2016, the balances of our available-for-sale securities are:

	Cost	Gross Unrealized Gains	Gross Unrealized Losses Less Than 12 Continuous Months	Gross Unrealized Losses 12 Continuous Months or Longer	Estimated Fair Value(1)
	(in thousands)				
Cash equivalents:					
Money market funds	\$ 499,274	\$ —	\$ —	\$ —	\$ 499,274
Commercial paper	1,498	—	—	—	1,498
Certificates of deposit	4,200	—	—	—	4,200
Total:	<u>\$ 504,972</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 504,972</u>
Short-term investments:					
U.S. government agency securities	\$ 13,607	\$ 4	\$ (8)	\$ —	\$ 13,603
Certificates of deposit	12,849	—	—	—	12,849
Commercial paper	25,430	1	—	—	25,431
Corporate debt securities	58,753	43	(18)	—	58,778
Asset-backed securities	22,146	12	(12)	—	22,146
Non-U.S. government agency securities	3,403	—	(3)	—	3,400
Other	4,488	—	—	—	4,488
Total:	<u>\$ 140,676</u>	<u>\$ 60</u>	<u>\$ (41)</u>	<u>\$ —</u>	<u>\$ 140,695</u>

(1) See Note 6. *Fair Value Measures* for further discussion on fair values of cash equivalents and short-term investments.

As of January 31, 2017, the stated maturities of the Company's available-for-sale securities are:

	Amortized Cost	Fair Value
	(in thousands)	
Due in 1 year or less	\$ 95,126	\$ 95,115
Due in 2-5 years	43,372	43,340
Due in 6-10 years	193	193
Total	\$ 138,691	\$ 138,648

Non-marketable equity securities. The Company's strategic investment portfolio consists of non-marketable equity securities in privately-held companies. The securities accounted for under cost method investments are reported at cost net of impairment losses. Securities accounted for under equity method investments are recorded at cost plus the proportional share of the issuers' income or loss, which is recorded in the Company's other income (expense), net. The cost basis of securities sold is based on the specific identification method. Refer to Note 6. *Fair Value Measures*.

Derivatives. The Company recognizes derivative instruments as either assets or liabilities in the unaudited condensed consolidated financial statements at fair value and provides qualitative and quantitative disclosures about such derivatives. The Company operates internationally and is exposed to potentially adverse movements in foreign currency exchange rates. The Company enters into hedges in the form of foreign currency forward contracts to reduce its exposure to foreign currency rate changes on non-functional currency denominated forecasted transactions and balance sheet positions including: (1) certain assets and liabilities, (2) shipments forecasted to

occur within approximately one month, (3) future billings and revenue on previously shipped orders, and (4) certain future intercompany invoices denominated in foreign currencies.

The duration of forward contracts ranges from approximately one month to 22 months, the majority of which are short-term. The Company does not use foreign currency forward contracts for speculative or trading purposes. The Company enters into foreign exchange forward contracts with high credit quality financial institutions that are rated 'A' or above and to date has not experienced nonperformance by counterparties. Further, the Company anticipates continued performance by all counterparties to such agreements.

The assets or liabilities associated with the forward contracts are recorded at fair value in other current assets or accrued liabilities in the unaudited condensed consolidated balance sheets. The accounting for gains and losses resulting from changes in fair value depends on the use of the foreign currency forward contract and whether it is designated and qualifies for hedge accounting.

Cash Flow Hedging Activities

Certain foreign exchange forward contracts are designated and qualify as cash flow hedges. These contracts have durations of approximately 22 months or less. Certain forward contracts are rolled over periodically to capture the full length of exposure to the Company's foreign currency risk, which can be up to three years. To receive hedge accounting treatment, all hedging relationships are formally documented at the inception of the hedge, and the hedges must be highly effective in offsetting changes to future cash flows on the hedged transactions. The effective portion of gains or losses resulting from changes in fair value of these hedges is initially reported, net of tax, as a component of other comprehensive income (OCI) in stockholders' equity and reclassified into revenue or operating expenses, as appropriate, at the time the hedged transactions affect earnings. The Company expects a majority of the hedge balance in OCI to be reclassified to the statements of operations within the next 12 months.

Hedging effectiveness is evaluated monthly using spot rates, with any gain or loss caused by hedging ineffectiveness recorded in other income (expense), net. The premium/discount component of the forward contracts is recorded to other income (expense), net, and is not included in evaluating hedging effectiveness.

Non-designated Hedging Activities

The Company's foreign exchange forward contracts that are used to hedge non-functional currency denominated balance sheet assets and liabilities are not designated as hedging instruments. Accordingly, any gains or losses from changes in the fair value of the forward contracts are recorded in other income (expense), net. The gains and losses on these forward contracts generally offset the gains and losses associated with the underlying assets and liabilities, which are also recorded in other income (expense), net. The duration of the forward contracts for hedging the Company's balance sheet exposure is approximately one month.

The Company also has certain foreign exchange forward contracts for hedging certain international revenues and expenses that are not designated as hedging instruments. Accordingly, any gains or losses from changes in the fair value of the forward contracts are recorded in other income (expense), net. The gains and losses on these forward contracts generally offset the gains and losses associated with the foreign currency in operating income. The duration of these forward contracts is usually less than one year. The overall goal of the Company's hedging program is to minimize the impact of currency fluctuations on its net income over its fiscal year.

The effects of the changes in the fair values of non-designated forward contracts are summarized as follows:

	Three Months Ended January 31,	
	2017	2016
	(in thousands)	
Gain (loss) recorded in other income (expense), net	\$ 59	\$ (3,763)

[Table of Contents](#)

The notional amounts in the table below for derivative instruments provide one measure of the transaction volume outstanding:

	As of January 31, 2017	As of October 31, 2016
	(in thousands)	
Total gross notional amount	\$ 702,768	\$ 758,246
Net fair value	\$ 418	\$ (15,358)

The notional amounts for derivative instruments do not represent the amount of the Company's exposure to market gain or loss. The Company's exposure to market gain or loss will vary over time as a function of currency exchange rates. The amounts ultimately realized upon settlement of these financial instruments, together with the gains and losses on the underlying exposures, will depend on actual market conditions during the remaining life of the instruments.

The following represents the unaudited condensed consolidated balance sheet location and amount of derivative instrument fair values segregated between designated and non-designated hedge instruments:

	Fair values of derivative instruments designated as hedging instruments	Fair values of derivative instruments not designated as hedging instruments
	(in thousands)	
As of January 31, 2017		
Other current assets	\$ 9,329	\$ 1,543
Accrued liabilities	\$ 10,389	\$ 66
As of October 31, 2016		
Other current assets	\$ 4,625	\$ 27
Accrued liabilities	\$ 19,910	\$ 101

The following table represents the unaudited condensed consolidated statement of operations location and amount of gains and losses on derivative instrument fair values for designated hedge instruments, net of tax:

	Location of gain (loss) recognized in OCI on derivatives	Amount of gain (loss) recognized in OCI on derivatives (effective portion)	Location of gain (loss) reclassified from OCI	Amount of gain (loss) reclassified from OCI (effective portion)
		(in thousands)		
Three months ended January 31, 2017				
Foreign exchange contracts	Revenue	\$ 8,604	Revenue	\$ (1,753)
Foreign exchange contracts	Operating expenses	(2,059)	Operating expenses	(2,101)
Total		\$ 6,545		\$ (3,854)
Three months ended January 31, 2016				
Foreign exchange contracts	Revenue	\$ (1,491)	Revenue	\$ 212
Foreign exchange contracts	Operating expenses	(11,268)	Operating expenses	(3,928)
Total		\$ (12,759)		\$ (3,716)

Table of Contents

The following table represents the ineffective portions and portions excluded from effectiveness testing of the hedge gains (losses) for derivative instruments designated as hedging instruments, which are recorded in other income (expense), net:

	Amount of gain (loss) recognized in statement of operations on derivatives (ineffective portion)(1)	Amount of gain (loss) recognized in statement of operations on derivatives (excluded from effectiveness testing)(2)
	(in thousands)	
Foreign exchange contracts		
For the three months ended January 31, 2017	\$ 168	\$ 1,118
For the three months ended January 31, 2016	\$ 254	\$ 1,402

(1) The ineffective portion includes forecast inaccuracies.

(2) The portion excluded from effectiveness testing includes the discount earned or premium paid for the contracts.

Note 6. Fair Value Measures

Accounting Standards Codification (ASC) 820-10, *Fair Value Measurements and Disclosures*, defines fair value, establishes guidelines and enhances disclosure requirements for fair value measurements. The accounting guidance requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The accounting guidance also establishes a fair value hierarchy based on the independence of the source and objective evidence of the inputs used. There are three fair value hierarchies based upon the level of inputs that are significant to fair value measurement:

Level 1—Observable inputs that reflect quoted prices (unadjusted) for identical instruments in active markets;

Level 2—Observable inputs other than quoted prices included in Level 1 for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-driven valuations in which all significant inputs and significant value drivers are observable in active markets; and

Level 3—Unobservable inputs to the valuation derived from fair valuation techniques in which one or more significant inputs or significant value drivers are unobservable.

On a recurring basis, the Company measures the fair value of certain of its assets and liabilities, which include cash equivalents, short-term investments, non-qualified deferred compensation plan assets, and foreign currency derivative contracts.

The Company's cash equivalents and short-term investments are classified within Level 1 or Level 2 because they are valued using quoted market prices in an active market or alternative independent pricing sources and models utilizing market observable inputs.

The Company's non-qualified deferred compensation plan assets consist of money market and mutual funds invested in domestic and international marketable securities that are directly observable in active markets and are therefore classified within Level 1.

The Company's foreign currency derivative contracts are classified within Level 2 because these contracts are not actively traded and the valuation inputs are based on quoted prices and market observable data of similar instruments.

The Company's borrowings under its credit and term loan facilities are classified within Level 2 because these borrowings are not actively traded and have a variable interest rate structure based upon market rates currently available to the Company for debt with similar terms and maturities. Refer to *Note 8. Credit Facility*.

Assets and Liabilities Measured at Fair Value on a Recurring Basis

Assets and liabilities measured at fair value on a recurring basis are summarized below as of January 31, 2017:

Description	Total	Fair Value Measurement Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
		(in thousands)		
Assets				
Cash equivalents:				
Money market funds	\$ 188,002	\$ 188,002	\$ —	\$ —
Commercial paper	2,849	—	2,849	—
Short-term investments:				
U.S. government agency securities	12,280	—	12,280	—
Certificates of deposit	20,963	—	20,963	—
Commercial paper	24,832	—	24,832	—
Corporate debt securities	53,799	—	53,799	—
Asset-backed securities	18,967	—	18,967	—
Non-U.S. government agency securities	3,400	—	3,400	—
Other	4,407	4,407	—	—
Prepaid and other current assets:				
Foreign currency derivative contracts	10,872	—	10,872	—
Other long-term assets:				
Deferred compensation plan assets	177,393	177,393	—	—
Total assets	\$ 517,764	\$ 369,802	\$ 147,962	\$ —
Liabilities				
Accounts payable and accrued liabilities:				
Foreign currency derivative contracts	\$ 10,454	\$ —	\$ 10,454	\$ —
Other long-term assets:				
Deferred compensation plan liabilities	177,393	177,393	—	—
Total liabilities	\$ 187,847	\$ 177,393	\$ 10,454	\$ —

Table of Contents

Assets and liabilities measured at fair value on a recurring basis are summarized below as of October 31, 2016:

Description	Total	Fair Value Measurement Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
		(in thousands)		
Assets				
Cash equivalents:				
Money market funds	\$ 499,274	\$ 499,274	\$ —	\$ —
Commercial paper	1,498	—	1,498	—
Certificates of deposit	4,200	—	4,200	—
Short-term investments:				
U.S. government agency securities	13,603	—	13,603	—
Certificates of deposit	12,849	—	12,849	—
Commercial paper	25,431	—	25,431	—
Corporate debt securities	58,778	—	58,778	—
Asset-backed securities	22,146	—	22,146	—
Non-U.S. government agency securities	3,400	—	3,400	—
Other	4,488	4,488	—	—
Prepaid and other current assets:				
Foreign currency derivative contracts	4,652	—	4,652	—
Other long-term assets:				
Deferred compensation plan assets	163,185	163,185	—	—
Total assets	\$ 813,504	\$ 666,947	\$ 146,557	\$ —
Liabilities				
Accounts payable and accrued liabilities:				
Foreign currency derivative contracts	\$ 20,010	\$ —	\$ 20,010	\$ —
Other long-term liabilities:				
Deferred compensation plan liabilities	163,185	163,185	—	—
Total liabilities	\$ 183,195	\$ 163,185	\$ 20,010	\$ —

Assets/Liabilities Measured at Fair Value on a Non-Recurring Basis

Non-Marketable Equity Securities

Equity investments in privately-held companies, also called non-marketable equity securities, are accounted for using either the cost or equity method of accounting.

The non-marketable equity securities are measured and recorded at fair value when an event or circumstance which impacts the fair value of these securities indicates an other-than-temporary decline in value has occurred. In such events, these equity investments would be classified within Level 3 as they are valued using significant unobservable inputs or data in an inactive market, and the valuation requires management judgment due to the absence of market price and inherent lack of liquidity. The Company monitors these investments and generally uses the income approach to assess impairments based primarily on the financial conditions of these companies.

The Company recorded \$1.3 million of other-than-temporary impairment during the three months ended January 31, 2017 and did not recognize any impairment during the three months ended January 31, 2016.

[Table of Contents](#)

The following table presents the non-marketable equity securities that were measured and recorded at fair value within other long-term assets on a non-recurring basis and the loss recorded in other income (expense), net.

	Balance as of January 31, 2017	Significant Unobservable Inputs (Level 3) (in thousands)	Total (losses) during three months ended January 31, 2017
Non-marketable equity securities	\$ —	\$ —	\$ (1,300)

Note 7. Liabilities and Restructuring Charges

During the three months ended January 31, 2017, the Company initiated a restructuring plan as part of a business reorganization. Total charges under this plan are expected to be \$15 million to \$16 million consisting of severance and benefits. The Company recorded \$12.1 million of these charges in the first quarter of fiscal 2017 and expects to record the remaining balance in the second quarter of fiscal 2017. Payments of these restructuring charges are anticipated to be completed in fiscal 2017.

During fiscal 2016, the Company recorded \$9.6 million of restructuring charges (the 2016 Restructuring Plans) for severance and benefits due to involuntary employee terminations, of which \$3.9 million was paid in fiscal 2016. As of October 31, 2016, there was a \$5.7 million outstanding balance remaining in accounts payable and accrued liabilities as payroll and related benefits in the consolidated balance sheets. An immaterial balance under the 2016 Restructuring Plans remains unpaid as of January 31, 2017 and the Company does not expect to incur any additional costs as part of the 2016 Restructuring Plans.

The following is a summary of restructuring activities during the three months ended January 31, 2017:

	(in thousands)
Liability as of October 31, 2016	\$ 5,679
Restructuring costs incurred	12,105
Cash payments	(4,899)
As of January 31, 2017(1)	<u>\$ 12,885</u>

(1) Outstanding balance recorded in accounts payable and accrued liabilities as payroll and related benefits.

Accounts payable and accrued liabilities consist of:

	January 31, 2017	October 31, 2016
	(in thousands)	
Payroll and related benefits	\$ 176,512	\$ 321,430
Other accrued liabilities	50,770	66,276
Accounts payable	23,816	13,745
Total	<u>\$ 251,098</u>	<u>\$ 401,451</u>

Other long-term liabilities consist of:

	January 31, 2017	October 31, 2016
	(in thousands)	
Deferred compensation liability	\$ 177,393	\$ 163,185
Other long-term liabilities	50,772	47,670
Total	<u>\$ 228,165</u>	<u>\$ 210,855</u>

Note 8. Credit Facility

On November 28, 2016, the Company entered into an amended and restated credit agreement with several lenders (the Credit Agreement) providing for (i) a \$650.0 million senior unsecured revolving credit facility (the Revolver) and (ii) a \$150.0 million senior unsecured term loan facility (the Term Loan). The Credit Agreement amended and

restated the Company's previous credit agreement dated May 19, 2015 (the 2015 Agreement), in order to increase the size of the revolving credit facility from \$500.0 million to \$650.0 million, provide a new \$150.0 million senior unsecured term loan facility, and to extend the termination date of the revolving credit facility from May 19, 2020 to November 28, 2021. Subject to obtaining additional commitments from lenders, the principal amount of the loans provided under the Credit Agreement may be increased by the Company by up to an additional \$150.0 million. The Credit Agreement contains financial covenants requiring the Company to operate within a maximum leverage ratio and a minimum interest coverage ratio, as well as other non-financial covenants. As of January 31, 2017, the Company was in compliance with all financial covenants.

During the first quarter of fiscal 2017, the Company received funding of \$150.0 million under the Term Loan. Principal payments under the Term Loan are due as follows:

<u>Fiscal year</u>	<u>(in thousands)</u>
2017	\$ 5,625
2018	10,313
2019	14,062
2020	17,813
2021	27,187
2022	75,000
Total	<u>\$ 150,000</u>

As of January 31, 2017, the Company had a \$149.5 million outstanding balance, net of an immaterial amount of debt issuance costs, under the Term Loan, of which \$142.5 million is classified as long-term liabilities, and a \$170.0 million outstanding balance under the Revolver, all of which are considered short-term liabilities. As of October 31, 2016, the Company had no outstanding balance under the previous term loan from the 2015 Agreement and a \$205.0 million outstanding balance under the previous revolver from the 2015 Agreement, which are considered short-term liabilities. The Company expects its borrowings under the Revolver will fluctuate from quarter to quarter. Borrowings bear interest at a floating rate based on a margin over the Company's choice of market observable base rates as defined in the Credit Agreement. As of January 31, 2017, borrowings under the Term Loan bore interest at LIBOR +1.125% and the applicable interest rate for the Revolver was LIBOR +1.000%. In addition, commitment fees are payable on the Revolver at rates between 0.125% and 0.200% per year based on the Company's leverage ratio on the daily amount of the revolving commitment.

The carrying amount of the short-term and long-term debt approximates the estimated fair value. These borrowings under the Credit Agreement have a variable interest rate structure and are classified within Level 2 of the fair value hierarchy.

Note 9. Accumulated Other Comprehensive Income (Loss)

Components of accumulated other comprehensive income (loss), on an after-tax basis where applicable, were as follows:

	<u>January 31, 2017</u>	<u>October 31, 2016</u>
	<u>(in thousands)</u>	
Cumulative currency translation adjustments	\$ (89,361)	\$ (84,700)
Unrealized gain (loss) on derivative instruments, net of taxes	(9,589)	(19,896)
Unrealized gain (loss) on available-for-sale securities, net of taxes	(44)	19
Total accumulated other comprehensive income (loss)	<u>\$ (98,994)</u>	<u>\$ (104,577)</u>

The effect of amounts reclassified out of each component of accumulated other comprehensive income (loss) into net income was as follows:

	Three Months Ended January 31,	
	2017	2016
	(in thousands)	
Reclassifications from accumulated other comprehensive income (loss) into unaudited condensed consolidated statement of operations:		
Gain (loss) on cash flow hedges, net of taxes		
Revenues	\$ (1,753)	\$ 212
Operating expenses	(2,101)	(3,928)
Gain (loss) on available-for-sale securities		
Other income (expense)	\$ 1	(3)
Total reclassifications into net income	\$ (3,853)	\$ (3,719)

Note 10. Stock Repurchase Program

The Company's Board of Directors (the Board) previously approved a stock repurchase program pursuant to which the Company was authorized to purchase up to \$500.0 million of its common stock, and has periodically replenished the stock repurchase program to such amount. The Board replenished the stock repurchase program up to \$500.0 million on August 31, 2016. The program does not obligate Synopsys to acquire any particular amount of common stock, and the program may be suspended or terminated at any time by Synopsys' Chief Financial Officer or the Board. The Company repurchases shares to offset dilution caused by ongoing stock issuances from existing equity plans for equity compensation awards and issuances related to acquisitions, and when management believes it is a good use of cash. Repurchases are transacted in accordance with Rule 10b-18 of the Securities Exchange Act of 1934, as amended (the Exchange Act), and may be made through any means including, but not limited to, open market purchases, plans executed under Rule 10b5-1(c) of the Exchange Act and structured transactions. As of January 31, 2017, \$335.5 million remained available for further repurchases under the program.

In December 2016, the Company entered into an accelerated share repurchase agreement (the December 2016 ASR) to repurchase an aggregate of \$100.0 million of the Company's common stock. Pursuant to the December 2016 ASR, the Company made a prepayment of \$100.0 million and received initial share deliveries of shares valued at \$80.0 million. The remaining balance of \$20.0 million was settled in February 2017. Total shares purchased under the December 2016 ASR were approximately 1.7 million shares, at an average purchase price of \$60.53 per share.

Stock repurchase activities are as follow:

	Three Months Ended January 31,	
	2017	2016
	(in thousands)	
Total shares repurchased (1)	1,393	3,849
Total cost of the repurchased shares(1)	\$ 80,000	\$ 180,000
Reissuance of treasury stock	368	200

- (1) Does not include the 258,710 shares and \$20.0 million equity forward contract, respectively, from the December 2016 ASR settled in February 2017.

Note 11. Stock Compensation

The compensation cost recognized in the unaudited condensed consolidated statements of operations for the Company's stock compensation arrangements was as follows:

	Three Months Ended January 31,	
	2017	2016
	(in thousands)	
Cost of products	\$ 2,999	\$ 2,596
Cost of maintenance and service	861	579
Research and development expense	12,884	11,585
Sales and marketing expense	5,129	4,701
General and administrative expense	3,961	3,552
Stock compensation expense before taxes	25,834	23,013
Income tax benefit	(7,071)	(5,153)
Stock compensation expense after taxes	<u>\$ 18,763</u>	<u>\$ 17,860</u>

As of January 31, 2017, there was \$189.5 million of unamortized share-based compensation expense relating to options and restricted stock units and awards, which is expected to be amortized over a weighted-average period of approximately 2.6 years.

The intrinsic values of equity awards exercised during the periods are as follows:

	Three Months Ended January 31,	
	2017	2016
	(in thousands)	
Intrinsic value of awards exercised	\$ 6,287	\$ 1,274

In March 2016, the Financial Accounting Standards Board (FASB) issued ASU 2016-09, "Compensation-Stock Compensation (Topic 718), Improvements to Employee Share-Based Payment Accounting." The Company elected to early adopt ASU 2016-09 in the first quarter of fiscal 2017. As required by ASU 2016-09, excess tax benefits recognized on stock-based compensation expense are classified as an operating activity in the consolidated statements of cash flows and the Company has elected to apply this provision on a prospective basis. The Company also elected to account for forfeitures as they occur and recorded a one-time adoption expense of \$0.4 million to retained earnings. See *Note 15. Taxes* for additional information on tax impacts.

Note 12. Net Income per Share

The Company computes basic net income per share by dividing net income available to common stockholders by the weighted-average number of common shares outstanding during the period. Diluted net income per share reflects the dilution from potential common shares outstanding, such as stock options and unvested restricted stock units and awards, during the period using the treasury stock method.

[Table of Contents](#)

The table below reconciles the weighted-average common shares used to calculate basic net income per share with the weighted-average common shares used to calculate diluted net income per share:

	Three Months Ended January 31,	
	2017	2016
	(in thousands, except per share amounts)	
Numerator:		
Net income	\$ 86,588	\$ 60,035
Denominator:		
Weighted-average common shares for basic net income per share	150,782	152,968
Dilutive effect of potential common shares from equity-based compensation	3,651	2,315
Weighted-average common shares for diluted net income per share	154,433	155,283
Net income per share:		
Basic	\$ 0.57	\$ 0.39
Diluted	\$ 0.56	\$ 0.39
Anti-dilutive employee stock-based awards excluded(1)	492	2,441

- (1) These employee stock-based awards were anti-dilutive for the respective periods and are excluded in calculating diluted net income per share. While such awards were anti-dilutive for the respective periods, they could be dilutive in the future.

Note 13. Segment Disclosure

Certain disclosures are required for operating segments, products and services, geographic areas of operation and major customers. Segment reporting is based upon the “management approach,” i.e., how management organizes the Company’s operating segments for which separate financial information is (1) available and (2) evaluated regularly by the Chief Operating Decision Makers (CODMs) in deciding how to allocate resources and in assessing performance. Synopsys’ CODMs are the Company’s two Co-Chief Executive Officers.

The Company operates in a single segment to provide software products and consulting services primarily in the EDA software industry. In making operating decisions, the CODMs primarily consider consolidated financial information, accompanied by disaggregated information about revenues by geographic region. Specifically, the CODMs consider where individual “seats” or licenses to the Company’s products are located in allocating revenue to particular geographic areas. Revenue is defined as revenues from external customers. Goodwill is not allocated since the Company operates in one reportable operating segment. Revenues related to operations in the United States and other geographic areas were:

	Three Months Ended January 31,	
	2017	2016
	(in thousands)	
Revenue:		
United States	\$ 319,418	\$ 274,930
Europe	75,604	71,935
Japan	61,698	53,246
Asia-Pacific and Other	196,066	168,493
Consolidated	\$ 652,786	\$ 568,604

Geographic revenue data for multi-region, multi-product transactions reflect internal allocations and are therefore subject to certain assumptions and the Company’s methodology.

For the three months ended January 31, 2017 and 2016, one customer, including its subsidiaries, through multiple agreements accounted for greater than 10% of the Company’s total revenues.

Note 14. Other Income (Expense), net

The following table presents the components of other income (expense), net:

	Three Months Ended January 31,	
	2017	2016
	(in thousands)	
Interest income	\$ 1,233	\$ 580
Interest expense	(1,308)	(673)
Gain (loss) on assets related to executive deferred compensation plan	7,781	(9,394)
Foreign currency exchange gain (loss)	3,222	580
Other, net	559	2,139
Total	<u>\$ 11,487</u>	<u>\$ (6,768)</u>

Note 15. Taxes
Effective Tax Rate

The Company estimates its annual effective tax rate at the end of each fiscal quarter. The effective tax rate takes into account the Company's estimations of annual pre-tax income, the geographic mix of pre-tax income and interpretations of tax laws and possible outcomes of audits.

The following table presents the provision (benefit) for income taxes and the effective tax rates:

	Three Months Ended January 31,	
	2017	2016
	(in thousands)	
Income before income taxes	\$ 108,361	\$ 64,342
Provision (benefit) for income taxes	\$ 21,773	\$ 4,307
Effective tax rate	20.1%	6.7%

The Company's effective tax rate for the three months ended January 31, 2017 is lower than the statutory federal income tax rate of 35% primarily due to lower taxes on certain earnings considered as indefinitely reinvested in foreign operations, U.S. federal and California research tax credits and excess tax benefits from stock-based compensation, partially offset by state taxes and the tax effect of non-deductible stock-based compensation and the integration of acquired technologies. The integration of acquired technologies represents the income tax effect resulting from the transfer of certain intangible assets among company-controlled entities.

The Company's effective tax rate increased in the three months ended January 31, 2017, as compared to the same period in fiscal 2016, primarily due to the permanent reinstatement of the U.S. federal research tax credit in the first quarter of fiscal 2016.

On December 18, 2015, the president signed into law the *Protecting Americans from Tax Hikes Act of 2015* which permanently reinstated the research tax credit retroactive to January 1, 2015. As a result of the new legislation, the Company recognized a benefit in the first quarter of fiscal 2016 related to ten months of fiscal 2015 and two months of fiscal 2016 as well as a benefit to the annual effective tax rate for ten months of fiscal 2016.

On July 27, 2015, the Tax Court issued an opinion (*Altera Corp. et al. v. Commissioner*) regarding the treatment of stock-based compensation expense in intercompany cost-sharing arrangements. The U.S. Treasury has not withdrawn the requirement to include stock-based compensation from its regulations and the IRS has initiated an appeal of the Tax Court's opinion. As the final resolution with respect to historical cost-sharing of stock-based compensation, and the potential favorable benefits to the Company, is unclear, the Company is recording no impact at this time and will continue to monitor developments related to this opinion and the potential impact of those developments on the Company's prior fiscal years. Effective February 1, 2016, the Company amended its cost-sharing arrangement to exclude stock-based compensation expense on a prospective basis and has reflected the corresponding benefits in its effective annual tax rate.

The Company's total gross unrecognized tax benefits as of January 31, 2017 are \$104.3 million exclusive of interest and penalties. If the total gross unrecognized tax benefits as of January 31, 2017 were recognized in the future, approximately \$99.6 million would decrease the effective tax rate.

The timing of the resolution of income tax examinations is highly uncertain as well as the amounts and timing of various tax payments that are part of the settlement process. This could cause large fluctuations in the balance sheet classification of current and non-current assets and liabilities. The Company believes that in the coming 12 months, it is reasonably possible that either certain audits will conclude or the statute of limitations on certain state and foreign income and withholding taxes will expire, or both. Given the uncertainty as to ultimate settlement terms, the timing of payment and the impact of such settlements on other uncertain tax positions, the range of the estimated potential decrease in underlying unrecognized tax benefits is between \$0 and \$12 million.

As discussed in Note 11, the Company adopted ASU 2016-09 in the first quarter of fiscal 2017. The Company recorded all income tax effects of share-based awards in its provision for income taxes in the condensed consolidated statement of operations on a prospective basis. Prior to adoption, the Company did not recognize excess tax benefits from stock-based compensation as a charge to capital in excess of par value to the extent that the related tax deduction did not reduce income taxes payable. Upon adoption of ASU 2016-09, the Company recorded a deferred tax asset of \$106.5 million for the previously unrecognized excess tax benefits with an offsetting adjustment to retained earnings. Adoption of the new standard resulted in net excess tax benefits in our provision for income taxes of \$3.0 million for the three months ended January 31, 2017.

State Examinations

In the first quarter of fiscal 2016, the Company reached final settlement with the California Franchise Tax Board for fiscal 2011, 2010 and 2009. As a result of the settlement, the Company reduced its deferred tax assets by \$4.9 million, recognized \$10.3 million in unrecognized tax benefits, and increased its valuation allowance by \$5.4 million.

Non-U.S. Examinations

In October 2016, the Hungarian Tax Authority (HTA) completed an audit of the Company's Hungary subsidiary (Synopsis Hungary) for fiscal years 2011 through 2013. The HTA has challenged certain of Synopsis Hungary's tax positions taken during these years, including the timing of deduction of certain research expenses and for withholding taxes on payments made to affiliates, resulting in a proposed aggregate tax assessment of approximately \$46 million. If the assessment is ultimately upheld, Synopsis Hungary could also be liable for additional interest and penalties of approximately \$19 million. While the ultimate outcome is not certain, the Company believes there is no merit to these assessments and intends to contest them. While the appeal could take several years, the Company believes that it will ultimately prevail against the positions taken by the HTA.

The Company is also under examination by the tax authorities in certain other jurisdictions, including the Republic of Korea. No assessments have been proposed in these examinations.

Note 16. Effect of New Accounting Pronouncements

In May 2014, the FASB issued Accounting Standards Update (ASU) 2014-09, "Revenue from Contracts with Customers (Topic 606)," which supersedes the revenue recognition requirements in "Revenue Recognition (Topic 605)." This ASU requires an entity to recognize revenue when goods are transferred or services are provided 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. This ASU also requires disclosures enabling users of financial statements to understand the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers.

In August 2015, the FASB issued ASU 2015-14, "Revenue from Contracts with Customers (Topic 606), Deferral of the Effective Date." With the issuance of ASU 2015-14, the new revenue guidance ASU 2014-09 will be effective for fiscal 2019, including interim periods within that reporting period, using one of two prescribed retrospective methods. In April 2016, the FASB issued ASU 2016-10, "Revenue from Contracts with Customer (Topic 606), Identifying Performance Obligations and Licensing." This ASU finalizes the amendments to the guidance on the new revenue standard on the identification of performance obligations and accounting for licenses of intellectual property. The Company is currently in the process of evaluating the impact of adoption on its consolidated financial statements and related disclosures.

In February 2016, the FASB issued ASU 2016-2, "Leases (Topic 842)," which supersedes the lease requirements in "Leases (Topic 840)." This ASU requires a lessee to recognize a right-of-use asset and a lease payment liability for most leases in the Consolidated Statement of Financial Position. This ASU also makes some changes to lessor accounting and aligns with the new revenue recognition guidance. This ASU will be effective for fiscal 2020,

including interim periods within that reporting period, and earlier adoption is permitted. The Company is currently in the process of evaluating the impact of adoption on its consolidated financial statements and related disclosures.

In October 2016, the FASB issued ASU 2016-16, "Income Taxes (Topic 740), Intra-Entity Transfers of Assets Other Than Inventory." This ASU requires the immediate recognition of current and deferred income tax effects of intra-entity transfers of assets other than inventory. This ASU will be effective for fiscal 2019, including interim periods within that reporting period, and earlier adoption is permitted. The Company is currently in the process of evaluating the impact of adoption on its consolidated financial statements.

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

This Quarterly Report on Form 10-Q, includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the Securities Act) and Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act), which are subject to the "safe harbor" created by those sections. Any statements herein that are not statements of historical fact may be deemed to be forward-looking statements. For example, words such as "may," "will," "could," "would," "can," "should," "anticipate," "expect," "intend," "believe," "estimate," "project," "continue," "forecast," or the negatives of such terms, and similar expressions intended to identify forward-looking statements. Without limiting the foregoing, forward-looking statements contained in this Quarterly Report on Form 10-Q include, but are not limited to, statements concerning expected growth in the semiconductor industry and the effects of industry and customer consolidation, our business outlook, our business model, our growth strategy, the ability of our prior acquisitions to drive revenue growth, the sufficiency of our cash, cash equivalents and short-term investments and cash generated from operations, our future liquidity requirements, and other statements that involve certain known and unknown risks, uncertainties and other factors that could cause our actual results, time frames or achievements to differ materially from those expressed or implied in our forward-looking statements. Such risks and uncertainties include, among others, those identified below in Part II, Item 1A. Risk Factors of this Quarterly Report on Form 10-Q. The information included herein represents our estimates and assumptions as of the date of this filing. Unless required by law, we undertake no obligation to update publicly any forward-looking statements, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future. All subsequent written or oral forward-looking statements attributable to Synopsys or persons acting on our behalf are expressly qualified in their entirety by these cautionary statements. Readers are urged to carefully review and consider the various disclosures made in this report and in other documents we file from time to time with the Securities and Exchange Commission (SEC) that attempt to advise interested parties of the risks and factors that may affect our business.

The following summary of our financial condition and results of operations should be read together with our unaudited condensed consolidated financial statements and the related notes thereto contained in Part I, Item 1 of this report and with our audited consolidated financial statements and the related notes thereto contained in our Annual Report on Form 10-K for the fiscal year ended October 31, 2016, as filed with the SEC on December 12, 2016.

Overview**Business Summary**

Synopsys, Inc. provides software, intellectual property, and services used by designers across the entire silicon to software spectrum, from engineers creating advanced semiconductors to software developers seeking to ensure the quality and security of their applications. We are a global leader in supplying the electronic design automation (EDA) software that engineers use to design and test ICs, also known as chips. We also offer intellectual property (IP) products, which are pre-designed circuits that engineers use as components of larger chip designs rather than design those circuits themselves. We provide software and hardware used to develop the electronic systems that incorporate chips and the software that runs on them. To complement these offerings, we provide technical services and support to help our customers develop advanced chips and electronic systems. We are also a leading provider of software tools and services that improve the quality and security of software code in a wide variety of industries, including electronics, financial services, energy, industrials, and automotive.

Our EDA and IP customers are generally semiconductor and electronics systems companies. Our solutions help these companies overcome the challenges of developing increasingly advanced electronics products while also helping them reduce their design and manufacturing costs. While our products are an important part of our customers' development process, their research and development budget and spending decisions may be affected by their business outlook and willingness to invest in new and increasingly complex chip designs. In addition, several consolidations have taken place in the semiconductor industry recently. While we do not believe customer consolidations have had a material impact on our results, the future impact is uncertain. For a discussion of potential risks, please see the risk factor titled "Consolidation among our customers and within the industries in which we operate, as well as our dependence on a relatively small number of large customers, may negatively impact our operating results." in Part I, Item 1A, *Risk Factors*.

Despite global economic uncertainty, we have maintained profitability and positive cash flow on an annual basis in recent years. We achieved these results not only because of our solid execution, leading technologies and strong customer relationships, but also because of our time-based revenue business model. Under this model, a substantial majority of our customers pay over time and we typically recognize this revenue over the life of the contract, which averages approximately three years. Time-based revenue, which consists of time-based products, maintenance and service revenue, represents approximately 90% of our total revenue. The revenue we recognize in a particular period generally results from selling efforts in prior periods rather than the current period. Due to our business model, decreases as well as increases in customer spending do not immediately affect our revenues in a significant way.

Our growth strategy is based on building on our leadership in our EDA products, expanding and proliferating our IP offerings, and driving growth in the software quality and security market. As we continue to expand our product portfolio and our total addressable market, for instance in the software quality and security space, and hardware grows, we may experience increased variability in our revenue, though we generally expect time-based revenue to continue to represent approximately 90% of our total revenue. Overall, our business outlook remains solid based on our leading technologies, customer relationships, business model, diligent expense management, and acquisition strategy. We believe that these factors will help us continue to execute our strategies successfully.

Financial Performance Summary

In the first quarter of fiscal 2017, compared to the same period of fiscal 2016:

- Revenues were \$652.8 million, an increase of \$84.2 million, or 15%, primarily driven by the overall growth in our business due to increases of hardware sales, TSL license revenues and IP consulting projects and to a lesser extent from acquisitions.
- Total costs and operating expenses were \$555.9 million, an increase of \$58.4 million, or 12%, primarily due to increases in headcount, including those from acquisitions, and higher product and consulting costs due to higher sales.
- Higher operating income of \$96.9 million, an increase of \$25.8 million or 36%.
- Our cash, cash equivalents and short-term investments were \$966.4 million as of January 31, 2017, of which 16% was in the U.S.

We expect to continue to derive approximately 90% of our revenue from time-based products, and maintenance and service revenue on an annual basis. During the three-month period ended January 31, 2017, 88% of our revenue was time-based.

New Accounting Pronouncements

See Note 16 of the *Notes to Unaudited Condensed Consolidated Financial Statements*.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial results under the heading “Results of Operations” below are based on our unaudited condensed consolidated financial statements, which we have prepared in accordance with U.S. GAAP. In preparing these financial statements, we make assumptions, judgments and estimates that can affect the reported amounts of assets, liabilities, revenues and expenses and net income. On an ongoing basis, we evaluate our estimates based on historical experience and various other assumptions we believe are reasonable under the circumstances. Our actual results may differ from these estimates.

The accounting policies that most frequently require us to make assumptions, judgments and estimates, and therefore are critical to understanding our results of operations, are:

- Revenue recognition;
- Valuation of business combinations;
- Valuation of intangible assets; and
- Income taxes.

Our critical accounting policies and estimates are discussed in Part II, Item 7. *Management’s Discussion and Analysis of Financial Condition and Results of Operations* of our Annual Report on Form 10-K for the fiscal year ended October 31, 2016, filed with the SEC on December 12, 2016.

Results of Operations

Revenue Background

We generate our revenue from the sale of products that include software licenses, maintenance and services, and to a lesser extent, hardware products. Software license revenue consists of fees associated with the licensing of our software. Maintenance and service revenue consists of maintenance fees associated with perpetual licenses and professional services fees. Hardware revenue consists of sales of Field Programmable Gate Array (FPGA)-based emulation and prototyping products.

Most of our customer arrangements are complex, involving hundreds of products and various license rights, bundled with post-contract customer support and additional meaningful rights that provide a complete end-to-end solution to the customer. Throughout the contract, our customers are typically using a myriad of products to complete each phase of a chip design and are concurrently working on multiple chip designs, or projects, in different phases of the design. During this time, the customer looks to us to release state-of-the-art technology as we keep up with the pace of change, to address requested enhancements to our tools to meet customer specifications, to provide support at each stage of the customer's design, including the final manufacturing of the chip (the tape-out stage), and other important services.

With respect to software licenses, we utilize primarily two license types:

- *Technology Subscription Licenses (TSLs)*. TSLs are time-based licenses for a finite term, and generally provide the customer limited rights to receive, or to exchange certain quantities of licensed software for, unspecified future technology. The majority of our arrangements are TSLs due to the nature of the business and customer requirements. In addition to the licenses, the arrangements also include: post-contract customer support, which includes providing frequent updates and upgrades to maintain the utility of the software due to rapid changes in technology; other intertwined services such as multiple copies of the tools; assisting our customers in applying our technology in their development environment; and rights to remix licenses for other licenses.
- *Perpetual licenses*. Perpetual licenses continue as long as the customer renews maintenance plus an additional 20 years. Perpetual licenses do not provide the customer any rights to receive, or to exchange licensed software for, unspecified future technology. Customers purchase maintenance separately for the first year and may renew annually.

For the two software license types, we recognize revenue as follows:

- *TSLs*. We typically recognize revenue from TSL fees ratably over the term of the license period, or as customer installments become due and payable, whichever is later. Revenue attributable to TSLs is reported as "time-based products revenue" in the unaudited condensed consolidated statements of operations.
- *Perpetual licenses*. We recognize revenue from perpetual licenses in full upon shipment of the software if payment terms require the customer to pay at least 75% of the license fee and 100% of the maintenance fee within one year from shipment and all other revenue recognition criteria are met. Revenue attributable to these perpetual licenses is reported as "upfront products revenue" in the unaudited condensed consolidated statements of operations. For perpetual licenses in which less than 75% of the license fee and 100% of the maintenance fee is payable within one year from shipment, we recognize revenue as customer installments become due and payable. Such revenue is reported as "time-based products revenue" in the unaudited condensed consolidated statements of operations.

Under current accounting rules and policies, we recognize revenue from orders we receive for software licenses, services and hardware products at varying times.

- In most instances, we recognize revenue on a TSL software license order over the license term and on a term or perpetual software license order in the quarter in which the license is delivered. The weighted-average term of the TSLs and term licenses is typically three years, but varies from quarter to quarter due to the nature and timing of the arrangements entered into during the quarter. For the three months ended January 31, 2017 and 2016, the weighted-average license term was 2.8 and 3.7 years, respectively.
- Revenue on contracts requiring significant modification or development is accounted for using the percentage of completion method over the period of the development.

Table of Contents

- Revenue on hardware product orders is generally recognized in full at the time the product is shipped and when title is transferred.
- Contingent revenue is recognized if and when the event that removes the contingency occurs.
- Revenue on maintenance orders is recognized ratably over the maintenance period (normally one year).
- Revenue on professional services orders is generally recognized as the services are performed.
- Infrequently, we enter into certain license arrangements wherein licenses are provided for a finite term without any other services or rights, including rights to receive, or to exchange licensed software for, unspecified future technology. We recognize revenue from term licenses in full upon shipment of the software and when all other revenue recognition criteria are met.

Our revenue in any period is equal to the sum of our time-based products, upfront products, and maintenance and services for the period. We derive time-based products revenue largely from TSL orders received and delivered in prior quarters and to a smaller extent from contracts in which revenue is recognized as customer installments become due and payable and from contingent revenue arrangements. We derive upfront products revenue directly from term and perpetual license and hardware product orders mostly booked and shipped during the period. We derive maintenance revenue largely from maintenance orders received in prior periods since our maintenance orders generally yield revenue ratably over a term of one year. We also derive professional services revenue primarily from orders received in prior quarters, since we recognize revenue from professional services as those services are delivered and accepted or on percentage of completion for arrangements requiring significant modification of our software, and not when they are booked.

Our revenue is sensitive to the mix of TSLs and perpetual licenses delivered during a reporting period. A TSL order typically yields lower current quarter revenue but contributes to revenue in future periods. For example, a \$120,000 order for a three-year TSL delivered on the last day of a quarter typically generates no revenue in that quarter, but \$10,000 in each of the 12 succeeding quarters. Conversely, a \$120,000 order for perpetual licenses with greater than 75% of the license fee due within one year from shipment typically generates \$120,000 in revenue in the quarter the product is delivered, but no future revenue. Additionally, revenue in a particular quarter may also be impacted by perpetual licenses in which less than 75% of the license fees and 100% of the maintenance fees are payable within one year from shipment as the related revenue will be recognized as revenue in the period when customer payments become due and payable.

Most of our customer arrangements are complex, involving hundreds of products and various license rights, and our customers bargain with us over many aspects of these arrangements. For example, they often demand a broader portfolio of solutions, support and services and seek more favorable terms such as expanded license usage, future purchase rights and other unique rights at an overall lower total cost. No single factor typically drives our customers' buying decisions, and we compete on all fronts to serve customers in a highly competitive EDA market. Customers generally negotiate the total value of the arrangement rather than just unit pricing or volumes.

Total Revenue

	January 31,			
	2017	2016	\$ Change	% Change
	(dollars in millions)			
Three months ended	\$ 652.8	\$ 568.6	\$ 84.2	15%

Our revenue is subject to fluctuations, primarily due to customer requirements, including payment terms and the timing and value of contract renewals. For example, we experience variability in our revenue due to factors such as the timing of IP consulting projects, royalties, variability in hardware sales and certain contracts where revenue is recognized when customer installment payments are due. As revenue from hardware sales are recognized upfront, customer demand and timing requirements for such hardware may result in increased variability of our total revenue.

The increase in total revenue for the three months ended January 31, 2017 compared to the same period in fiscal 2016 was primarily attributable to the overall growth in our business mainly due to higher hardware sales, TSL license revenue from arrangements booked in prior periods, IP consulting projects and to a lesser extent due to revenue from acquired companies.

Time-Based Products Revenue

	January 31,		\$ Change	% Change
	2017	2016		
	(dollars in millions)			
Three months ended	\$ 489.4	\$ 464.3	\$ 25.1	5%
Percentage of total revenue	75%	82%		

The increase in time-based products revenue for the three months ended January 31, 2017 compared to the same period in fiscal 2016 was primarily attributable to an increase in TSL license revenue due to arrangements booked in prior periods.

Upfront Products Revenue

	January 31,		\$ Change	% Change
	2017	2016		
	(dollars in millions)			
Three months ended	\$ 79.6	\$ 43.4	\$ 36.2	83%
Percentage of total revenue	12%	8%		

Changes in upfront products revenue are generally attributable to normal fluctuations in customer requirements, which can drive the amount of upfront orders and revenue in any particular period.

The increase in upfront products revenue for the three months ended January 31, 2017 compared to the same period in fiscal 2016 was primarily attributable to an increase in the sale of hardware products.

As our sales of hardware products grow, upfront products revenue may increase, but we expect it to remain consistent with our business model, in which approximately 90% of our total revenue is attributable to time-based products, and maintenance and service revenue on an annual basis.

Maintenance and Service Revenue

	January 31,		\$ Change	% Change
	2017	2016		
	(dollars in millions)			
Three months ended				
Maintenance revenue	\$ 19.4	\$ 18.0	\$ 1.4	8 %
Professional services and other revenue	64.4	42.9	21.5	50 %
Total maintenance and service revenue	\$ 83.8	\$ 60.9	\$ 22.9	38 %
Percentage of total revenue	13%	11%		

Changes in maintenance revenue are generally attributable to timing of perpetual contracts and maintenance renewals. Maintenance revenue for the three months ended January 31, 2017 compared to the same period in fiscal 2016 was relatively flat.

The increase in professional services and other revenue for the three months ended January 31, 2017 compared to the same period in fiscal 2016 was primarily due to the timing of IP consulting projects that are accounted for using the percentage of completion method and contributions from acquisitions.

We expect our professional services revenues to increase in future periods as a result of recent acquisitions, but we do not expect the impact to be material to our total revenue.

Cost of Revenue

	January 31,			
	2017	2016	\$ Change	% Change
	(dollars in millions)			
Three months ended				
Cost of products revenue	\$ 97.0	\$ 76.4	\$ 20.6	27 %
Cost of maintenance and service revenue	37.2	22.5	14.7	65 %
Amortization of intangible assets	21.5	30.5	(9.0)	(30)%
Total	<u>\$ 155.7</u>	<u>\$ 129.4</u>	<u>\$ 26.3</u>	<u>20 %</u>
Percentage of total revenue	24%	23%		

We divide cost of revenue into three categories: cost of products revenue, cost of maintenance and service revenue, and amortization of intangible assets. We segregate expenses directly associated with consulting and training services from cost of products revenue associated with internal functions providing license delivery and post-customer contract support services. We then allocate these group costs between cost of products revenue and cost of maintenance and service revenue based on products and maintenance and service revenue reported.

Cost of products revenue. Cost of products revenue includes costs related to products sold and software licensed, allocated operating costs related to product support and distribution costs, royalties paid to third-party vendors, and the amortization of capitalized research and development costs associated with software products that had reached technological feasibility.

Cost of maintenance and service revenue. Cost of maintenance and service revenue includes operating costs related to maintaining the infrastructure necessary to operate our services and costs to deliver our consulting services, such as hotline and on-site support, production services and documentation of maintenance updates. We expect our cost of maintenance and service revenue to increase in future periods as a result of recent acquisitions, but we do not expect the impact to be material to our total cost of revenue.

Amortization of intangible assets. Amortization of intangible assets, which is recorded to cost of revenue and operating expenses, includes the amortization of core/developed technology, trademarks, trade names, customer relationships, covenants not to compete related to acquisitions and certain contract rights related to acquisitions.

The increase in cost of revenue for the three months ended January 31, 2017 compared to the same period in fiscal 2016 was primarily due to increases of \$14.8 million in personnel-related costs as a result of headcount increases, \$12.7 million in hardware product costs due to timing of shipments, and \$6.2 million in costs related to IP consulting revenue, which were partially offset by a decrease of \$9.0 million in amortization of intangible assets.

Changes in other cost of revenue categories for the above-mentioned periods were not individually material.

Operating Expenses

Research and Development

	January 31,			
	2017	2016	\$ Change	% Change
	(dollars in millions)			
Three months ended	\$ 212.6	\$ 196.7	\$ 15.9	8%
Percentage of total revenue	33%	35%		

The increase in research and development expenses for the three months ended January 31, 2017 compared to the same period in fiscal 2016 was primarily due to increases of \$14.9 million in personnel-related costs as a result of headcount increases, including those from acquisitions.

Changes in other research and development expense categories for the above-mentioned periods were not individually material.

Sales and Marketing

	January 31,		\$ Change	% Change
	2017	2016		
	(dollars in millions)			
Three months ended	\$ 126.5	\$ 122.6	\$ 3.9	3%
Percentage of total revenue	19%	22%		

The increase in sales and marketing expenses for the three months ended January 31, 2017 compared to the same period in fiscal 2016 was primarily due to an increase of \$9.0 million in personnel-related costs as a result of headcount increases, partially offset by \$6.4 million of lower variable compensation primarily based on timing of shipments.

Changes in other sales and marketing expense categories for the above-mentioned periods were not individually material.

General and Administrative

	January 31,		\$ Change	% Change
	2017	2016		
	(dollars in millions)			
Three months ended	\$ 40.9	\$ 39.7	\$ 1.2	3%
Percentage of total revenue	6%	7%		

General and administrative expenses for the three months ended January 31, 2017 compared to the same period in fiscal 2016 were relatively flat as increases of \$5.2 million in personnel-related costs, and \$2.3 million in facilities expenses, were offset by \$6.8 million of lower professional service costs.

Changes in other general and administrative expense categories for the above-mentioned periods were not individually material.

Amortization of Intangible Assets

	January 31,		\$ Change	% Change
	2017	2016		
	(dollars in millions)			
Three months ended				
Included in cost of revenue	\$ 21.5	\$ 30.5	\$ (9.0)	(30)%
Included in operating expenses	8.0	6.9	1.1	16 %
Total	\$ 29.5	\$ 37.4	\$ (7.9)	(21)%
Percentage of total revenue	5%	7%		

The decrease in amortization of intangible assets for the three months ended January 31, 2017 compared to the same period in fiscal 2016 was primarily due to intangible assets that were fully amortized, partially offset by additions of acquired intangible assets. See Note 4 of the *Notes to Unaudited Condensed Consolidated Financial Statements* for a schedule of future amortization amounts.

Restructuring Charges

During the three months ended January 31, 2017, our management approved, committed and initiated a restructuring plan as part of a business reorganization. Total charges under this plan are expected to be \$15 million to \$16 million consisting of severance and benefits. We recorded \$12.1 million of these charges in the first quarter of fiscal 2017 and expect to record the remaining balance in the second quarter of fiscal 2017. Payments of these restructuring charges are anticipated to be completed in fiscal 2017.

During the three months ended January 31, 2017 and 2016, we recorded \$12.1 million and \$2.1 million of restructuring charges, respectively. See Note 7 of the *Notes to Unaudited Condensed Consolidated Financial Statements* for additional information related to our restructuring charges.

Other Income (Expense), net

	January 31,			
	2017	2016	\$ Change	% Change
	(dollars in millions)			
Three months ended				
Interest income	\$ 1.2	\$ 0.6	\$ 0.6	100 %
Interest (expense)	(1.3)	(0.7)	(0.6)	86 %
Gain (loss) on assets related to executive deferred compensation plan	7.8	(9.4)	17.2	(183)%
Foreign currency exchange gain (loss)	3.2	0.6	2.6	433 %
Other, net	0.6	2.1	(1.5)	(71)%
Total	\$ 11.5	\$ (6.8)	\$ 18.3	(269)%

Other income (expense), net, for the three months ended January 31, 2017 was higher compared to the same period in fiscal 2016, primarily due to gains in the market value of our executive deferred compensation plan assets compared to a loss in the corresponding period.

Taxes

Our effective tax rate increased in the three months ended January 31, 2017, as compared to the same period in fiscal 2016, primarily due to the permanent reinstatement of the U.S. federal research tax credit in the first quarter of fiscal 2016. For further discussion of the provision for income taxes, see Note 15 of the *Notes to Unaudited Condensed Consolidated Financial Statements*.

Liquidity and Capital Resources

Our sources of cash, cash equivalents and short-term investments are funds generated from our business operations and funds that may be drawn down under our revolving credit and term loan facilities.

As of January 31, 2017, we held an aggregate of \$150.0 million in cash, cash equivalents and short-term investments in the United States and an aggregate of \$816.4 million in our foreign subsidiaries. Certain amounts held outside the U.S. could be repatriated to the U.S. (subject to local law restrictions), but under current U.S. tax law, could be subject to U.S. income taxes less applicable foreign tax credits. We have provided for the U.S. income tax liability on foreign earnings, except for foreign earnings that are considered indefinitely reinvested outside the U.S. However, in the event funds from foreign subsidiaries were needed to fund cash needs in the U.S. and if U.S. taxes have not already been previously accrued, we would be required to accrue and pay additional U.S. taxes in order to repatriate these funds.

The following sections discuss changes in our unaudited condensed consolidated balance sheets and statements of cash flows, and other commitments of our liquidity and capital resources during the three months ended January 31, 2017.

Cash, Cash Equivalents and Short-Term Investments

	January 31, 2017	October 31, 2016	\$ Change	% Change
	(dollars in millions)			
Cash and cash equivalents	\$ 827.7	\$ 976.6	\$ (148.9)	(15)%
Short-term investments	\$ 138.7	\$ 140.7	\$ (2.0)	(1)%
Total	\$ 966.4	\$ 1,117.3	\$ (150.9)	(14)%

Cash, cash equivalents and short-term investments decreased primarily due to cash used for acquisitions and intangible assets, stock repurchases under our accelerated stock repurchase agreement (the December 2016 ASR), purchases of property and equipment and repayment of debt. Cash used was partially offset by proceeds from our term loan facility and cash generated from our operations.

Cash Flows

	January 31,		\$ Change
	2017	2016	
	(dollars in millions)		
Three months ended			
Cash provided by (used in) operating activities	\$ 46.9	\$ (35.2)	\$ 82.1
Cash (used in) investing activities	(202.8)	(29.5)	(173.3)
Cash provided by (used in) by financing activities	15.9	(182.3)	198.2

We expect cash from our operating activities to fluctuate as a result of a number of factors, including the timing of our billings and collections, our operating results, and the timing and amount of tax and other liability payments. Cash provided by or used in our operations is dependent primarily upon the payment terms of our license agreements. We generally receive cash from upfront arrangements much sooner than from time-based products revenue, in which the license fee is typically paid either quarterly or annually over the term of the license.

Cash provided by (used in) operating activities. Cash provided by operating activities for the three months ended January 31, 2017 was higher compared to the same period in fiscal 2016, primarily due to higher cash collections, partially offset by higher disbursements for operations, including vendors.

Cash (used in) investing activities. Cash used in investing activities for the three months ended January 31, 2017 was higher compared to the same period in fiscal 2016, primarily due to higher cash paid for acquisitions and intangible assets of \$168.7 million.

Cash provided by (used in) financing activities. Cash provided by financing activities for the three months ended January 31, 2017 was higher compared to the same period in fiscal 2016, primarily due to lower stock repurchase activities of \$100.0 million and higher proceeds from our credit facility and term loan, net of repayments, of \$92.5 million.

Accounts Receivable, net

	January 31, 2017	October 31, 2016	\$ Change	% Change
	(dollars in millions)			
Accounts Receivable, net	\$ 332.0	\$ 438.9	\$ (106.9)	(24)%

Our accounts receivable and days sales outstanding (DSO) are primarily driven by our billing and collections activities. Our DSO was 46 days at January 31, 2017 and 63 days at October 31, 2016. Accounts receivable and DSO decreased primarily due to the timing of billings to customers and an increase in collections.

Working Capital

Working capital is comprised of current assets less current liabilities, as shown on our unaudited condensed consolidated balance sheets:

	January 31, 2017	October 31, 2016	\$ Change	% Change
	(dollars in millions)			
Current assets	\$ 1,484.0	\$ 1,716.9	\$ (232.9)	(14)%
Current liabilities	1,456.6	1,714.9	(258.3)	(15)%
Working capital	<u>\$ 27.4</u>	<u>\$ 2.0</u>	<u>\$ 25.4</u>	<u>1,270 %</u>

Increases in our working capital were primarily due to (1) a decrease of \$150.4 million in accounts payable and accrued liabilities due to timing of disbursements, (2) a decrease of \$67.0 million in deferred revenue, (3) a decrease of \$28.0 million in short-term debt and (4) an increase of \$26.4 million in prepaid and other current assets primarily due to timing of service contract renewals. These changes in working capital were partially offset by a decrease of \$151.0 million in cash, cash equivalents and short-term investments, and a decrease of \$106.9 million in accounts receivable, net, due to the timing of billings to customers and collections.

Other Commitments—Credit Facility

On November 28, 2016, we entered into an amended and restated credit agreement with several lenders (the Credit Agreement) providing for (i) a \$650.0 million senior unsecured revolving credit facility (the Revolver) and (ii) a \$150.0 million senior unsecured term loan facility (the Term Loan). The Credit Agreement amended and restated our previous credit agreement dated May 19, 2015 (the 2015 Agreement), in order to increase the size of the revolving credit facility from \$500.0 million to \$650.0 million, provide a new \$150.0 million senior unsecured term loan facility, and to extend the termination date of the revolving credit facility from May 19, 2020 to November 28, 2021. Subject to obtaining additional commitments from lenders, the principal amount of the loans provided under the Credit Agreement may be increased by us by up to an additional \$150.0 million. The Credit Agreement contains financial covenants requiring the Company to operate within a maximum leverage ratio and a minimum interest coverage ratio, as well as other non-financial covenants. As of January 31, 2017, we were in compliance with all financial covenants.

During the first quarter of fiscal 2017, we received funding of \$150.0 million under the Term Loan. Principal payments under the Term Loan are due as follows:

Fiscal year	(in thousands)
2017	\$ 5,625
2018	10,313
2019	14,062
2020	17,813
2021	27,187
2022	75,000
Total	<u>\$ 150,000</u>

As of January 31, 2017, we had a \$149.5 million outstanding balance, net of an immaterial amount of debt issuance costs, under the Term Loan, of which \$142.5 million is classified as long-term liabilities, and a \$170.0 million outstanding balance under the Revolver, all of which are considered short-term liabilities. As of October 31, 2016, we had no outstanding balance under the previous term loan from the 2015 Agreement and a \$205.0 million outstanding balance under the previous revolver from the 2015 Agreement, which are considered short-term liabilities. We expect borrowings under the Revolver will fluctuate from quarter to quarter. Borrowings bear interest at a floating rate based on a margin over our choice of market observable base rates as defined in the Credit Agreement. As of January 31, 2017, borrowings under the Term Loan bore interest at LIBOR +1.125% and the applicable interest rate for the Revolver was LIBOR +1.000%. In addition, commitment fees are payable on the Revolver at rates between 0.125% and 0.200% per year based on our leverage ratio on the daily amount of the revolving commitment.

Other

Our available-for-sale securities as of January 31, 2017 consisted of investment-grade U.S. government agency securities, asset-backed securities, corporate debt securities, commercial paper, certificates of deposit, money market funds, and others. We follow an established investment policy and set of guidelines to monitor, manage and limit our exposure to interest rate and credit risk. The policy sets forth credit quality standards and limits our exposure to any one issuer. As of January 31, 2017, we had no direct holdings in structured investment vehicles, sub-prime mortgage-backed securities or collateralized debt obligations and no exposure to these financial instruments through our indirect holdings in money market mutual funds. During the three months ended January 31, 2017, we had no impairment charge associated with our available-for-sale securities portfolio. While we cannot predict future market conditions or market liquidity, we regularly review our investments and associated risk profiles, which we believe will allow us to effectively manage the risks of our investment portfolio.

We proactively manage our cash equivalents and short-term investments balances and closely monitor our capital and stock repurchase expenditures to ensure ample liquidity. Additionally, we believe the overall credit quality of our portfolio is strong, with our global excess cash, and our cash equivalents and fixed income portfolio invested in banks and securities with a weighted-average credit rating exceeding AA. The majority of our investments are classified as Level 1 or Level 2 investments, as measured under fair value guidance. See Notes 5 and 6 of the *Notes to Unaudited Condensed Consolidated Financial Statements*.

We believe that our current cash and cash equivalents, short-term investments, cash generated from operations, and available credit under our Revolver will satisfy our routine business requirements for at least the next 12 months and the foreseeable future.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

See Other Commitments—Credit Facility, Item 2. *Management's Discussion and Analysis of Financial Condition and Results of Operations*, regarding borrowings under our senior unsecured revolving credit facility.

As of January 31, 2017, our exposure to market risk has not changed materially since October 31, 2016. For more information on financial market risks related to changes in interest rates, reference is made to Item 7A. *Quantitative and Qualitative Disclosure about Market Risk* contained in Part II of our Annual Report on Form 10-K for the fiscal year ended October 31, 2016, filed with the SEC on December 12, 2016.

Item 4. Controls and Procedures

- (a) *Evaluation of Disclosure Controls and Procedures.* As of January 31, 2017, Synopsys carried out an evaluation under the supervision and with the participation of Synopsys' management, including the Co-Chief Executive Officers and Chief Financial Officer, of the effectiveness of the design and operation of Synopsys' disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). There are inherent limitations to the effectiveness of any system of disclosure controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable, not absolute, assurance of achieving their control objectives. Our Co-Chief Executive Officers and Chief Financial Officer have concluded that, as of January 31, 2017, Synopsys' disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed in the reports Synopsys files and submits under the Exchange Act is recorded, processed, summarized and reported as and when required, and that such information is accumulated and communicated to Synopsys' management, including the Co-Chief Executive Officers and Chief Financial Officer, to allow timely decisions regarding its required disclosure.
- (b) *Changes in Internal Control over Financial Reporting.* There were no changes in Synopsys' internal control over financial reporting during the three months ended January 31, 2017 that have materially affected, or are reasonably likely to materially affect, Synopsys' internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. *Legal Proceedings*

We are subject to routine legal proceedings, as well as demands, claims and threatened litigation that arise in the normal course of our business. The ultimate outcome of any litigation is uncertain and unfavorable outcomes could have a negative impact on our results of operations and financial condition. Regardless of outcome, litigation can have an adverse impact on Synopsys because of the defense costs, diversion of management resources and other factors.

Mentor Patent Litigation

We are engaged in complex patent litigation with Mentor Graphics Corporation (Mentor) involving several actions in different forums. We acquired Emulation & Verification Engineering S.A. (EVE) on October 4, 2012. At the time of the acquisition, EVE and EVE-USA, Inc. (collectively, the EVE Parties) were defendants in three patent infringement lawsuits filed by Mentor. Mentor filed suit against the EVE Parties in federal district court in the District of Oregon on August 16, 2010 alleging that EVE's ZeBu products infringed Mentor's United States Patent No. 6,876,962. Mentor filed an additional suit in federal district court in the District of Oregon on August 17, 2012 alleging that EVE's ZeBu products infringed Mentor's United States Patent No. 6,947,882. Both cases sought compensatory damages, including lost profits and royalties, and a permanent injunction. Mentor also filed a patent infringement lawsuit against Nihon EVE K.K. in Tokyo District Court in 2010 alleging that certain ZeBu products infringe Mentor's Japanese Patent No. P3,588,324. This case sought compensatory damages, a permanent injunction and destruction of inventory. On May 15, 2015, the Tokyo District Court ruled that such products did not infringe Mentor's patent. Mentor appealed the decision. On March 30, 2016, the Japan IP High Court affirmed the District Court's ruling in our favor.

On September 27, 2012, Synopsys and the EVE Parties filed an action for declaratory relief against Mentor in federal district court in the Northern District of California, seeking a determination that Mentor's United States Patents Nos. 6,009,531, 5,649,176, and 6,240,376, which were the subject of a patent infringement lawsuit filed by Mentor against EVE in 2006 and settled in the same year, are invalid and not infringed by EVE's products. Mentor asserted patent infringement counterclaims in this action based on the same three patents and sought compensatory damages, including lost profits and royalties, and a permanent injunction. In April 2013, this action was transferred to the federal district court in Oregon and consolidated with the two Mentor lawsuits in that district (the Oregon Action).

The Oregon Action

In the Oregon Action, Synopsys and the EVE Parties further asserted patent infringement counterclaims against Mentor based on Synopsys' United States Patents Nos. 6,132,109 and 7,069,526, seeking compensatory damages and a permanent injunction. After pre-trial summary judgment rulings, the only patent remaining at issue in the Oregon Action was Mentor's '376 patent.

The Oregon Action went to trial on the remaining Mentor patent, and a jury reached a verdict on October 10, 2014 finding that certain features of the ZeBu products infringed the '376 patent and assessing damages of approximately \$36 million. On March 12, 2015, the court entered an injunction prohibiting certain sales activities relating to the features found by the jury to infringe. Synopsys has released a new version of ZeBu software that does not include such features. Both parties have appealed the court's rulings. The hearing on such appeal was held on June 9, 2016, and the court has yet to issue a decision.

The California Action

On December 21, 2012, Synopsys filed an action for patent infringement against Mentor in federal district court in the Northern District of California, alleging that Mentor's Veloce products infringe Synopsys' United States Patents Nos. 5,748,488, 5,530,841, 5,680,318 and 6,836,420 (the California Action). This case sought compensatory damages and a permanent injunction. The court stayed the action as to the '420 patent pending the U.S. Patent and Trademark Office's *inter partes* review of that patent and appeals from that proceeding. On January 20, 2015, the court granted Mentor's motion for summary judgment on the '488, '841, and '318 patents, finding that such patents were invalid. Synopsys has appealed the court's ruling. The hearing on such appeal was held on June 9, 2016. On October 17, 2016, the Federal Circuit affirmed the court's decision.

PTO Proceedings

On September 26, 2012, Synopsys filed two *inter partes* review requests with the U.S. Patent and Trademark Office (the PTO) challenging the validity of Mentor's '376 and '882 patents. The PTO granted review of the '376 patent and denied review of the '882 patent. On February 19, 2014, the PTO issued its final decision in the review of the '376 patent, finding some of the challenged claims invalid and some of the challenged claims valid. On April 22, 2014, Synopsys appealed to the Federal Circuit from the PTO's decision finding certain claims valid. Mentor filed a cross-appeal on May 2, 2014 from the PTO's decision finding certain claims invalid. On February 10, 2016, the Federal Circuit affirmed the PTO's decision in all respects.

On December 21, 2013, Mentor filed an *inter partes* review request with the PTO challenging the validity of Synopsys' '420 patent. On June 11, 2015, the PTO issued its final decision in the review, finding all of the challenged claims invalid. On August 12, 2015, Synopsys appealed to the Federal Circuit from the PTO's decision. On October 11, 2016, the Federal Circuit affirmed the PTO's decision.

On September 30, 2016, Synopsys filed a petition requesting ex parte reexamination of the claims of the '376 patent asserted by Mentor in the Oregon litigation. On November 10, 2016, the PTO ordered reexamination of the '376 patent. On December 15, 2016, the PTO vacated the order granting reexamination, but granted Synopsys leave to refile. Synopsys filed a corrected petition requesting ex parte reexamination of certain of the asserted claims on December 29, 2016. The petition was granted on February 10, 2017.

Item 1A. Risk Factors

We describe our risk factors below.

The growth of our business depends on the semiconductor and electronics industries.

The growth of the electronic design automation (EDA) industry as a whole, and our EDA and intellectual property (IP) product sales in particular, is dependent on the semiconductor and electronics industries. A substantial portion of our business and revenue depends upon the commencement of new design projects by semiconductor manufacturers and their customers. The increasing complexity of designs of systems-on-chips and integrated circuits, and customers' concerns about managing costs, have previously led and in the future could lead to a decrease in design starts and design activity in general, with some customers focusing more on one discrete phase of the design process or opting for less advanced, but less risky, manufacturing processes that may not require the most advanced EDA products. Demand for our products and services could decrease and our financial condition and results of operations could be adversely affected if growth in the semiconductor and electronics industries slows or stalls. Additionally, as the EDA industry matures, consolidation may result in stronger competition from companies better able to compete as sole source vendors. This increased competition may cause our revenue growth rate to decline and exert downward pressure on our operating margins, which may have an adverse effect on our business and financial condition.

Furthermore, the semiconductor and electronics industries have become increasingly complex ecosystems. Many of our customers outsource the manufacture of their semiconductor designs to foundries. Our customers also frequently incorporate third-party IP, whether provided by us or other vendors, into their designs to improve the efficiency of their design process. We work closely with major foundries to ensure that our EDA, IP, and manufacturing solutions are compatible with their manufacturing processes. Similarly, we work closely with other major providers of semiconductor IP, particularly microprocessor IP, to optimize our EDA tools for use with their IP designs and to assure that their IP and our own IP products, which may each provide for the design of separate components on the same chip, work effectively together. If we fail to optimize our EDA and IP solutions for use with major foundries' manufacturing processes or major IP providers' products, or if our access to such foundry processes or third-party IP products is hampered, then our solutions may become less desirable to our customers, resulting in an adverse effect on our business and financial condition.

Consolidation among our customers and within the industries in which we operate, as well as our dependence on a relatively small number of large customers, may negatively impact our operating results.

A number of business combinations, including mergers, asset acquisitions and strategic partnerships, among our customers in the semiconductor and electronics industries have occurred over the last several years, and more could occur in the future. Consolidation among our customers could lead to fewer customers or the loss of customers, increased customer bargaining power, or reduced customer spending on software and services. Furthermore, we depend on a relatively small number of large customers, and on such customers continuing to renew licenses and purchase additional products from us, for a large portion of our revenue. Reduced customer spending or the loss of a small number of customers, particularly our large customers, could adversely affect our business and financial condition. In addition, we and our competitors from time to time acquire businesses and technologies to complement and expand our respective product offerings. If any of our competitors consolidate or acquire businesses and technologies which we do not offer, they may be able to offer a larger technology portfolio, additional support and service capability, or lower prices, which could negatively impact our business and operating results.

The continued uncertainty in the global economy, and its potential impact on the semiconductor and electronics industries in particular, may negatively affect our business, operating results and financial condition.

While the global economy has shown improvement, there are still uncertainties surrounding the strength of the recovery in many regions. Weakness in the global economy has adversely affected consumer confidence and the growth of the semiconductor industry in recent years, causing semiconductor companies to behave cautiously and focus on their costs, including their research and development budgets, which capture spending on EDA products and services. Further uncertainty caused by challenging global economic conditions could lead some of our customers to postpone their decision-making, decrease their spending and/or delay their payments to us. Continuing caution by semiconductor companies could, among other things, limit our ability to maintain or increase our sales or recognize revenue from committed contracts and in turn could adversely affect our business, operating results and financial condition.

We cannot predict when widespread global economic confidence will be restored. In addition, should further economic instability affect the banking and financial services industry and result in credit downgrades of the banks we rely on for foreign currency forward contracts, credit and banking transactions, and deposit services, or cause them to default on their obligations, it could adversely affect our financial results and our business. Accordingly, our future business and financial results are subject to uncertainty, and our stock price is at risk of volatile change. If economic conditions deteriorate in the future, or, in particular, if the semiconductor industry does not grow, our future revenues and financial results could be adversely affected. Conversely, in the event of future improvements in economic conditions for our customers, the positive impact on our revenues and financial results may be deferred due to our business model.

We may not be able to realize the potential financial or strategic benefits of the acquisitions we complete, or find suitable target businesses and technology to acquire, which could hurt our ability to grow our business, develop new products or sell our products.

Acquisitions are an important part of our growth strategy. We have completed a significant number of acquisitions in recent years. We expect to make additional acquisitions in the future, but we may not find suitable acquisition targets or we may not be able to consummate desired acquisitions due to unfavorable credit markets, commercially unacceptable terms, or other risks, which could harm our operating results. Acquisitions are difficult, time-consuming, and pose a number of risks, including:

- Potential negative impact on our earnings per share;
- Failure of acquired products to achieve projected sales;
- Problems in integrating the acquired products with our products;
- Difficulties entering into new markets in which we are not experienced or where competitors may have stronger positions;
- Potential downward pressure on operating margins due to lower operating margins of acquired businesses, increased headcount costs and other expenses associated with adding and supporting new products;
- Difficulties in retaining and integrating key employees;
- Substantial reductions of our cash resources and/or the incurrence of debt;
- Failure to realize expected synergies or cost savings;
- Difficulties in integrating or expanding sales, marketing and distribution functions and administrative systems, including information technology and human resources systems;
- Dilution of our current stockholders through the issuance of common stock as part of the merger consideration;
- Assumption of unknown liabilities, including tax and litigation, and the related expenses and diversion of resources;
- Disruption of ongoing business operations, including diversion of management's attention and uncertainty for employees and customers, particularly during the post-acquisition integration process;
- Potential negative impact on our relationships with customers, distributors and business partners;

- Exposure to new operational risks, regulations, and business customs to the extent acquired businesses are located in regions where we are not currently conducting business;
- The need to implement controls, processes and policies appropriate for a public company at acquired companies that may have lacked such controls, processes and policies;
- Negative impact on our net income resulting from acquisition-related costs; and
- Requirements imposed by government regulators in connection with their review of an acquisition, including required divestitures or restrictions on the conduct of our business or the acquired business.

If we do not manage the foregoing risks, the acquisitions that we complete may have an adverse effect on our business and financial condition.

Our operating results may fluctuate in the future, which may adversely affect our stock price.

Our operating results are subject to quarterly and annual fluctuations, which may adversely affect our stock price. Our historical results should not be viewed as indicative of our future performance due to these periodic fluctuations.

Many factors may cause our revenue or earnings to fluctuate, including:

- Changes in demand for our products due to fluctuations in demand for our customers' products and due to constraints in our customers' budgets for research and development and EDA products and services;
- Product competition in the EDA industry, which can change rapidly due to industry or customer consolidation and technological innovation;
- Our ability to innovate and introduce new products and services or effectively integrate products and technologies that we acquire;
- Failures or delays in completing sales due to our lengthy sales cycle, which often includes a substantial customer evaluation and approval process because of the complexity of our products and services;
- Our ability to implement effective cost control measures;
- Our dependence on a relatively small number of large customers, and on such customers continuing to renew licenses and purchase additional products from us, for a large portion of our revenue;
- Changes in the mix of our products sold, as increased sales of our products with lower gross margins, such as our hardware products, may reduce our overall margins;
- Expenses related to our acquisition and integration of businesses and technology;
- Changes to our effective tax rate;
- Delays, increased costs or quality issues resulting from our reliance on third parties to manufacture our hardware products, which include a sole supplier for certain hardware components; and
- General economic and political conditions that affect the semiconductor and electronics industries.

The timing of revenue recognition may also cause our revenue and earnings to fluctuate, due to factors that include:

- Cancellations or changes in levels of orders or the mix between upfront products revenue and time-based products revenue;
- Delay of one or more orders for a particular period, particularly orders generating upfront products revenue;
- Delay in the completion of professional services projects that require significant modification or customization and are accounted for using the percentage of completion method;
- Delay in the completion and delivery of IP products in development that customers have paid for early access to;
- Customer contract amendments or renewals that provide discounts or defer revenue to later periods;

- The levels of our hardware revenues, which are recognized upfront and are primarily dependent upon our ability to provide the latest technology and meet customer requirements, and which may also impact our levels of excess and obsolete inventory expenses; and
- Changes in our revenue recognition model.

These factors, or any other factors or risks discussed herein, could negatively impact our revenue or earnings and cause our stock price to decline. Additionally, our results may fail to meet or exceed the expectations of securities analysts and investors, or such analysts may change their recommendation regarding our stock, which could cause our stock price to decline. Our stock price has been, and may continue to be, volatile, which may make it harder for our stockholders to sell their shares at a time or a price that is favorable to them.

We operate in highly competitive industries, and if we do not continue to meet our customers' demand for innovative technology at lower costs, our business and financial condition will be harmed.

We compete against EDA vendors that offer a variety of products and services, such as Cadence Design Systems, Inc. and Mentor Graphics Corporation. We also compete with other EDA vendors, including new entrants to the marketplace, that offer products focused on one or more discrete phases of the IC design process, as well as vendors of IP products and system-level solutions. Moreover, our customers internally develop design tools and capabilities that compete with our products, including internal designs that compete with our IP products.

The industries in which we operate are highly competitive and the demand for our products and services is dynamic and depends on a number of factors, including demand for our customers' products, design starts and our customers' budgetary constraints. Technology in these industries evolves rapidly and is characterized by frequent product introductions and improvements as well as changes in industry standards and customer requirements. Semiconductor device functionality requirements continually increase while feature widths decrease, substantially increasing the complexity, cost and risk of chip design and manufacturing. At the same time, our customers and potential customers continue to demand an overall lower total cost of design, which can lead to the consolidation of their purchases with one vendor. In order to succeed in this environment, we must successfully meet our customers' technology requirements and increase the value of our products, while also striving to reduce their overall costs and our own operating costs.

We compete principally on the basis of technology, product quality and features (including ease-of-use), license or usage terms, post-contract customer support, interoperability among products, and price and payment terms. Specifically, we believe the following competitive factors affect our success:

- Our ability to anticipate and lead critical development cycles and technological shifts, innovate rapidly and efficiently, improve our existing products, and successfully develop or acquire new products;
- Our ability to offer products that provide both a high level of integration into a comprehensive platform and a high level of individual product performance;
- Our ability to enhance the value of our offerings through more favorable terms such as expanded license usage, future purchase rights, price discounts and other unique rights, such as multiple tool copies, post-contract customer support, "re-mix" rights that allow customers to exchange the software they initially licensed for other Synopsys products, and the ability to purchase pools of technology
- Our ability to compete on the basis of payment terms; and
- Our ability to provide engineering and design consulting for our products.

If we fail to successfully manage these competitive factors, fail to successfully balance the conflicting demands for innovative technology and lower overall costs, or fail to address new competitive forces, our business and financial condition will be adversely affected.

We pursue new product and technology initiatives from time to time, and if we fail to successfully carry out these initiatives, our results of operations could be adversely impacted.

As part of the evolution of our business, we have made substantial investments to develop new products and enhancements to existing products through our acquisitions and research and development efforts. If we are unable to anticipate technological changes in our industry by introducing new or enhanced products in a timely and cost-effective manner, or if we fail to introduce products that meet market demand, we may lose our competitive position,

our products may become obsolete, and our business, financial condition or results of operations could be adversely affected.

Additionally, from time to time, we invest in expansion into adjacent markets, including software quality, testing, and security solutions. Although we believe these solutions are complementary to our EDA tools, we have less experience and a more limited operating history in offering software quality, testing, and security products and services, and our efforts in this area may not be successful. Our success in these new markets depends on a variety of factors, including the following:

- Our ability to attract a new customer base, including in industries in which we have less experience;
- Our successful development of new sales and marketing strategies to meet customer requirements;
- Our ability to accurately predict, prepare for, and promptly respond to technological developments in new fields, including, in the case of our software quality, testing, and security tools and services, identifying new security vulnerabilities in software code and ensuring support for a growing number of programming languages;
- Our ability to compete with new and existing competitors in these new industries, many of which may have more financial resources, industry experience, brand recognition, or established customer relationships than we currently do;
- Our ability to skillfully balance our investment in adjacencies with investment in our existing products;
- Our ability to attract and retain employees with expertise in new fields;
- Our ability to sell and support consulting services at profitable margins; and
- Our ability to manage our revenue model in connection with hybrid sales of licensed products and consulting services.

Difficulties in any of our new product development efforts or our efforts to enter adjacent markets could adversely affect our operating results and financial condition.

If we fail to protect our proprietary technology, our business will be harmed.

Our success depends in part upon protecting our proprietary technology. Our efforts to protect our technology may be costly and unsuccessful. We rely on agreements with customers, employees and other third-parties as well as intellectual property laws worldwide to protect our proprietary technology. These agreements may be breached, and we may not have adequate remedies for any breach. Additionally, despite our measures to prevent piracy, other parties may attempt to illegally copy or use our products, which could result in lost revenue. Some foreign countries do not currently provide effective legal protection for intellectual property and our ability to prevent the unauthorized use of our products in those countries is therefore limited. Our trade secrets may also be stolen, otherwise become known, or be independently developed by competitors.

We may need to commence litigation or other legal proceedings in order to:

- Assert claims of infringement of our intellectual property;
- Defend our products from piracy;
- Protect our trade secrets or know-how; or
- Determine the enforceability, scope and validity of the propriety rights of others.

If we do not obtain or maintain appropriate patent, copyright or trade secret protection, for any reason, or cannot fully defend our intellectual property rights in certain jurisdictions, our business and operating results would be harmed. In addition, intellectual property litigation is lengthy, expensive and uncertain. Legal fees related to such litigation will increase our operating expenses and may reduce our net income.

Changes in United States Generally Accepted Accounting Principles (U.S. GAAP) could adversely affect our reported financial results and may require significant changes to our internal accounting systems and processes.

We prepare our consolidated financial statements in conformity with U.S. GAAP. These principles are subject to interpretation by the Financial Accounting Standards Board (FASB), the Securities and Exchange Commission (SEC) and various bodies formed to interpret and create appropriate accounting principles and guidance.

The FASB is currently working together with the International Accounting Standards Board (IASB) to converge certain accounting principles and facilitate more comparable financial reporting between companies that are required to follow U.S. GAAP and those that are required to follow International Financial Reporting Standards (IFRS). In connection with this initiative, the FASB issued new accounting standards for revenue recognition and accounting for leases. For information regarding new accounting standards, please refer to Note 16 in the Notes to Unaudited Condensed Consolidated Financial Statements under the heading “Effect of New Accounting Pronouncements.” These and other such standards may result in different accounting principles, which may significantly impact our reported results or could result in volatility of our financial results. In addition, we may need to significantly change our customer and vendor contracts, accounting systems and processes. The cost and effect of these changes may adversely impact our results of operations.

We may have to invest more resources in research and development than anticipated, which could increase our operating expenses and negatively affect our operating results.

We devote substantial resources to research and development. New competitors, technological advances in the semiconductor industry or by competitors, our acquisitions, our entry into new markets, or other competitive factors may require us to invest significantly greater resources than we anticipate. If we are required to invest significantly greater resources than anticipated without a corresponding increase in revenue, our operating results could decline. Additionally, our periodic research and development expenses may be independent of our level of revenue, which could negatively impact our financial results. Finally, there can be no guarantee that our research and development investments will result in products that create additional revenue.

The global nature of our operations exposes us to increased risks and compliance obligations that may adversely affect our business.

We derive roughly half of our revenue from sales outside the United States, and we expect our orders and revenue to continue to depend on sales to customers outside the U.S. In addition, we have continually expanded our non-U.S. operations in the past several years. This strategy requires us to recruit and retain qualified technical and managerial employees, manage multiple remote locations performing complex software development projects and ensure intellectual property protection outside of the U.S. Our international operations and sales subject us to a number of increased risks, including:

- Ineffective legal protection of intellectual property rights;
- International economic and political conditions in countries where we do business, such as uncertainty caused by the United Kingdom's referendum to withdraw from the European Union;
- Difficulties in adapting to cultural differences in the conduct of business, which may include business practices that we are prohibited from engaging in by the Foreign Corrupt Practices Act or other anti-corruption laws;
- Financial risks such as longer payment cycles and difficulty in collecting accounts receivable;
- Inadequate local infrastructure that could result in business disruptions;
- Government trade restrictions, including tariffs, export licenses, or other trade barriers, and changes to existing trade arrangements between various countries;
- Additional taxes, interest, and potential penalties; and
- Other factors beyond our control such as natural disasters, terrorism, civil unrest, war and infectious diseases.

If any of the foreign economies in which we do business deteriorate or if we fail to effectively manage our global operations, our business and results of operations will be harmed.

In addition, our global operations are subject to numerous U.S. and foreign laws and regulations, including those related to anti-corruption, tax, corporate governance, imports and exports, financial and other disclosures, privacy

and labor relations. These laws and regulations are complex and may have differing or conflicting legal standards, making compliance difficult and costly. If we violate these laws and regulations we could be subject to fines, penalties or criminal sanctions, and may be prohibited from conducting business in one or more countries. Although we have implemented policies and procedures to help ensure compliance with these laws and regulations, there can be no assurance that our employees, contractors or agents will not violate such laws and regulations. Any violation individually or in the aggregate could have a material adverse effect on our operations and financial condition.

Our financial statements are also affected by fluctuations in foreign currency exchange rates. A weakening U.S. dollar relative to other currencies increases expenses of our foreign subsidiaries when they are translated into U.S. dollars in our consolidated statement of operations. Likewise, a strengthening U.S. dollar relative to other currencies, especially the Japanese Yen, reduces revenue of our foreign subsidiaries upon translation and consolidation. Exchange rates are subject to significant and rapid fluctuations, and therefore we cannot predict the prospective impact of exchange rate fluctuations. Although we engage in foreign currency hedging activity, we may be unable to hedge all of our foreign currency risk, which could have a negative impact on our results of operations.

Cybersecurity threats or other security breaches could compromise sensitive information belonging to us or our customers and could harm our business and our reputation, particularly that of our security testing solutions.

We store sensitive data, including intellectual property, our proprietary business information and that of our customers, and confidential employee information, in our data centers and on our networks. Despite our security measures, our information technology and infrastructure may be vulnerable to attacks by hackers or breached due to employee error, malfeasance or other disruptions that could result in unauthorized disclosure or loss of sensitive information.

For example, in October 2015, we discovered unauthorized third-party access, which had begun in July 2015, to our products and product license files hosted on our SolvNet customer license and product delivery system. We determined that no customer project or design data had been accessed. No personally identifiable information or payment card information is stored on the system. While we identified and closed the method used to gain access, it is possible our security measures may be circumvented again in the future, and such a breach could harm our business and reputation. The techniques used to obtain unauthorized access to networks, or to sabotage systems, change frequently and generally are not recognized until launched against a target. We may be unable to anticipate these techniques or to implement adequate preventative measures. Furthermore, in the operation of our business we also use third-party vendors that store certain sensitive data, including confidential information about our employees, and these third parties are subject to their own cybersecurity threats. While our standard vendor terms and conditions include provisions requiring the use of appropriate security measures to prevent unauthorized use or disclosure of our data, as well as other safeguards, a breach may still occur. Any security breach of our own or a third-party vendor's systems could cause us to be non-compliant with applicable laws or regulations, subject us to legal claims or proceedings, disrupt our operations, damage our reputation, and cause a loss of confidence in our products and services, any of which could adversely affect our business.

Our software products may also be vulnerable to cyberattacks. An attack could disrupt the proper functioning of our software, cause errors in the output of our customers' work, allow unauthorized access to our or our customers' proprietary information, and other destructive outcomes. As a result, our reputation could suffer, customers could stop buying our products, we could face lawsuits and potential liability, and our financial performance could be negatively impacted.

We are offering software quality and security testing solutions through our acquisition of companies such as Coverity, Codenomicon, Cigital and Codiscope. If we fail to identify new and increasingly sophisticated methods of cyberattack, or fail to invest sufficient resources in research and development regarding new threat vectors, our security testing products and services may fail to detect vulnerabilities in our customers' software code. An actual or perceived failure to identify security flaws may harm the perceived reliability of our security testing products and services, and could result in a loss of customers, sales, or an increased cost to remedy a problem. Furthermore, our acquisitions in the software quality and security testing space may increase our visibility as a security-focused company and may make us a more attractive target for attacks on our own information technology infrastructure. Successful attacks could damage our reputation as a security-focused company.

Our results could be adversely affected by a change in our effective tax rate as a result of tax law changes, changes in our geographical earnings mix, an unfavorable government review of our tax returns, or by material differences between our forecasted and actual annual effective tax rates.

Our operations are subject to income and transaction taxes in the United States and in multiple foreign jurisdictions, with a significant amount of our foreign earnings generated by our subsidiaries organized in Ireland and Hungary. Because we have a wide range of statutory tax rates in the multiple jurisdictions in which we operate, any changes in our geographical earnings mix, including those resulting from our intercompany transfer pricing or from changes in the rules governing transfer pricing, could materially impact our effective tax rate. Furthermore, a change in the tax law of the jurisdictions where we do business, including an increase in tax rates or an adverse change in the treatment of an item of income or expense, could result in a material increase in our tax expense. In addition, U.S. income taxes and foreign withholding taxes have not been provided for on undistributed earnings of certain of our non-U.S. subsidiaries to the extent such earnings are considered to be indefinitely reinvested in the operations of those subsidiaries. If our expectations regarding reinvestment of such earnings change, then our income tax expense could increase.

Further changes in the tax laws of foreign jurisdictions could arise as a result of the base erosion and profit shifting (BEPS) project undertaken by the Organisation for Economic Co-operation and Development (OECD), which represents a coalition of member countries. On October 5, 2015, the OECD issued a series of reports recommending changes to numerous long-standing tax principles. Many of these recommendations are being adopted by various countries in which we do business and may increase our taxes in these countries. In addition, the Republic of Ireland has changed its corporate residence rules and will require changes to our tax position by January 1, 2021. On July 26, 2016, Hungary amended its IP regime to bring it in line with the OECD BEPS Project and will be effective in fiscal 2017. Changes to these and other areas in relation to international tax reform could increase uncertainty in the corporate tax area and may adversely affect our provision for income taxes.

In the U.S., a number of proposals for broad reform of the corporate tax system are under evaluation by various legislative and administrative bodies. It is not possible to accurately determine the overall impact of such proposals on our effective tax rate or balance sheet at this time. Changes in corporate tax rates, the taxation of foreign earnings and the deductibility of expenses could have a material impact on the recoverability of our deferred tax assets, could result in significant one-time charges in the period in which tax reform is enacted, or could result in increases to future U.S. tax expense.

Our tax filings are subject to review or audit by the Internal Revenue Service and state, local and foreign taxing authorities. We exercise significant judgment in determining our worldwide provision for income taxes and, in the ordinary course of our business, there may be transactions and calculations where the ultimate tax determination is uncertain. We are also liable for potential tax liabilities of businesses we acquire. Although we believe our tax estimates are reasonable, the final determination in an audit may be materially different than the treatment reflected in our historical income tax provisions and accruals. An assessment of additional taxes because of an audit could adversely affect our income tax provision and net income in the periods for which that determination is made. In October 2016, the Hungarian Tax Authority (HTA) completed an audit of our Hungary subsidiary (Synopsis Hungary) for fiscal years 2011 through 2013. The HTA has challenged certain of Synopsis Hungary's tax positions taken during these years, including the timing of deduction of certain research expenses and for withholding taxes on payments made to affiliates, resulting in a proposed aggregate tax assessment of approximately \$46 million. If the assessment is ultimately upheld, Synopsis Hungary could also be liable for additional interest and penalties of approximately \$19 million. We are also under examination by the tax authorities in certain other jurisdictions, including the Republic of Korea. No assessments have been proposed in these examinations.

We maintain significant deferred tax assets related to federal research credits and certain state tax credits. Our ability to use these credits is dependent upon having sufficient future taxable income in the relevant jurisdiction. Changes in our forecasts of future income could result in an adjustment to the deferred tax asset and a related charge to earnings that could materially affect our financial results.

Liquidity requirements in our U.S. operations may require us to raise cash in uncertain capital markets, which could negatively affect our financial condition.

As of January 31, 2017, approximately 84% of our worldwide cash, cash equivalents and short-term investments balance is held by our international subsidiaries. At present, such foreign funds are considered to be indefinitely reinvested abroad, and to the extent they derive from foreign earnings we have indefinitely reinvested in our foreign operations. We intend to meet our U.S. cash spending needs primarily through our existing U.S. cash balances, ongoing U.S. cash flows, and available credit under our term loan and revolving credit facilities. As of January 31,

2017, we had outstanding debt of \$149.5 million, net of an immaterial amount of debt issuance costs, under our \$150.0 million term loan facility, and \$170.0 million of outstanding debt under our \$650.0 million revolving credit facility. Should our cash spending needs in the U.S. rise and exceed these liquidity sources, we may be required to incur additional debt at higher than anticipated interest rates or access other funding sources, which could negatively affect our results of operations, capital structure or the market price of our common stock.

From time to time we are subject to claims that our products infringe on third-party intellectual property rights.

We are from time to time subject to claims alleging our infringement of third-party intellectual property rights, including patent rights. For example, we and Emulation & Verification Engineering S.A. (EVE), a company we acquired in October 2012, are party to ongoing patent infringement lawsuits involving Mentor Graphics Corporation. The jury in one of the lawsuits returned a verdict of approximately \$36 million in assessed damages against us for patent infringement, and the court in the lawsuit has entered an injunction prohibiting certain sales activities relating to the features found by the jury to infringe. We have appealed from the injunction and the final judgment in the case. Further information regarding the EVE lawsuits is contained in Part II, Item 1, *Legal Proceedings* and Note 7 in the Notes to Consolidated Financial Statements under the heading “Legal Proceedings” in our Annual Report on Form 10-K for the fiscal year ended October 31, 2016 as filed with the SEC on December 12, 2016. In addition, under our customer agreements and other license agreements, we agree in many cases to indemnify our customers if our products infringe a third party’s intellectual property rights. Infringement claims can result in costly and time-consuming litigation, require us to enter into royalty arrangements, subject us to damages or injunctions restricting our sale of products, invalidate a patent or family of patents, require us to refund license fees to our customers or to forgo future payments or require us to redesign certain of our products, any one of which could harm our business and operating results.

We may be subject to litigation proceedings that could harm our business.

We may be subject to legal claims or regulatory matters involving stockholder, consumer, employment, competition, and other issues on a global basis. Litigation is subject to inherent uncertainties, and unfavorable rulings could occur. An unfavorable ruling could include monetary damages or, in cases for which injunctive relief is sought, an injunction prohibiting us from manufacturing or selling one or more products. If we were to receive an unfavorable ruling on a matter, our business and results of operations could be materially harmed. Further information regarding material pending lawsuits, other than ordinary routine litigation incidental to our business, is contained in Part II, Item 1, *Legal Proceedings*.

Product errors or defects could expose us to liability and harm our reputation and we could lose market share.

Software products frequently contain errors or defects, especially when first introduced, when new versions are released, or when integrated with technologies developed by acquired companies. Product errors could affect the performance or interoperability of our products, could delay the development or release of new products or new versions of products and could adversely affect market acceptance or perception of our products. In addition, allegations of manufacturability issues resulting from use of our IP products could, even if untrue, adversely affect our reputation and our customers’ willingness to license IP products from us. Any such errors or delays in releasing new products or new versions of products or allegations of unsatisfactory performance could cause us to lose customers, increase our service costs, subject us to liability for damages and divert our resources from other tasks, any one of which could materially and adversely affect our business and operating results.

Our hardware products, which primarily consist of prototyping and emulation systems, subject us to distinct risks.

While sales of our hardware products have historically been immaterial to our total revenue, increased sales of our hardware products subject us to several increased risks, including:

- Increased dependence on a sole supplier for certain hardware components, which may reduce our control over product quality and pricing and may lead to delays in production and delivery of our hardware products, should our supplier fail to deliver sufficient quantities of acceptable components in a timely fashion;
- Increasingly variable revenue and decreasingly accurate revenue forecasts, due to fluctuations in hardware revenue, which is recognized upfront upon shipment, as opposed to sales of most software products for which revenue is recognized over time;

- Overall reductions in margins, as the gross margin for our hardware products is typically lower than those of our software products;
- Longer sales cycles, which create risks of insufficient, excess or obsolete inventory and variations in inventory valuation, which can adversely affect our operating results;
- Decreases or delays in customer purchases in favor of next-generation releases, which may lead to excess or obsolete inventory or require us to discount our older hardware products; and
- Longer warranty periods than those of our software products, which may require us to replace hardware components under warranty, thus increasing our costs.

We may not be able to continue to obtain licenses to third-party software and intellectual property on reasonable terms or at all, which may disrupt our business and harm our financial results.

We license third-party software and other intellectual property for use in product research and development and, in several instances, for inclusion in our products. We also license third-party software, including the software of our competitors, to test the interoperability of our products with other industry products and in connection with our professional services. These licenses may need to be renegotiated or renewed from time to time, or we may need to obtain new licenses in the future. Third parties may stop adequately supporting or maintaining their technology, or they or their technology may be acquired by our competitors. If we are unable to obtain licenses to these third-party software and intellectual property on reasonable terms or at all, we may not be able to sell the affected products, our customers' use of the products may be interrupted, or our product development processes and professional services offerings may be disrupted, which could in turn harm our financial results, our customers, and our reputation.

The inclusion of third-party intellectual property in our products can also subject us and our customers to infringement claims. Although we seek to mitigate this risk contractually, we may not be able to sufficiently limit our potential liability. Regardless of outcome, infringement claims may require us to use significant resources and may divert management's attention.

Some of our products and technology, including those we acquire, may include software licensed under open source licenses. Some open source licenses could require us, under certain circumstances, to make available or grant licenses to any modifications or derivative works we create based on the open source software. Although we have tools and processes to monitor and restrict our use of open source software, the risks associated with open source usage may not be eliminated and may, if not properly addressed, result in unanticipated obligations that harm our business.

If we fail to timely recruit and retain senior management and key employees, our business may be harmed.

We depend in large part upon the services of key members of our senior management team to drive our future success. If we were to lose the services of any member of our senior management team, our business could be adversely affected. To be successful, we must also attract and retain key technical, sales and managerial employees, including those who join us in connection with acquisitions. There are a limited number of qualified EDA and IC design engineers, and competition for these individuals is intense and has increased. Our employees are often recruited aggressively by our competitors and our customers. Any failure to recruit and retain key technical, sales and managerial employees could harm our business, results of operations and financial condition. Additionally, efforts to recruit and retain qualified employees could be costly and negatively impact our operating expenses.

We issue stock options and restricted stock units and maintain employee stock purchase plans as a key component of our overall compensation. We face pressure to limit the use of such equity-based compensation due to its dilutive effect on stockholders. If we are unable to grant attractive equity-based packages in the future, it could limit our ability to attract and retain key employees.

Our business is subject to evolving corporate governance and public disclosure regulations that have increased both our compliance costs and the risk of noncompliance, which could have an adverse effect on our stock price.

We are subject to changing rules and regulations promulgated by a number of governmental and self-regulatory organizations, including the SEC, the NASDAQ Stock Market, and the FASB. These rules and regulations continue to evolve in scope and complexity and many new requirements have been created in response to laws enacted by Congress, making compliance more difficult and uncertain. For example, our efforts to comply with the Dodd-Frank

Wall Street Reform and Consumer Protection Act and other regulations, including "conflict minerals" regulations affecting our hardware products, have resulted in, and are likely to continue to result in, increased general and administrative expenses and a diversion of management time and attention from revenue-generating activities to compliance activities.

There are inherent limitations on the effectiveness of our controls and compliance programs.

Regardless of how well designed and operated it is, a control system can provide only reasonable assurance that its objectives will be met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. Moreover, although we have implemented compliance programs and compliance training for employees, such measures may not prevent our employees, contractors or agents from breaching or circumventing our policies or violating applicable laws and regulations. Failure of our control systems and compliance programs to prevent error, fraud or violations of law could have a material adverse impact on our business.

Our investment portfolio may be impaired by the deterioration of capital markets.

Our cash equivalent and short-term investment portfolio currently consists of investment-grade U.S. government agency securities, asset-backed securities, corporate debt securities, commercial paper, certificates of deposit, money market funds, municipal securities and other securities, and bank deposits. Our investment portfolio carries both interest rate risk and credit risk. Fixed rate debt securities may have their market value adversely impacted due to a credit downgrade or a rise in interest rates, while floating rate securities may produce less income than expected if interest rates fall or a credit downgrade occurs. As a result of capital pressures on certain banks, especially in Europe, and the continuing low interest rate environment, some of our financial instruments may become impaired.

Our future investment income may fall short of expectations due to changes in interest rates or if the decline in fair value of investments held by us is judged to be other-than-temporary. In addition, we may suffer losses in principal if we are forced to sell securities that decline in market value due to changes in the issuer's credit quality or changes in interest rates.

In preparing our financial statements we make certain assumptions, judgments and estimates that affect amounts reported in our consolidated financial statements, which, if not accurate, may significantly impact our financial results.

We make assumptions, judgments and estimates for a number of items, including the fair value of financial instruments, goodwill, long-lived assets and other intangible assets, the realizability of deferred tax assets, the recognition of revenue and the fair value of stock awards. We also make assumptions, judgments and estimates in determining the accruals for employee-related liabilities, including commissions and variable compensation, and in determining the accruals for uncertain tax positions, valuation allowances on deferred tax assets, allowances for doubtful accounts, and legal contingencies. These assumptions, judgments and estimates are drawn from historical experience and various other factors that we believe are reasonable under the circumstances as of the date of the consolidated financial statements. Actual results could differ materially from our estimates, and such differences could significantly impact our financial results.

Catastrophic events may disrupt our business and harm our operating results.

Due to the global nature of our business, our operating results may be negatively impacted by catastrophic events throughout the world. We rely on a global network of infrastructure applications, enterprise applications and technology systems for our development, marketing, operational, support and sales activities. A disruption or failure of these systems in the event of a major earthquake, fire, telecommunications failure, cybersecurity attack, terrorist attack, epidemic, or other catastrophic event could cause system interruptions, delays in our product development and loss of critical data and could prevent us from fulfilling our customers' orders. Moreover, our corporate headquarters, a significant portion of our research and development activities, our data centers, and certain other critical business operations are located in California, near major earthquake faults. A catastrophic event that results in the destruction or disruption of our data centers or our critical business or information technology systems would severely affect our ability to conduct normal business operations and, as a result, our operating results would be adversely affected.

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

In December 2016, we entered into an accelerated share repurchase agreement (the December 2016 ASR) to repurchase an aggregate of \$100.0 million of the Company's common stock. Pursuant to the December 2016 ASR, we made a prepayment of \$100.0 million and received initial share deliveries of shares valued at \$80.0 million. The remaining balance of \$20.0 million was settled in February 2017. Total shares purchased under the December 2016 ASR were approximately 1.7 million shares, at an average purchase price of \$60.53 per share.

The table below sets forth information regarding our repurchases of our common stock during the three months ended January 31, 2017:

Period (1)	Total number of shares purchased	Average price paid per share	Total number of shares purchased as part of publicly announced programs	Maximum dollar value of shares that may yet be purchased under the programs (1)
Month #1				
October 30, 2016 through December 3, 2016(2)	—	\$ —	—	\$ 435,479,280
Month #2				
December 4, 2016 through December 31, 2016(2)	1,393,243	\$ 57.4200	1,393,243	\$ 335,479,280
Month #3				
January 1, 2017 through January 28, 2017	—	\$ —	—	\$ —
Total	<u>1,393,243</u>		<u>1,393,243</u>	<u>\$ 335,479,280</u>

(1) As of January 31, 2017, \$335.5 million remained available for future repurchases under the program.

(2) The number of shares purchased and average purchase price paid per share does not include the 258,710 shares and \$20.0 million equity forward contract, respectively, from the December 2016 ASR settled in February 2017.

See Note 10 of the *Notes to Unaudited Condensed Consolidated Financial Statements* for further information regarding our stock repurchase program.

Table of Contents

Item 6. Exhibits

Exhibit Number	Exhibit Description	Incorporated By Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
3.1	Amended and Restated Certificate of Incorporation	10-Q	000-19807	3.1	9/15/2003	
3.2	Amended and Restated Bylaws	8-K	000-19807	3.2	5/23/2012	
4.1	Specimen Common Stock Certificate	S-1	33-45138	4.3	2/24/92 (effective date)	
10.5*	Form of Restricted Stock Unit Grant Notice and Award Agreement under 2006 Employee Equity Incentive Plan					X
10.6*	Form of Notice of Grant of Stock Options and Option Agreement under 2006 Employee Equity Incentive Plan					X
10.16*	Amended and Restated Employment Agreement, dated December 15, 2016, by and between Synopsys, Inc. and Dr. Aart de Geus	8-K	000-19807	10.16	12/21/2016	
10.17*	Amended and Restated Employment Agreement, dated December 15, 2016, by and between Synopsys, Inc. and Dr. Chi-Foon Chan	8-K	000-19807	10.17	12/21/2016	
10.18*	Executive Incentive Plan, as amended on December 15, 2016	8-K	000-19807	10.18	12/21/2016	
10.19*	Amended and Restated Executive Change of Control Severance Benefit Plan, as amended on December 15, 2016	8-K	000-19807	10.19	12/21/2016	
31.1	Certification of Co-Principal Executive Officer furnished pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Exchange Act					X
31.2	Certification of Co-Principal Executive Officer furnished pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Exchange Act					X
31.3	Certification of Principal Financial Officer furnished pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Exchange Act					X

Table of Contents

Exhibit Number	Exhibit Description	Incorporated By Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
32.1	Certification of Co-Principal Executive Officers and Principal Financial Officer furnished pursuant to Rule 13a-14(b) or Rule 15d-14(b) of the Exchange Act and Section 1350 of Chapter 63 of Title 18 of the United States Code					X
101.INS	XBRL 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

* Indicates a management contract, compensatory plan or arrangement.

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.

SYNOPSYS, INC.

Date: February 17, 2017

By: /s/ TRAC PHAM
Trac Pham
Chief Financial Officer
(Principal Financial Officer)

EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporated By Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
3.1	Amended and Restated Certificate of Incorporation	10-Q	000-19807	3.1	9/15/2003	
3.2	Amended and Restated Bylaws	8-K	000-19807	3.2	5/23/2012	
4.1	Specimen Common Stock Certificate	S-1	33-45138	4.3	2/24/92 (effective date)	
10.5*	Form of Restricted Stock Unit Grant Notice and Award Agreement under 2006 Employee Equity Incentive Plan					X
10.6*	Form of Notice of Grant of Stock Options and Option Agreement under 2006 Employee Equity Incentive Plan					X
10.16*	Amended and Restated Employment Agreement, dated December 15, 2016, by and between Synopsys, Inc. and Dr. Aart de Geus	8-K	000-19807	10.16	12/21/2016	
10.17*	Amended and Restated Employment Agreement, dated December 15, 2016, by and between Synopsys, Inc. and Dr. Chi-Foon Chan	8-K	000-19807	10.17	12/21/2016	
10.18*	Executive Incentive Plan, as amended on December 15, 2016	8-K	000-19807	10.18	12/21/2016	
10.19*	Amended and Restated Executive Change of Control Severance Benefit Plan, as amended on December 15, 2016	8-K	000-19807	10.19	12/21/2016	
31.1	Certification of Co-Principal Executive Officer furnished pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Exchange Act					X
31.2	Certification of Co-Principal Executive Officer furnished pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Exchange Act					X
31.3	Certification of Principal Financial Officer furnished pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Exchange Act					X

Table of Contents

32.1	Certification of Co-Principal Executive Officers and Principal Financial Officer furnished pursuant to Rule 13a-14(b) or Rule 15d-14(b) of the Exchange Act and Section 1350 of Chapter 63 of Title 18 of the United States Code	X
101.INS	XBRL 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

* Indicates a management contract, compensatory plan or arrangement.

SYNOPSYS, INC.
RESTRICTED STOCK UNIT GRANT NOTICE AND AWARD AGREEMENT
(2006 EMPLOYEE EQUITY INCENTIVE PLAN)

Synopsys, Inc. (the “**Company**”), pursuant to Section 7(b) of the Company’s 2006 Employee Equity Incentive Plan (the “**Plan**”), hereby awards to Participant a Restricted Stock Unit Award covering the number of restricted stock units (the “**Restricted Stock Units**”) set forth below (the “**Award**”). This Award is subject to all of the terms and conditions as set forth in this Restricted Stock Unit Grant Notice and Award Agreement (including any special terms and conditions for your country in the Appendix hereto, the “**Agreement**”) and the Plan, which is incorporated by reference herein in its entirety. Defined terms not explicitly defined in this Agreement but defined in the Plan shall have the same definitions as in the Plan.

Participant:	<u>%%FIRST_NAME%-%</u>
	<u>%%LAST_NAME%-%</u>
ID:	<u>%%EMPLOYEE_IDENTIFIER%-%</u>
Award Number:	<u>%%OPTION_NUMBER%-%</u>
Date of Grant:	<u>%%OPTION_DATE%-%</u>
Vesting Commencement Date:	<u>%%VEST_BASE_DATE%-%</u>
Number of Restricted Stock Units:	<u>%%TOTAL_SHARES_GRANTED%-%</u>
Payment for Common Stock:	<u>Participant’s future services</u>

Vesting Schedule: The Restricted Stock Units shall vest in accordance with the following vesting schedule; *provided, however*, that the Participant’s Continuous Service has not terminated prior to each such vesting date.

<u>Units</u>	<u>Vest Type</u>	<u>Full Vest</u>
%SHARES_PERIOD1%-%	%%VEST_TYPE_PERIOD1%-%	%%VEST_DATE_PERIOD1%-%%
%SHARES_PERIOD2%-%	%%VEST_TYPE_PERIOD2%-%	%%VEST_DATE_PERIOD2%-%%
%SHARES_PERIOD3%-%	%%VEST_TYPE_PERIOD3%-%	%%VEST_DATE_PERIOD3%-%%
%SHARES_PERIOD4%-%	%%VEST_TYPE_PERIOD4%-%	%%VEST_DATE_PERIOD4%-%%

Delivery Schedule: The Company shall deliver one share of Common Stock for each Restricted Stock Unit that vests on an applicable vesting date, subject to the provisions of Section 3 below and subject to satisfaction of Tax-Related Items as described in Section 10 below. Each installment of Restricted Stock Units that vests hereunder is intended to constitute a “separate payment” for purposes of U.S. Treasury Regulation Section 1.409A-2(b)(2).

Compensation Recovery: The Restricted Stock Units granted herein are subject to the Compensation Recovery Policy applicable to corporate staff, adopted by the Company in December 2008, as amended from time to time (the “**Compensation Recovery Policy**”) and any required compensation recovery provisions under applicable laws or regulations.

Additional Terms/Acknowledgements: Participant acknowledges receipt of, and understands and agrees to, this Agreement, the Plan, the related Plan prospectus, the Company’s Insider Trading Policy, the Company’s Section 16 Officer and Director Trading Procedures (if applicable) and the Compensation Recovery Policy (if applicable). Participant further acknowledges that as of the Date

of Grant, the Agreement and the Plan set forth the entire understanding between the Participant and the Company regarding the award of the Restricted Stock Units and the underlying Common Stock and supersede all prior oral and written agreements on that subject with the exception of (i) Awards previously granted and delivered to Participant under the Plan, and (ii) if applicable to you, (A) the terms of any Company change of control severance plan or provisions that are in effect and applicable at the time of a qualifying termination or event and (B) the Compensation Recovery Policy (if applicable).

ATTACHMENTS: Appendix

The terms and conditions of your Award, in addition to those set forth on the first page of this Agreement, are as follows.

1. NUMBER OF RESTRICTED STOCK UNITS AND SHARES OF COMMON STOCK.

(a) The number of Restricted Stock Units subject to your Award and the number of shares of Common Stock deliverable with respect to such Restricted Stock Units may be adjusted from time to time for Capitalization Adjustments as described in Section 9(a) of the Plan. You shall receive no benefit or adjustment to your Award with respect to any cash dividend or other distribution that does not result in a Capitalization Adjustment pursuant to Section 9(a) of the Plan; *provided, however*, that this sentence shall not apply with respect to any shares of Common Stock that are delivered to you in connection with your Award after such shares have been delivered to you.

(b) Any additional Restricted Stock Units, shares of Common Stock, cash or other property that becomes subject to the Award pursuant to this Section 1 shall be subject, in a manner determined by the Board, to the same forfeiture restrictions, restrictions on transferability, and time and manner of delivery as applicable to the other Restricted Stock Units and Common Stock covered by your Award.

(c) Notwithstanding the provisions of this Section 1, no fractional Restricted Stock Units or rights for fractional shares of Common Stock shall be created pursuant to this Section 1. The Board shall, in its discretion, determine an equivalent benefit for any fractional Restricted Stock Units or fractional shares that might be created by the adjustments referred to in this Section 1.

2. VESTING.

Subject to the limitations contained in this Agreement and the Plan, the Restricted Stock Units shall vest as provided in the vesting schedule set forth above, and subject to your Continuous Service as determined in accordance with Section 11(h) below. Any Restricted Stock Units that have not yet vested shall be forfeited upon the termination of your Continuous Service.

1. DISTRIBUTION OF SHARES OF COMMON STOCK.

(a) Subject to the provisions of this Agreement and the Plan, in the event one or more Restricted Stock Units vests, the Company shall deliver to you one (1) share of Common Stock for each Restricted Stock Unit that vests, subject to satisfaction of Tax-Related Items as described in Section 10 below. Except as set forth below, the delivery to you of the appropriate number of shares of Common Stock shall be made on the applicable vesting date or as soon as practicably possible thereafter. The issuance date determined by this paragraph is referred to as the “*Issuance Date*.” If the Issuance Date falls on a date that is not a business day, delivery shall instead occur on the next following business day. The form of such delivery (*e.g.*, a stock certificate or electronic entry evidencing such shares) shall be determined by the Company.

(b) Notwithstanding the foregoing, if (i) the Issuance Date does not occur (1) during an “open window period” applicable to you, as determined by the Company in accordance with the Company’s Insider Trading Policy, or (2) on a date when you are otherwise permitted to sell shares of Common Stock on an established stock exchange or stock market, and (ii) the Company elects, prior to the Issuance Date, (1) not to satisfy the tax withholding obligations described in Section 10 by withholding shares of Common Stock from the shares otherwise due, on the Issuance Date, to you under this Agreement, and (2) not to permit or require you to enter into an immediate sale commitment with a broker-dealer pursuant to Section 10 of this Agreement (including but not limited to a commitment under a previously established Company-approved 10b5-1 trading plan), then such shares shall not be delivered on such Issuance Date and shall instead be delivered on the first business day of the next occurring open window period applicable to you or the next business day when you are not prohibited from selling shares of Common Stock in the open public market, but in no event later than the date that is the 15th day of the third calendar month of the year following the year in which the shares of Common Stock under this Agreement are no longer subject to a “substantial risk of forfeiture” within the meaning of Treasury Regulation Section 1.409A-1(d).

2. PAYMENT BY YOU. Subject to Section 10 below, except as otherwise provided herein or under applicable law, you will not be required to make any payment to the Company with respect to your receipt of the Award, vesting of the Restricted Stock Units, or the delivery of the shares of Common Stock underlying the Restricted Stock Units.

3. SECURITIES LAW COMPLIANCE. You may not be issued any Common Stock under your Award unless the shares of Common Stock are either (i) then registered under the Securities Act, or (ii) the Company has determined that such issuance would be exempt from the registration requirements of the Securities Act. Your Award must also comply with other applicable laws and regulations governing the Award, and you shall not receive such Common Stock if the Company determines that such receipt would not be in material compliance with such laws and regulations.

4. RESTRICTIVE LEGENDS. The Common Stock issued under your Award shall be endorsed with appropriate legends, if any, determined by the Company.

5. TRANSFER RESTRICTIONS. Prior to the time that shares of Common Stock are delivered to you, you may not transfer, pledge, sell or otherwise dispose of the shares in respect of your Award. For example, you may not use shares that may be issued in respect of your Restricted Stock Units as security for a loan, nor may you transfer, pledge, sell or otherwise dispose of such shares. This restriction on transfer will lapse upon delivery to you of shares in respect of your vested Restricted Stock Units. Your Award is not transferable, except by will or by the laws of descent and distribution. In the event of divorce, you are encouraged to discuss the proposed treatment of the Restricted Stock Units with the Company prior to finalizing any domestic relations order if you reside in the United States.

6. AWARD NOT A SERVICE CONTRACT. Your Award is not an employment or service contract, and nothing in your Award shall be deemed to create in any way whatsoever any obligation on your part to continue in the service of the Company or any Affiliate, or on the part of the Company or any Affiliate to continue such service. In addition, nothing in your Award

shall obligate the Company or any Affiliate, their respective stockholders, boards of directors or employees to continue any relationship that you might have as an Employee or Consultant of the Company or any Affiliate. Finally, your participation in the Plan shall not create a right to employment or service or be interpreted as forming or amending an employment or service contract with the Company, and shall not interfere with the ability of the Employer (as defined in Section 10 below) to terminate your employment or service relationship at any time with or without cause.

7. UNSECURED OBLIGATION. Your Award is unfunded, and even as to any Restricted Stock Units which vest, you shall be considered an unsecured creditor of the Company with respect to the Company's obligation, if any, to issue Common Stock pursuant to this Agreement. You shall not have voting or any other rights as a stockholder of the Company with respect to the Common Stock acquired pursuant to this Agreement until such Common Stock is issued to you pursuant to Section 3 of this Agreement. Upon such issuance, you will obtain full voting and other rights as a stockholder of the Company with respect to the Common Stock so issued and held by you. Nothing contained in this Agreement, and no action taken pursuant to its provisions, shall create or be construed to create a trust of any kind or a fiduciary relationship between you and the Company or any other person.

8. WITHHOLDING OBLIGATIONS.

(a) You acknowledge that, regardless of any action the Company or your employer if different from the Company, whether current or former (the "**Employer**") takes with respect to Tax-Related Items, the ultimate liability for any or all income tax, social insurance contributions, payroll tax, fringe benefits tax, payment on account or other tax-related withholding related to your participation in the Plan and legally applicable to you ("**Tax-Related Items**") is and remains your responsibility and may exceed the amount actually withheld by the Employer. You further acknowledge that the Employer (1) makes no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of the Award, including the grant, vesting or settlement of the Award, the subsequent sale of shares delivered pursuant thereto and the receipt of any dividends; and (2) does not commit to structure the terms of the grant or any aspect of the Award to reduce or eliminate your liability for Tax-Related Items or achieve any particular tax result. Further, if you are or become subject to tax in more than one jurisdiction, you acknowledge that the Employer may be required to withhold, account for, and/or otherwise cause you to tender a payment to the Employer in the amount of the Tax-Related Items arising in each jurisdiction.

(b) On or before the time you receive a distribution of Common Stock pursuant to your Award, or at any time thereafter as requested by the Company, you hereby agree to make adequate arrangements satisfactory to the Company and/or the Employer to satisfy all Tax-Related Items. In this regard, you hereby authorize the Employer or its respective agents, at their discretion, to withhold all applicable Tax-Related Items by one or a combination of the following: (1) withholding in shares of Common Stock issuable to you upon vesting of the Restricted Stock Units, the number of which shall be determined to comply with appropriate tax laws and as would be otherwise necessary or desirable; or (2) withholding from your wages or other cash compensation paid to you by the Employer and/or the Company; or (3) withholding from the proceeds of the sale of shares of Common Stock acquired upon vesting of the Restricted Stock Units, either through a

mandatory sale arranged by the Company (on your behalf pursuant to this authorization without further consent) or a voluntary sale (including permitting or requiring you to enter into an immediate sale commitment with a broker-dealer that is a member of the Financial Industry Regulatory Authority). Notwithstanding that the Appendix for your country may specify a particular method by which the Company or the Employer intends to recover the Tax-Related Items from you, the Company reserves the right to recover Tax-Related Items by any of the methods set forth in Section 10 of this Agreement, except that if you are an executive or director within the meaning of Section 16 of the Exchange Act and the regulations thereunder, Tax-Related Items shall be recovered by withholding in shares of Common Stock as described in this Section 10(b)(1) above.

(c) Depending on the withholding method, the Company may withhold or account for Tax-Related Items by considering applicable minimum statutory withholding rates or other applicable withholding rates, including maximum applicable rates, in which case you will receive a refund of any over-withheld amount in cash and will have no entitlement to the Common Stock equivalent. If the obligation for the Tax-Related Items is satisfied by withholding in shares of Common Stock, then you will be deemed to have been issued the full number of shares of Common Stock subject to the vested Restricted Stock Units, notwithstanding that a number of the shares are held back solely for the purpose of paying Tax-Related Items. You will have no further rights, title or interests in or to the number of shares of Common Stock that are held back solely for the purpose of paying the Tax-Related Items.

(d) You shall pay to the Employer any amount of Tax-Related Items that the Employer may be required to withhold as a result of your receipt of the Award and/or the shares issuable pursuant thereto that cannot be satisfied by the means previously described. Unless the tax withholding obligations of the Company and/or the Employer are satisfied, the Company shall have no obligation to deliver to you any Common Stock or the proceeds from any sale of the shares of Common Stock.

(e) Finally, in the event the Company's obligation to withhold arises prior to the delivery to you of Common Stock or it is determined after the delivery of Common Stock to you that the amount of the Company's withholding obligation was greater than the amount withheld by the Company, you agree to indemnify and hold the Company harmless from any failure by the Company to withhold the proper amount.

9. NATURE OF GRANT. In accepting this Award, you acknowledge, understand and agree that:

(a) the Plan is established voluntarily by the Company, is discretionary in nature, and may be modified, amended, suspended or terminated by the Company as provided in the Plan;

(b) the grant of the Award and any other awards under the Plan is exceptional, voluntary and occasional and does not create any contractual or other right to receive awards, shares or any other benefit or compensation in lieu of future awards, even if awards have been granted in the past;

(c) all decisions with respect to future awards, if any, will be at the sole discretion of the Company;

(d) you are voluntarily participating in the Plan;

(e) the Award and the shares of Common Stock subject to the Award, and the income and value of same, are not intended to replace any pension rights or compensation;

(f) the Award and the shares of Common Stock subject to the Award, and the income and value of same, are not paid in lieu of any normal or expected compensation or salary for purposes of calculating any severance, resignation, termination, redundancy, end of service payments, bonuses, long-service awards, life or accident insurance benefits, pension or retirement benefits or similar payments;

(g) unless otherwise agreed with the Company, the Award and any shares deliverable thereunder, and the income and value of same, are not granted as consideration for, or in connection with, the service you may provide as a director of an Affiliate of the Company;

(h) for purposes of the Award, your Continuous Service will be considered terminated as of the date determined by the Company in its sole discretion;

(i) the future value of the shares underlying the Award is unknown and cannot be predicted;

(j) should you die owning shares of Common Stock or the Award, such shares or the Award may subject your estate to United States federal estate taxes, and you should seek your own tax advice regarding this potential tax;

(k) you disclaim any entitlement to compensation or damages arising from the termination of the Award, including as the result of termination of your Continuous Service with the Employer (for any reason whatsoever, whether or not later found to be invalid or in breach of employment laws in the jurisdiction where you are employed or providing services or the terms of any employment or service agreement), or diminution in value of the shares of Common Stock; in consideration of the grant of the Award, you hereby agree not to bring any claim arising from or relating to the Award against the Company, the Employer and any Affiliate;

(l) the Plan and this Agreement set forth the entire understanding between you, the Company, the Employer, and any Affiliate regarding the acquisition of the shares of Common Stock and supersede all prior oral and written agreements pertaining to the Award; and

(m) the following provisions apply only if you are providing services outside the United States:

(i) the Award and the shares of Common Stock subject to the Award, and the value and income of same, are extraordinary items that are not part of normal or expected compensation for any purpose; and

(ii) neither the Company, the Employer nor any Affiliate shall be liable for any foreign exchange rate fluctuation between your local currency and the United States Dollar that may affect the value of the Award or of any amounts due to you pursuant to the vesting of the Award or the subsequent sale of any shares of Common Stock acquired upon vesting.

10. DATA PRIVACY.

(a) *You hereby explicitly, voluntarily and unambiguously consent to the collection, use and transfer, in electronic or other form, of your personal data as described in this Agreement and any other Award grant materials (the "Personal Data") by and among, as applicable, the Company, the Employer or any Affiliate for the exclusive purpose of implementing, administering and managing your participation in the Plan.*

(b) *You understand that the Company and the Employer may hold certain personal information about you, including, but not limited to, your name, home address and telephone number, date of birth, social insurance number or other identification number, salary, nationality, job title, any shares of stock or directorships held in the Company, details of all awards or any other entitlement to shares awarded, canceled, settled, vested, unvested or outstanding in your favor, for the purpose of implementing, administering and managing the Plan. You understand that the Personal Data may be transferred to E*Trade Securities LLC or any other third parties assisting in the implementation, administration and management of the Plan, that these recipients may be located in the United States or elsewhere, and that the recipient's country may have different data privacy laws and protections than your country. You understand that, if you reside outside the United States, you may request a list with the names and addresses of any potential recipients of the Personal Data by contacting your local human resources representative. You authorize the recipients to receive, possess, use, retain and transfer the Personal Data, in electronic or other form, for the purposes of implementing, administering and managing your participation in the Plan, including any requisite transfer of such Personal Data as may be required to a broker or other third party with whom you may elect to deposit any shares of Common Stock acquired upon vesting of the Award. You understand that the Personal Data will be held only as long as is necessary to implement, administer and manage your participation in the Plan. You understand that, if you reside outside the United States, you may, at any time, view the Personal Data, request information about the storage and processing of the Personal Data, request any necessary amendments to the Personal Data or refuse or withdraw the consents herein, in any case without cost, by contacting in writing your local human resources representative. Further, you understand that you are providing the consents herein on a purely voluntary basis. If you do not consent or later seek to revoke your consent, your employment status with the Employer will not be affected; the only consequence of refusing or withdrawing your consent is that the Company would not be able to grant restricted stock units or other Awards to you or administer or maintain such Awards. For more information on the consequences of your refusal to consent or withdrawal of consent, you understand that you may contact your local human resources representative.*

11. NOTICES. Any notices provided for in your Award or the Plan shall be given in writing (including in electronic form) to each of the other parties hereto and shall be deemed effectively given on the earlier of (i) the date of personal delivery, including delivery by express

courier, (ii) the date that electronic notice is sent by you or Shareholder Services (as applicable), in the case of notices provided by electronic means, or (iii) the date that is five (5) days after deposit in the United States Post Office (whether or not actually received by the addressee), by registered or certified mail with postage and fees prepaid, addressed at the following addresses, or at such other address(es) as a party may designate by ten (10) days' advance written notice to each of the other parties hereto:

COMPANY: Synopsys, Inc.
Shareholder Services
690 East Middlefield Road
Mountain View, CA 94043
United States of America

PARTICIPANT: Your address as on file with the Company at the time notice is given

12. HEADINGS. The headings of the Sections in this Agreement are inserted for convenience only and shall not be deemed to constitute a part of this Agreement or to affect the meaning of this Agreement.

13. AMENDMENT. This Agreement may be amended solely by the Company by a writing (including an electronic writing) which specifically states that it is amending this Agreement, so long as a copy of such amendment is delivered to you, and provided that no such amendment impairing your rights hereunder may be made without your written consent. Without limiting the foregoing, the Company reserves the right to change, by written notice (including via electronic delivery) to you, the provisions of this Agreement in any way it may deem necessary or advisable to carry out the purpose of the grant as a result of any change in applicable laws or regulations or any future law, regulation, ruling, or judicial decision, provided that any such change shall be applicable only to rights relating to that portion of the Award which is then subject to restrictions as provided herein.

14. MISCELLANEOUS.

(a) The rights and obligations of the Company under your Award shall be transferable by the Company to any one or more persons or entities, and all covenants and agreements hereunder shall inure to the benefit of, and be enforceable by the Company's successors and assigns.

(b) All obligations of the Company under the Plan and this Agreement shall be binding on any successor to the Company, whether the existence of such successor is the result of a direct or indirect purchase, merger, consolidation, or otherwise, of all or substantially all of the business and/or assets of the Company.

(c) You agree upon request to execute any further documents or instruments necessary or desirable in the sole determination of the Company to carry out the purposes or intent of your Award.

(d) You acknowledge and agree that you have reviewed your Award in its entirety, have had an opportunity to obtain the advice of counsel prior to executing and accepting your Award and fully understand all provisions of your Award.

(e) This Agreement shall be subject to all applicable laws, rules, and regulations, and to such approvals by any governmental agencies or national securities exchanges as may be required.

(f) The Company is not providing any tax, legal or financial advice, nor is the Company making any recommendations regarding your participation in the Plan, or your acquisition or sale of the underlying shares of Common Stock. You are hereby advised to consult with your own personal tax, legal and financial advisors regarding your participation in the Plan before taking any action related to the Plan.

(g) If you have received this or any other document related to the Plan translated into a language other than English and if the meaning of the translated version is different than the English version, the English version will control.

(h) The Company reserves the right to impose other requirements on your participation in the Plan, on the Award and on any shares of Common Stock acquired under the Plan, to the extent the Company determines it is necessary or advisable for legal or administrative purposes, and to require you to sign any additional agreements or undertakings that may be necessary to accomplish the foregoing.

15. GOVERNING PLAN DOCUMENT. Your Award is subject to all the provisions of the Plan, the provisions of which are hereby made a part of your Award, and is further subject to all interpretations, amendments, rules and regulations which may from time to time be promulgated and adopted pursuant to the Plan. In the event of any conflict between the provisions of your Award and those of the Plan, the provisions of the Plan shall control; *provided, however*, that Section 3 of this Agreement shall govern the timing of any distribution of Common Stock under your Award. The Company shall have the power to interpret the Plan and this Agreement and to adopt such rules for the administration, interpretation, and application of the Plan as are consistent therewith and to interpret or revoke any such rules. All actions taken and all interpretations and determinations made by the Board shall be final and binding upon you, the Company, and all other interested persons. No member of the Board shall be personally liable for any action, determination, or interpretation made in good faith with respect to the Plan or this Agreement.

16. APPENDIX. Notwithstanding any provisions in this Agreement, the Award shall be subject to the special terms and conditions set forth in the Appendix to this Agreement for jurisdictions in which you are subject to the applicable laws. Moreover, if you relocate to one of the countries included in the Appendix or otherwise become subject to the laws of such jurisdiction, the special terms and conditions for such country will apply to you, to the extent the Company determines that the application of such terms and conditions is necessary or advisable for legal or administrative purposes. The Appendix constitutes part of this Agreement.

17. EFFECT ON OTHER EMPLOYEE BENEFIT PLANS. The value of the Award subject to this Agreement shall not be included as compensation, earnings, salaries, or other similar terms used when calculating benefits under any employee benefit plan sponsored by the Company or any Affiliate.

18. CHOICE OF LAW AND VENUE. The interpretation, performance and enforcement of this Agreement shall be governed by the law of the state of Delaware without regard to such state's conflicts of laws rules. For purposes of litigating any dispute that arises directly or indirectly from the relationship of the parties evidenced by this Award or the Agreement, the parties hereby submit to and consent to the sole and exclusive jurisdiction of the courts of the State of California and agree that such litigation shall be conducted only in the courts of Santa Clara County, California, or the federal courts for the United States for the Northern District of California.

19. SEVERABILITY. If all or any part of this Agreement or the Plan is declared by any court or governmental authority to be unlawful or invalid, such unlawfulness or invalidity shall not invalidate any portion of this Agreement or the Plan not declared to be unlawful or invalid. Any section of this Agreement (or part of such a section) so declared to be unlawful or invalid shall, if possible, be construed in a manner which will give effect to the terms of such section or part of a section to the fullest extent possible while remaining lawful and valid.

20. OTHER DOCUMENTS. You hereby acknowledge receipt of, or the right to receive, a document providing the information (such as public filings) required by Rule 428(b)(1) promulgated under the Securities Act.

21. ELECTRONIC DELIVERY AND ACCEPTANCE. The Company may, in its sole discretion, decide to deliver any documents related to the Award granted hereunder or to participation in the Plan (or future restricted stock units or other Awards that may be granted under the Plan) by electronic means (including by filing documents publicly with at www.sec.gov or any successor website thereto) or to request your consent to participate in the Plan by electronic means. You hereby consent to receive such documents by electronic delivery and, if requested, agree to participate in the Plan through an on-line or electronic system established and maintained by the Company or another third party designated by the Company. Electronic delivery may include the delivery of a link to a Company intranet or the internet site of a third party involved in administering the Plan, the delivery of the document via e-mail or such other delivery determined at the Company's discretion. You acknowledge that you may receive from the Company a paper copy of any documents delivered electronically at no cost if you contact the Company by telephone, through a postal service or electronic mail. You further acknowledge that you will be provided with a paper copy of any documents delivered electronically if electronic delivery fails; similarly, you understand that you must provide on request to the Company or any designated third party a paper copy of any documents delivered electronically if electronic delivery fails. Also, you understand that your consent may be revoked or changed, including any change in the electronic mail address to which documents are delivered (if you have provided an electronic mail address), at any time by notifying the Company of such revised or revoked consent by telephone, postal service or electronic mail.

22. INSIDER TRADING RESTRICTIONS/MARKET ABUSE LAWS. You acknowledge that you may be subject to insider trading restrictions and/or market abuse laws, which

may affect your ability to acquire or sell the shares of Common Stock or rights to shares under the Plan during such times as you are considered to have “inside information” regarding the Company (as defined by the laws in your country). Any restrictions under these laws or regulations are separate from and in addition to any restrictions that may be imposed under the Company's Insider Trading Policy. You acknowledge that it is your responsibility to comply with any applicable restrictions, and you are advised to speak to your personal advisor on this matter.

23. FOREIGN ASSET/ACCOUNT REPORTING, EXCHANGE CONTROL AND TAX REQUIREMENTS. You acknowledge that there may be certain foreign asset and/or account reporting requirements and exchange controls which may affect your ability to acquire or hold shares of Common Stock acquired under the Plan or cash received from participating in the Plan (including from any dividends paid on shares of Common Stock acquired under the Plan) in a brokerage or bank account outside your country. You may be required to report such accounts, assets or transactions to the tax or other authorities in your country. You also may be required to repatriate sale proceeds or other funds received as a result of your participation in the Plan to your country through a designated bank or broker within a certain time after receipt. In addition, you may be subject to tax payment and/or reporting obligations in connection with any income realized under the Plan and/or from the sale of shares of Common Stock. You acknowledge that it is your responsibility to be compliant with all such requirements, and you are advised to consult your personal legal and tax advisors, as applicable, to ensure your compliance.

* * * * *

Your signature below or online acceptance (where permitted) indicates that you have read this Agreement (including any appendices hereto) and agree to be bound by the terms and conditions of the Plan and this Agreement.

Synopsys, Inc.	Participant
By: _____	_____ %%FIRST_NAME%-%% %%LAST_NAME%-%%
Title: _____	Date: _____
Date: <u>%%OPTION_DATE%-%%</u>	

Appendix

Synopsys, Inc.

Restricted Stock Unit Grant Notice and Award Agreement

This Appendix, which is part of the Restricted Stock Unit Grant Notice and Award Agreement, contains the additional terms and conditions of the Restricted Stock Units that will apply to Participants in the countries listed below. If you are a citizen or resident of a country other than the one in which you currently are residing and/or working, you transfer employment and/or residency to another country after the Award is granted or you are considered a resident of another country for local law purposes, the Company shall, in its sole discretion, determine to what extent the terms and conditions included herein will apply under these circumstances. Capitalized terms used but not defined herein shall have the same meanings assigned to them in the Plan and/or the Agreement.

Belgium

There are no country-specific terms or conditions.

Canada

Withholding Obligations. The following provision supplements Section 10 of the Agreement:

A number of shares of Common Stock sufficient to cover any Tax-Related Items that the Company or the Employer is required to withhold will automatically be sold (on your behalf pursuant to this authorization) when your Award vests. You will receive the net shares remaining after such withholding obligations and any broker fees and commissions have been satisfied.

Settlement in Shares. Notwithstanding any discretion contained in the Plan to settle the Award in cash, due to tax law considerations in Canada, Restricted Stock Units will be settled in shares of Common Stock only and do not provide any right for you to receive a cash payment.

Finland

Withholding Obligations. The following provision supplements Section 10 of the Agreement:

A number of shares of Common Stock sufficient to cover any Tax-Related Items that the Company or the Employer is required to withhold will automatically be sold (on your behalf pursuant to this authorization) when your Award vests. You will receive the net shares remaining after such withholding obligations and any broker fees and commissions have been satisfied.

France

Withholding Obligations. The following provision supplements Section 10 of the Agreement:

A number of shares of Common Stock sufficient to cover any Tax-Related Items that the Company or the Employer is required to withhold will automatically be sold (on your behalf pursuant to this authorization) when your Award vests. You will receive the net shares remaining after such withholding obligations and any broker fees and commissions have been satisfied.

Consent to Receive Information in English. By accepting the Restricted Stock Units, you confirm having read and understood the Plan and Agreement, including all terms and conditions included therein, which were provided in the English language. You accept the terms of those documents accordingly.

En acceptant les Restricted Stock Units, vous confirmez avoir lu et compris le Plan and le Contrat y relatifs, incluant leurs termes et conditions, qui ont été transmis en langue anglaise. Vous acceptez les dispositions de ces documents en connaissance de cause.

Germany

Withholding Obligations. The following provision supplements Section 10 of the Agreement:

A number of shares of Common Stock sufficient to cover any Tax-Related Items that the Company or the Employer is required to withhold will automatically be sold (on your behalf pursuant to this authorization) when your Award vests. You will receive the net shares remaining after such withholding obligations and any broker fees and commissions have been satisfied.

Hong Kong

Securities Warning. *The contents of this document have not been reviewed by any regulatory authority in Hong Kong. You should exercise caution in relation to the offer. In accepting the Award, you understand and acknowledge that the Restricted Stock Units and any shares of Common Stock issued at vesting of the Restricted Stock Units do not constitute a public offering of securities under Hong Kong law and are available only to employees and consultants of the Company and its Affiliates. The Agreement, including this Appendix, the Plan and other incidental communication materials (i) have not been prepared in accordance with and are not intended to constitute a “prospectus” for a public offering of securities under the applicable securities legislation in Hong Kong, and (ii) are intended only for your personal use and may not be distributed to any other person. If you are in any doubt about any of the contents of the Agreement, including this Appendix, or the Plan, you should obtain independent legal advice.*

Settlement in Shares. Notwithstanding any discretion contained in the Plan to settle the Award in cash, due to tax law considerations in Hong Kong, the Restricted Stock Units shall be settled in shares of Common Stock only and do not provide any right for you to receive a cash payment.

Sale of Shares. If the Restricted Stock Units vest within six months of the Date of Grant, you agree that you will not dispose of the shares of Common Stock acquired prior to the six-month anniversary of the Date of Grant.

Hungary

There are no country-specific terms or conditions.

India

Withholding Obligations. The following provision supplements Section 10 of the Agreement:

The Employer will withhold any Tax-Related Items from your wages when your Award vests.

Ireland

Withholding Obligations. The following provision supplements Section 10 of the Agreement:

A number of shares of Common Stock sufficient to cover any Tax-Related Items that the Company or the Employer is required to withhold will automatically be sold (on your behalf pursuant to this authorization) when your Award vests. You will receive the net shares remaining after such withholding obligations and any broker fees and commissions have been satisfied.

Israel

Trust Arrangement. You understand and agree that the Restricted Stock Units are granted subject to and in accordance with the Synopsys, Inc. 2006 Employee Equity Incentive Plan Israeli Subplan (the “Subplan”), the trust deed between the Company and ESOP Management and Trust Services Ltd. or any successor trustee (the “Trustee”), the Confirmation Letter -- Trustee 102 Awards, the Agreement and the Plan. You further understand and agree that the Restricted Stock Units and any shares of Common Stock issued upon vesting of the Restricted Stock Units are intended to qualify for the favorable tax treatment available in Israel pursuant to the provisions of the 102 Capital Gains Track (as defined in the Subplan). The Company does not make any undertaking or representation to maintain the qualified status of the Restricted Stock Units. In the event of any inconsistencies between the Subplan, the Agreement and/or the Plan, you agree that the Subplan will govern the Restricted Stock Units granted to you in Israel.

If you have not already signed the Confirmation Letter -- Trustee 102 Awards provided by ESOP Management and Trust Services Ltd. or the Employer in connection with grants made under the Subplan, then you must print, sign and deliver the signed copy of the Confirmation Letter within 90 days to ESOP Management and Trust Services Ltd. by email to esop-helpdesk@esop.co.il or by fax to 972-3-7602632. If you deliver your signed Confirmation Letter by fax, you should confirm receipt by contacting ESOP Management and Trust Services Ltd. by email at esop-helpdesk@esop.co.il or by phone at 1700-70-3767. If the Trustee does not receive the signed Confirmation Letter within 90 days, the Restricted Stock Units may not qualify for the favorable tax treatment under Section 102.

Distribution of Shares of Common Stock & Transfer Restrictions. This provision supplements Section 3 and Section 7 of the Agreement:

To receive the favorable tax treatment provided for in Section 102, the Restricted Stock Units and the shares of Common Stock issued upon vesting of the Restricted Stock Units will be held or controlled by the Trustee, pursuant to the terms of the trust deed, for your benefit, during the Required Holding Period (as defined in the Subplan), which, until further election by the Company, shall be twenty-four (24) months from the Date of Grant, or any other period determined under the ITO (as defined in the Subplan) as now in effect or as hereafter amended or determined by the Israeli Income Tax Authority. You may still access your Restricted Stock Units and sell shares of Common Stock through your account with the Company's designated broker, subject to the terms set forth in this Appendix. You hereby understand and agree you will not require the Company's designated broker or the Trustee to release or sell the shares of Common Stock during the Required Holding Period. After the Required Holding Period has expired, the shares of Common Stock issued at vesting of the Restricted Stock Units will continue to be held by the Trustee until the earlier of (i) the receipt by the Trustee of an acknowledgment from the Israeli Income Tax Authority that you have paid all applicable taxes due pursuant to the ITO and Section 102, or (ii) the Trustee withholds any applicable tax due pursuant to the ITO and Section 102. Notwithstanding the above, if any release or sale of shares of Common Stock occurs during the Required Holding Period, the tax consequences under Section 102 shall apply to and shall be borne solely by you.

Securities Law Exemption. An exemption from the requirement to file a prospectus with respect to the Plan has been granted to the Company by the Israeli Securities Authority. Copies of the Plan and Form S-8 registration statement for the Plan file with the United States Securities and Exchange Commission are available free of charge upon request at your local HR department.

Italy

Withholding Obligations. The following provision supplements Section 10 of the Agreement:

A number of shares of Common Stock sufficient to cover any Tax-Related Items that the Company or the Employer is required to withhold will automatically be sold (on your behalf pursuant to this authorization) when your Award vests. You will receive the net shares remaining after such withholding obligations and any broker fees and commissions have been satisfied.

Data Privacy. The following provision replaces Section 12 of the Agreement:

You hereby acknowledge that your personal data is collected, used, processed and transferred outside of the European Union, as described in this Agreement and any other Restricted Stock Unit grant materials, by and among, as applicable, the Employer, the Company and any Affiliate for the exclusive purpose of implementing, administering and managing your participation in the Plan. You understand that the Employer and/or the Company hold certain personal information about you, including, but not limited to, your name, home address and telephone number, date of birth, national insurance number or other identification number, salary, nationality, job title, any shares of Common Stock or directorships held in the Company, details of all Restricted Stock Units or other entitlement to shares of Common Stock awarded, canceled, exercised, vested, unvested or

outstanding in your favor, for the purpose of implementing, administering and managing the Plan ("Data").

You are aware that providing the Company with the Data is necessary for the performance of this Agreement and that your refusal to provide the Data would make it impossible for the Company to perform its contractual obligations and may impact your ability to vest in or realize benefits from the Restricted Stock Units. Your Data shall be accessible within the Company's organization only by the persons specifically charged with Data-processing operations and by the persons that need to access the Data because of their duties and position in relation to the performance of the contract. The Controller of personal data-processing is the Company, with registered offices at 690 East Middlefield Road, Mountain View, CA 94043, U.S.A., and, pursuant to Legislative Decree no. 196/2003, its representative in Italy is Synopsys Italia S.r.l. with registered offices at Centro Direzionale Colleoni, Viale Colleoni 11 - Palazzo Sirio 3, 20041 Agrate Brianza (MI), Italy.

*You understand that Data will be transferred to E*Trade Securities LLC and/or to such other stock plan service provider as may be selected by the Company, which are assisting the Company with the implementation, administration and management of the Plan and that Data may be transferred to certain other third parties assisting in the implementation, administration and management of the Plan, including any requisite transfer of such Data as may be required to a broker or other third party with whom you may elect to deposit any shares of Common Stock acquired upon vesting of the Restricted Stock Units. You understand that these recipients, which may receive, possess, use, retain and transfer such Data for the above-mentioned purposes, may be located in the United States, or elsewhere, including outside of the European Economic Area, and that the recipient's country may have different data privacy laws and protections than your country. The processing activity, including transfer of Data abroad, including outside of the European Economic Area, as herein specified and pursuant to applicable laws and regulations, does not require your consent thereto as the processing is necessary to performance of contractual obligations related to the implementation, administration and management of the Plan.*

You understand that Data-processing relating to the purposes above specified shall take place under automated or non-automated conditions, anonymously when possible, that comply with the purposes for which Data is collected and with confidentiality and security provisions as set forth by applicable laws and regulations, with specific reference to Legislative Decree no. 196/2003. You understand that Data will be held only as long as is required by the law or is necessary to implement, administer and manage your participation in the Plan. You understand that, pursuant to Article 7 of Legislative Decree No. 196/2003, you have the right, without limitation, to access, delete, update, request the rectification of your Data and cease, for legitimate reasons, the Data-processing. Furthermore, you are aware that the Data will not be used for direct marketing purposes. In addition, the Data provided can be reviewed and questions or complaints can be addressed by contacting your local HR representative.

Plan Document Acknowledgment. By accepting the Restricted Stock Units, you acknowledge that you have received a copy of the Plan and the Agreement and have reviewed the Plan and the Agreement, including this Appendix, in their entirety and fully understand and accept all provisions thereof.

You further acknowledge that you have read, understand and specifically and expressly accept the following sections of the Agreement: Section 2: Vesting; Section 3: Distribution of Shares of Common Stock; Section 7: Transfer Restrictions; Section 8: Award Not a Service Contract; Section 10: Withholding Obligations; Section 11: Nature of Grant, Section 16: Miscellaneous; Section 20: Choice of Law and Venue; and the Data Privacy provisions set forth above.

Japan

There are no country-specific terms or conditions.

Korea

There are no country-specific terms or conditions.

Netherlands

Withholding Obligations. The following provision supplements Section 10 of the Agreement:

A number of shares of Common Stock sufficient to cover any Tax-Related Items that the Company or the Employer is required to withhold will automatically be sold (on your behalf pursuant to this authorization) when your Award vests. You will receive the net shares remaining after such withholding obligations and any broker fees and commissions have been satisfied.

People's Republic of China

Immediate Sale of Shares. Notwithstanding Section 3(a) of the Agreement, due to local regulatory requirements, upon the vesting of your Restricted Stock Units, any shares of Common Stock to be issued to you upon vesting and settlement of the Restricted Stock Units will be immediately sold. You agree that the Company is authorized to instruct its designated broker to assist with the mandatory sale of such shares (on your behalf pursuant to this authorization) and you expressly authorize the Company's designated broker to complete the sale of such shares. You acknowledge that the Company's designated broker is under no obligation to arrange for the sale of the shares at any particular price. Upon the sale of the shares, the Company agrees to pay you the cash proceeds from the sale, less any brokerage fees or commissions and subject to any obligation to satisfy Tax-Related Items.

Exchange Control Requirements. You understand and agree that, pursuant to local exchange control requirements, you will be required to repatriate the cash proceeds from the immediate sale of the shares issued upon the vesting of the Restricted Stock Units to the PRC if you are a PRC national or are otherwise determined to be subject to the requirements imposed by the State Administration of Foreign Exchange by the Company. You further understand that, under local law, the sale proceeds will need to be repatriated through a special exchange control account established by an Affiliate in the PRC and you hereby consent and agree that any proceeds from the sale of any Restricted Stock Units you acquire may be transferred to such special account prior to being delivered to you. You further agree to comply with any other requirements that may be

imposed by the Company in the future in order to facilitate compliance with exchange control requirements in the PRC.

You further understand and agree that the Company may distribute the proceeds of the sale of shares either in U.S. dollars or in local currency. If the proceeds are distributed in local currency, the Company is under no obligation to secure any particular exchange conversion rate and there will be delays in converting the cash proceeds to local currency due to exchange control restrictions. You agree to bear any currency fluctuation risk between the time the shares are sold and the time the cash proceeds are distributed to you through the special account described above.

Singapore

There are no country-specific terms or conditions.

Sweden

Withholding Obligations. The following provision supplements Section 10 of the Agreement:

A number of shares of Common Stock sufficient to cover any Tax-Related Items that the Company or the Employer is required to withhold will automatically be sold (on your behalf pursuant to this authorization) when your Award vests. You will receive the net shares remaining after such withholding obligations and any broker fees and commissions have been satisfied.

Switzerland

Withholding Obligations. The following provision supplements Section 10 of the Agreement:

For all Permit B holders and any cross border employees subject to withholding at source, a number of shares of Common Stock sufficient to cover any Tax-Related Items that the Company or the Employer is required to withhold will automatically be sold (on your behalf pursuant to this authorization) when your Award vests. You will receive the net shares remaining after such withholding obligations and any broker fees and commissions have been satisfied.

Taiwan

There are no country-specific terms or conditions.

United Kingdom

Settlement in Shares. The following provision supplements Section 3 of the Agreement:

Notwithstanding any discretion contained in the Plan to settle the Award in cash, Restricted Stock Units will be settled in shares of Common Stock only and do not provide any right for you to receive a cash payment.

Withholding Obligations. The following provision supplements Section 10 of the Agreement:

If you do not pay, or the Company or the Employer does not withhold from you, the full amount of income tax that you owe within ninety (90) days of the end of the U.K. tax year in which the event giving rise to the Tax-Related Items occurs (the “***Due Date***”) or such other period specified in Section 222(1)(c) of the U.K. Income Tax (Earnings and Pensions) Act 2003, the amount of any uncollected Tax-Related Items will constitute a loan owed by you to the Employer, effective on the Due Date. You agree that the loan will bear interest at the then-current official rate of Her Majesty’s Revenue and Customs (“***HMRC***”), it will be immediately due and repayable, and the Company or the Employer may recover it at any time thereafter by any of the means referred to in Section 10 of the Agreement. Notwithstanding the foregoing, if you are a director or executive officer of the Company (within the meaning of Section 13(k) of the Exchange Act), you will not be eligible for such a loan to cover the Tax-Related Items. In the event that you are a director or executive officer and the Tax-Related Items are not collected from or paid by you by the Due Date, the amount of any uncollected Tax-Related Items may constitute a benefit to you on which additional income tax and National Insurance contributions may be payable. You will be responsible for reporting and paying any income tax due on this additional benefit directly to HMRC under the self-assessment regime and for reimbursing the Company or the Employer, as applicable, for the value of any employee National Insurance contributions due on this additional benefit, which the Company or the Employer may recover at any time thereafter by any of the means in Section 10 of the Agreement.

Joint Election. As a condition of your participation in the Plan, you agree to accept any liability for secondary Class 1 National Insurance contributions (the “***Employer’s Liability***”) which may be payable by the Company and/or the Employer in connection with the Restricted Stock Units and any event giving rise to Tax-Related Items. Without prejudice to the foregoing, you agree to execute a joint election with the Company (the “***Joint Election***”) prior to vesting of the Restricted Stock Units, the form of such Joint Election being formally approved by HMRC and attached hereto as Exhibit A, and any other consent or elections required to accomplish the transfer of the Employer’s Liability to you. You further agree to execute such other joint elections as may be required between you and any successor to the Company and/or the Employer. You further agree that the Company and/or the Employer may collect the Employer’s Liability by any of the means set forth in Section 10 of the Agreement.

If you do not enter into a Joint Election prior to vesting of the Restricted Stock Units, if approval of the Joint Election has been withdrawn by HMRC or if such Joint Election is jointly revoked by you and the Company or the Employer, as applicable, the Company, in its sole discretion and without any liability to the Company or the Employer, may choose not to issue or deliver any shares to you upon vesting of the Restricted Stock Units.

United States

Withholding Obligations. The following provision supplements Section 10 of the Agreement:

Upon vesting of Restricted Stock Units, the Company will issue to you the number of shares covered by the vested Restricted Stock Units, less the number of shares sufficient to cover any Tax-Related Items that the Company is required to withhold.

Exhibit A

(UK Participants)

**PLEASE READ THE FOLLOWING IN ITS ENTIRETY
BEFORE ACCEPTING YOUR AWARD**

**SYNOPSISYS, INC.
2006 EMPLOYEE EQUITY INCENTIVE PLAN**

**Important Note on the Joint Election to Transfer
Employer National Insurance Contributions**

As a condition of your participation in the 2006 Employee Equity Incentive Plan, you are required to enter into a joint election to transfer to you any liability for employer's national insurance contributions (the "***Employer's Liability***") that may arise in connection with your award of stock options and/or restricted stock units (together, the "***Awards***"), or in connection with future Awards that may be granted to you by Synopsisys, Inc. (the "***Company***") under its 2006 Employee Equity Incentive Plan (the "***Joint Election***").

If you do not agree to enter into the Joint Election, the Awards will be worthless, you will not be able to exercise the options or vest in the restricted stock units, or receive any benefit in connection with the Awards, as set forth in your Award Agreement.

By entering into the Joint Election:

- I. you agree that any Employer's Liability that may arise in connection with or pursuant to the exercise or vesting of the Award, as applicable (and the acquisition of shares of the Company's common stock) or other taxable events in connection with the Award will be transferred to you; and
- II. you authorise the Company and/or your employer to recover an amount sufficient to cover this liability by any method set forth in the relevant Award Agreement and/or the Joint Election.

Indicating your acceptance of the Option Agreement and/or Restricted Stock Unit Award Agreement, as applicable, indicates your agreement to be bound by the terms of the Joint Election.

Please read the terms of the Joint Election carefully before accepting the Option Agreement and/or the Restricted Stock Unit Award Agreement and the Joint Election.

PLEASE PRINT AND KEEP A COPY OF THIS ELECTION FOR YOUR RECORDS

SYNOPSYS , INC.
2006 EMPLOYEE EQUITY INCENTIVE PLAN

(UK Participants)

**FORM OF ELECTION TO TRANSFER THE EMPLOYER'S SECONDARY
CLASS 1 NATIONAL INSURANCE LIABILITY TO THE EMPLOYEE**

1. Parties

This Election is between:

- (A) You, the individual who has obtained access to this Election (the “Participant”), who is employed by one of the employing companies listed in the attached schedule (the “Employer”) and who is eligible to receive stock options (“Options”) and/or restricted stock units (“RSUs”) (each an “Award” and together, the “Awards”) pursuant to the terms and conditions of the Synopsys, Inc. 2006 Employee Equity Incentive Plan (the “Plan”), and
- (B) Synopsys, Inc. of 690 East Middlefield Road, Mountain View, California 94043, United States (the “Company”), which may grant Awards under the Plan and is entering this Election on behalf of the Employer.

2. Purpose of Election

- 2.1 This Election relates to the Employer's secondary Class 1 National Insurance Contributions (the “Employer's Liability”) which may arise on the occurrence of a “Taxable Event” which gives rise to relevant employment income within section 4(4)(a) and/or paragraph 3B(1A) of Schedule 1 of the Social Security Contributions and Benefits Act 1992 (“SSCBA”), including but not limited to:
 - a. the acquisition of securities pursuant to the Awards (pursuant to section 477(3)(a) ITEPA); and/or
 - b. the assignment or release of the Awards in return for consideration (pursuant to section 477(3)(b) ITEPA); and/or
 - c. the receipt of any other benefit in connection with the Awards other than a benefit within (i) or (ii) above (pursuant to section 477(3)(c) ITEPA); and/or
 - d. post-acquisition events relating to the Awards or the securities acquired pursuant to the Awards (within section 426 ITEPA); and/or
 - e. post-acquisition events relating to the Awards or the securities acquired pursuant to the Awards (within section 438 ITEPA).

In this Election, ITEPA means the Income Tax (Earnings and Pensions) Act 2003.

- 2.2 This Election is made in accordance with paragraph 3B(1) of Schedule 1 to SSCBA.
- 2.3 This Election applies to all Awards granted to the Participant under the Plan on or after May 22, 2009 up to the termination date of the Plan.
- 2.4 This Election does not apply in relation to any liability, or any part of any liability, arising as a result of regulations being given retrospective effect by virtue of section 4B(2) of either the SSCBA, or the Social Security Contributions and Benefits (Northern Ireland) Act 1992.
- 2.5 This Election will not apply to the extent that it relates to relevant employment income which is employment income of the earner by virtue of Chapter 3A of Part 7 of ITEPA (employment income: securities with artificially depressed market value).

2 The Election

The Participant and the Company jointly elect that the entire liability of the Employer to pay the Employer's Liability on the Taxable Event is hereby transferred to the Participant. The Participant understands that by electronically accepting this Election, he or she will become personally liable for the Employer's Liability covered by this Election.

3 Payment of the Employer's Liability

- 4.1 The Participant and the Company acknowledge that the Employer is under a duty to remit the Employer's Liability to HM Revenue and Customs on behalf of the Participant within 14 days after the end of the UK tax month during which the Taxable Event occurs, or such other period of time, as prescribed. The Participant agrees to pay to the Company and/or the Employer the Employer's Liability on demand, at any time on or after the Taxable Event and hereby authorises the Company and/or the Employer to account for the Employer's Liability to HM Revenue and Customs.
- 4.2 Without limitation to Clause 4.1 above, the Participant hereby authorises the Company and/or the Employer to collect the Employer's Liability from the Participant at any time after the Taxable Event:
 - a. by deduction from salary or any other payment payable to the Participant at any time on or after the date of the Taxable Event; and/or
 - b. directly from the Participant by payment in cash or cleared funds; and/or
 - c. by arranging, on behalf of the Participant, for the sale of some of the securities which the Participant is entitled to receive in respect of the Awards; and/or
 - d. through any other method as set forth in the relevant Award agreement entered into between the Participant and the Company.
- 4.3 The Company hereby reserves for itself and the Employer the right to withhold the transfer of any securities to the Participant until full payment of the Employer's Liability is collected from the Participant.

4 Duration of Election

- 5.1 The Participant and the Company agree to be bound by the terms of this Election regardless of whether the Participant is transferred abroad or is not employed by the Employer on the date on which the Employer's Liability becomes due. Any reference to the Company, the Employer and/or the Participant shall include that entity's successors in title and assigns as permitted in accordance with the terms of the Plan and Award agreement.
- 5.2 This Election will continue in effect until the earliest of the following:
- a. such time as both the Participant and the Company agree in writing that it should cease to have effect;
 - b. on the date the Company serves written notice on the Participant terminating its effect;
 - c. on the date HM Revenue and Customs withdraws approval of this Election; or
 - d. on the date the Election ceases to have effect in accordance with its terms in respect of any outstanding Awards granted under the Plan.

Acceptance by THE PARTICIPANT

The Participant acknowledges that by clicking on the “I accept” button where indicated and from that date, the Participant agrees to be bound by the terms of this Election as stated above.

Acceptance by THE COMPANY

The Company acknowledges that by arranging for the scanned signature of an authorised representative to appear on this Election, the Company agrees to be bound by the terms of this Election as stated above.

SYNOPSYS, INC.

By: _____

Title:

SCHEDULE TO FORM OF ELECTION – EMPLOYING COMPANIES

The employing companies to which this Election relates are:

- (1) Synopsys (Northern Europe) Limited

Registered Office:	100 Brook Drive Green Park, Reading RG2 6UJ United Kingdom
Company Registration Number:	2642054
Corporation Tax District:	Oxon and Bucks Area
Corporation Tax Reference:	402 56090 10710
PAYE District:	East Hampshire and Wight Area
PAYE Reference:	581/S3033

**2006 Employee Equity Incentive Plan
Notice of Grant of Stock Options
and Option Agreement**

Synopsys, Inc.
ID: 56-1546236
690 East Middlefield Road
Mountain View, CA 94043

%%FIRST_NAME%- %%%LAST_NAME%- %
%%ADDRESS_LINE_1%- %
%%ADDRESS_LINE_2%- %
%%CITY%- %, %%%STATE%- % %%%ZIPCODE%- %
%%COUNTRY%- %

**Option Number: %%%OPTION_NUMBER%- %
ID: %%%EMPLOYEE_IDENTIFIER%- %**

Effective %%%OPTION_DATE%- %, Synopsys, Inc. (the “**Company**”) has granted you a Nonstatutory Stock Option (the “**Option**”) under the 2006 Employee Equity Incentive Plan (the “**Plan**”) to buy %%%TOTAL_SHARES_GRANTED%- % shares of the common stock of the Company (the “**Common Stock**”) at an exercise price of %%%OPTION_PRICE%- % per share. This Option is subject to all of the terms and conditions set forth in this Notice of Grant of Stock Options and Option Agreement (including any special terms and conditions for your country in the Appendix hereto, the “**Agreement**”) and the Plan, which is incorporated by reference herein in its entirety. This Option is also subject to the Compensation Recovery Policy applicable to corporate staff, adopted by the Company in December 2008, as amended from time to time (the “**Compensation Recovery Policy**”) and any required compensation recovery provisions under applicable laws or regulations. Capitalized terms not explicitly defined in this Agreement but defined in the Plan shall have the same definitions as in the Plan.

This Option will vest, and may be exercised, in whole or in part, in accordance with the following vesting schedule, subject to your Continuous Service with the Company or any Affiliate.

Shares	Vest Type	Full Vest	Expiration
%%SHARES_PERIOD1%- %	On Vest Date	%%VEST_DATE_PERIOD1%- %	%%EXPIRE_DATE_PERIOD1%- %
%%SHARES_PERIOD2%- %	Quarterly	%%VEST_DATE_PERIOD2%- %	%%EXPIRE_DATE_PERIOD2%- %

1. Exercise.

(a) Right to Exercise. This Option is exercisable during its term in accordance with the vesting schedule set forth above and the applicable provisions of the Plan and this Agreement. In the event of your death, Disability, or other cessation of Continuous Service, the exercisability of the Option is governed by the applicable provisions of the Plan and this Agreement. This Option may not be exercised for a fraction of a share.

(b) Method of Exercise. You must exercise the Option through your account with the Company’s designated broker, which as of the date hereof is E*Trade Securities LLC, unless

you are an officer subject to the reporting requirements of Section 16(a) of the Exchange Act (a “**Section 16 Officer**”). Using your account, you may select the grant to exercise, the number of shares to exercise, the type of exercise (subject to applicable provisions in the Appendix), and, if applicable based on the type of exercise, the sales order for the shares issuable upon exercise. You may sell the Common Stock underlying the Option through your account or you may transfer the shares of Common Stock to your stockbroker (except as provided in the Appendix). If you are a Section 16 Officer, you must exercise your Option in accordance with the Company’s Section 16 Officer and Director Trading Procedures. All Option exercises must be made in accordance with the Company’s Insider Trading Policy.

(c) Exercise by Another. If another person wants to exercise this Option after it has been transferred to him or her in accordance with the transferability restrictions provided in the Plan, that person must prove to the Company’s satisfaction that he or she is entitled to exercise this Option. That person must also pay the exercise price (as described below) and any applicable tax withholding due upon exercise of the Option (as described in Section 2 below) and comply with all other provisions of this Agreement.

(d) Method of Payment. Payment of the exercise price is due in full upon exercise of all or any part of the Option. Payment of the exercise price may be made in cash or by check or in any other manner permitted in the Plan (except as provided in the Appendix).

(e) Termination. In the event of termination of your Continuous Service for any reason other than Cause, you will be permitted to exercise the Option to the extent vested at the time of termination for ninety (90) days following your date of termination (except as provided in the Appendix); *provided, however*, that if your termination is due to death or Disability, or if you die within ninety (90) days following your termination without “Cause”, the post-termination exercise period is twelve (12) months (except as provided in the Appendix); *provided further* that if your termination is for “Cause” as defined in the Plan, you shall not be permitted to exercise the Option in any respect. In each case, the date of the termination of your Continuous Service shall be determined in accordance with Section 3(i) below. In addition, if the Option is not exercisable during the applicable post-termination exercise period solely because the shares of Common Stock issuable upon such exercise are not then registered under the Securities Act and are not otherwise issuable under an exemption from the registration requirements of the Securities Act, this Option shall not expire until the earlier of the expiration date set forth above or until it shall have been exercisable for an aggregate period of at least ninety (90) days after the termination of your Continuous Service. You are responsible for keeping track of these exercise periods following your termination of Continuous Service for any reason. The Company will not provide further notice of such periods.

2. Responsibility for Taxes. Except as otherwise provided in the Appendix, the provisions of this Section 2 shall apply. You acknowledge that, regardless of any action the Company or your employer, if different from the Company, whether current or former (the “**Employer**”) takes with respect to any or all income tax, social insurance contributions, payroll tax, fringe benefits tax, payment on account or other tax-related withholding related to your participation in the Plan and legally applicable to you (“**Tax-Related Items**”), the ultimate liability for all Tax-Related Items is

and remains your responsibility and may exceed the amount actually withheld by the Employer. You further acknowledge that the Employer (1) makes no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of the Option, including the grant, vesting or exercise of the Option, the subsequent sale of shares acquired pursuant to such exercise and the receipt of any dividends; and (2) does not commit to structure the terms of the grant or any aspect of the Option to reduce or eliminate your liability for Tax-Related Items or achieve any particular tax result. In particular, you acknowledge that this Option is exempt from Section 409A of the Code only if the exercise price per share is at least equal to the “fair market value” per share of the Common Stock on the grant date and there is no other impermissible deferral of compensation associated with the Option. Further, if you have become subject to tax in more than one jurisdiction, you acknowledge that the Employer may be required to withhold or account for Tax-Related Items in more than one jurisdiction.

Prior to exercise of the Option, you shall pay or make adequate arrangements satisfactory to the Employer to satisfy all Tax-Related Items. In this regard, you authorize the Employer or its respective agents, at their discretion, to withhold all applicable Tax-Related Items from your wages or other cash compensation paid to you by the Employer and/or from proceeds of the sale of the shares. Alternatively, or in addition, if permissible under local law, the Employer may, without your further consent, (1) sell or arrange for the sale of shares that you acquire, to meet the withholding obligation for Tax-Related Items, either through a mandatory sale arranged by the Company (on your behalf pursuant to this authorization) or a voluntary sale (including permitting you to enter into a “same day sale” commitment with a broker-dealer that is a member of the Financial Industry Regulatory Authority), and/or (2) withhold in shares of Common Stock issuable at exercise of the Option. Depending on the withholding method, the Employer may withhold or account for Tax-Related Items by considering applicable minimum withholding rates or other applicable withholding rates, including maximum applicable rates, in which case you will receive a refund of any over-withheld amount in cash and will have no entitlement to the share equivalent. If the obligation for the Tax-Related Items is satisfied by withholding in shares of Common Stock, then you will have no further rights, title or interests in or to the number of shares of Common Stock that are held back solely for the purpose of paying the Tax-Related Items, and you are deemed to have been issued the full number of shares of Common Stock subject to the exercised portion of the Option.

Finally, you shall pay to the Employer any amount of Tax-Related Items that the Employer may be required to withhold as a result of your receipt or exercise of the Option and your sale of the shares obtained pursuant to any exercise of the Option that cannot be satisfied by the means previously described. The Employer may refuse to deliver the shares or the proceeds of the sale of shares if you fail to comply with your obligations in connection with the Tax-Related Items.

3. Nature of Grant. In accepting the grant of the Option, you acknowledge, understand and agree that:

(a) the Plan is established voluntarily by the Company, is discretionary in nature, and may be modified, amended, suspended or terminated by the Company as provided in the Plan;

(b) the grant of the Option and any other options or Awards under the Plan is exceptional, voluntary and occasional and does not create any contractual or other right to receive

future grants of options, shares, Awards or any other benefit or compensation in lieu of future options, even if options have been granted in the past;

(c) all decisions with respect to future options or Awards, if any, will be at the sole discretion of the Company;

(d) your participation in the Plan shall not create a right to employment or service or be interpreted as forming or amending an employment or service contract with the Company and shall not interfere with the ability of the Employer to terminate your employment or service relationship at any time with or without cause;

(e) you are voluntarily participating in the Plan;

(f) unless otherwise agreed with the Company, the Option and the shares of Common Stock subject to the Option, and the income and value of same, are not granted as consideration for, or in connection with, the service you may provide as a director of an Affiliate;

(g) the Option and the shares of Common Stock subject to the Option, and the income and value of same, are not intended to replace any pension rights or compensation;

(h) the Option and the shares of Common Stock subject to the Option, and the income and value of same, are not part of normal or expected compensation or salary for purposes of calculating any severance, resignation, termination, redundancy, end of service payments, bonuses, long-service awards, life or accident insurance benefits, pension or retirement benefits or similar payments;

(i) for purposes of the Option, your Continuous Service will be considered terminated as of the date determined by the Company in its sole discretion;

(j) the future value of the shares underlying the Option is unknown and cannot be predicted with certainty;

(k) if the value of the underlying shares does not exceed the exercise price upon exercise, the Option will have no value and if you exercise the Option, the value of the shares acquired upon exercise may increase or decrease in value, even below the exercise price;

(l) should you die owning shares of Common Stock or the Option, such shares or the Option may subject your estate to United States federal estate taxes, and you should seek your own tax advice regarding this potential tax;

(m) you disclaim any entitlement to compensation or damages arising from the termination of the Option, including as the result of termination of your employment or other service relationship with the Employer (for any reason whatsoever, whether or not later found to be invalid or in breach of employment laws in the jurisdiction where you are employed or providing services or the terms of any employment or service agreement), or diminution in value of the shares of Common Stock, and in consideration of the grant of the Option, you hereby agree not to bring any claim arising from or relating to the Award against the Company, the Employer and any Affiliate;

(n) the Plan and the Agreement set forth the entire understanding between you, the Company, the Employer, and any Affiliate regarding the acquisition of the shares of Common Stock and supersedes all prior oral and written agreements pertaining to the Option; and

(o) the following provisions apply only if you are providing services outside the United States:

(i) the Option and the shares of Common Stock subject to the Option, and the value and income of same, are not part of normal or expected compensation or salary for any purpose; and

(ii) neither the Company, the Employer nor any Affiliate shall be liable for any foreign exchange rate fluctuation between your local currency and the United States Dollar that may affect the value of the Option or of any amounts due to you pursuant to the exercise of the Option or the subsequent sale of any shares of Common Stock acquired upon exercise.

4. **Data Privacy.** *You hereby explicitly, voluntarily and unambiguously consent to the collection, use and transfer, in electronic or other form, of your personal data as described in this Agreement and any other Option grant materials (the "Personal Data") by and among, as applicable, the Company, the Employer and any Affiliate for the exclusive purpose of implementing, administering and managing your participation in the Plan*

*You understand that the Company and the Employer may hold certain personal information about you, including, but not limited to, your name, home address and telephone number, date of birth, social insurance number or other identification number, salary, nationality, job title, any shares or directorships held in the Company, details of all options or any other entitlement to shares of stock awarded, canceled, exercised, vested, unvested or outstanding in your favor, for the purpose of implementing, administering and managing the Plan. You understand that the Personal Data may be transferred to E*Trade Securities LLC or any other third parties assisting in the implementation, administration and management of the Plan, that these recipients may be located in the United States or elsewhere, and that the recipient's country may have different data privacy laws and protections than your country. You understand that, if you reside outside the United States, you may request a list with the names and addresses of any potential recipients of the Personal Data by contacting your local human resources representative. You authorize the recipients to receive, possess, use, retain and transfer the Personal Data, in electronic or other form, for the purposes of implementing, administering and managing your participation in the Plan, including any requisite transfer of such Personal Data as may be required to a broker or other third party with whom you may elect to deposit any shares of Common Stock acquired upon exercise of the Option. You understand that the Personal Data will be held only as long as is necessary to implement, administer and manage your participation in the Plan. You understand that, if you reside outside the United States, you may, at any time, view the Personal Data, request information about the storage and processing of the Personal Data, require any necessary amendments to the Personal Data or refuse or withdraw the consents herein, in any case without cost, by contacting in writing your local human resources representative. Further, you understand that you are providing the consents herein on a purely voluntary basis. If you do not consent or later seek to revoke your consent, your employment status with the Employer will not be affected; the only consequence of*

refusing or withdrawing your consent is that the Company would not be able to grant options or other Awards to you or administer or maintain such Awards. For more information on the consequences of your refusal to consent or withdrawal of consent, you understand that you may contact your local human resources representative.

5. Governing Law and Venue. The Option is governed by, and subject to, the laws of the State of Delaware without resort to that State's conflict of laws rules. For purposes of litigating any dispute that arises directly or indirectly from the relationship of the parties evidenced by this grant or the Agreement, the parties hereby submit to and consent to the sole and exclusive jurisdiction of the courts of the State of California and agree that such litigation shall be conducted only in the courts of Santa Clara County, California, or the federal courts for the United States for the Northern District of California.

6. Electronic Delivery and Acceptance. The Company may, in its sole discretion, decide to deliver any documents related to the Option granted hereunder or to participation in the Plan (or future options or other Awards that may be granted under the Plan) by electronic means (including by filing documents publicly at www.sec.gov or any successor website thereto) or to request your consent to participate in the Plan by electronic means. You hereby consent to receive such documents by electronic delivery and, if requested, agree to participate in the Plan through an on-line or electronic system established and maintained by the Company or another third party designated by the Company. Electronic delivery may include the delivery of a link to a Company intranet or the internet site of a third party involved in administering the Plan, the delivery of the document via e-mail or such other delivery determined at the Company's discretion. You acknowledge that you may receive from the Company a paper copy of any documents delivered electronically at no cost if you contact the Company by telephone, through a postal service or electronic mail. You further acknowledge that you will be provided with a paper copy of any documents delivered electronically if electronic delivery fails; similarly, you understand that you must provide on request to the Company or any designated third party a paper copy of any documents delivered electronically if electronic delivery fails. Also, you understand that your consent may be revoked or changed, including any change in the electronic mail address to which documents are delivered (if you have provided an electronic mail address), at any time by notifying the Company of such revised or revoked consent by telephone, postal service or electronic mail.

7. Severability. The provisions of this Agreement are severable and if any one or more provisions are determined to be illegal or otherwise unenforceable, in whole or in part, the remaining provisions shall nevertheless be binding and enforceable.

8. Restrictive Legends. The Common Stock issued under this Option shall be endorsed with appropriate legends, if any, determined by the Company.

9. Unsecured Obligation. The Option is unfunded, and even as to any vested portion, you shall be considered an unsecured creditor of the Company with respect to the Company's obligation, if any, to issue Common Stock pursuant to this Agreement. You shall not have voting or any other rights as a stockholder of the Company with respect to the Common Stock acquired pursuant to this Agreement until such Common Stock is issued. Upon such issuance, you will obtain full voting and other rights as a stockholder of the Company with respect to the Common Stock so

issued and held by you. Nothing contained in this Agreement, and no action taken pursuant to its provisions, shall create or be construed to create a trust of any kind or a fiduciary relationship between you and the Company or any other person.

10. Notices. Any notices provided for herein or in the Plan shall be given in writing (including in electronic form) to each of the other parties hereto and shall be deemed effectively given on the earlier of (i) the date of personal delivery, including delivery by express courier, (ii) the date that electronic notice is sent by you or Shareholder Services (as applicable), in the case of notices provided by electronic means, or (iii) the date that is five (5) days after deposit in the United States Post Office (whether or not actually received by the addressee), by registered or certified mail with postage and fees prepaid, addressed at the following addresses, or at such other address(es) as a party may designate by ten (10) days' advance written notice to each of the other parties hereto:

COMPANY: Synopsys, Inc.
 Shareholder Services
 690 East Middlefield Road
 Mountain View, CA 94043
 United States of America

PARTICIPANT: Your address as on file with the Company at the time notice is given

11. Amendment. This Agreement may be amended solely by the Company by a writing (including in electronic form) which specifically states that it is amending this Agreement, so long as a copy of such amendment is delivered to you, and provided that no such amendment impairing your rights hereunder may be made without your written consent. Without limiting the foregoing, the Company reserves the right to change, by written notice (including in electronic form), the provisions of this Agreement in any way it may deem necessary or advisable to carry out the purpose of the grant as a result of any change in applicable laws or regulations or any future law, regulation, ruling, or judicial decision, provided that any such change shall be applicable only to rights relating to that portion of the Award which is then subject to restrictions as provided herein.

12. Governing Plan Document. This Option is subject to all the provisions of the Plan, the provisions of which are hereby made a part of this Agreement, and is further subject to all interpretations, amendments, rules and regulations which may from time to time be promulgated and adopted pursuant to the Plan. In the event of any conflict between the provisions of this Agreement and those of the Plan, the provisions of the Plan shall control. The Company shall have the power to interpret the Plan and this Agreement and to adopt such rules for the administration, interpretation, and application of the Plan as are consistent therewith and to interpret or revoke any such rules. All actions taken and all interpretations and determinations made by the Board shall be final and binding upon you, the Company, and all other interested persons. No member of the Board shall be personally liable for any action, determination, or interpretation made in good faith with respect to the Plan or this Agreement.

13. Miscellaneous.

(a) The rights and obligations of the Company under this Agreement shall be transferable by the Company to any one or more persons or entities, and all covenants and agreements hereunder shall inure to the benefit of, and be enforceable by the Company's successors and assigns.

(b) All obligations of the Company under the Plan and this Agreement shall be binding on any successor to the Company, whether the existence of such successor is the result of a direct or indirect purchase, merger, consolidation, or otherwise, of all or substantially all of the business and/or assets of the Company.

(c) You agree upon request to execute any further documents or instruments necessary or desirable in the sole determination of the Company to carry out the purposes or intent of this Option.

(d) You acknowledge and agree that you have reviewed this Agreement in its entirety, have had an opportunity to obtain the advice of counsel prior to executing and accepting this Option and fully understand all provisions of this Option.

(e) This Agreement shall be subject to all applicable laws, rules, and regulations, and to such approvals by any governmental agencies or national securities exchanges as may be required.

(f) The Company is not providing any tax, legal or financial advice, nor is the Company making any recommendations regarding your participation in the Plan, or your acquisition or sale of the underlying shares of Common Stock. You are hereby advised to consult with your own personal tax, legal and financial advisors regarding your participation in the Plan before taking any action related to the Plan.

(g) If you have received this or any other document related to the Plan translated into a language other than English and if the meaning of the translated version is different than the English version, the English version will control.

(h) Notwithstanding any provisions in this Agreement, the Option shall be subject to any special terms and conditions set forth in the Appendix to this Agreement for your country. Moreover, if you relocate to one of the countries included in the Appendix, the special terms and conditions for such country will apply to you, to the extent the Company determines that the application of such terms and conditions is necessary or advisable for legal or administrative reasons. The Appendix constitutes part of this Agreement.

(i) The Company reserves the right to impose other requirements on your participation in the Plan, on the Option and on any shares of Common Stock acquired under the Plan, to the extent the Company determines it is necessary or advisable for legal or administrative reasons, and to require you to sign any additional agreements or undertakings that may be necessary to accomplish the foregoing.

14. Insider Trading Restrictions/Market Abuse Laws. You acknowledge that you may be subject to insider trading restrictions and/or market abuse laws, which may affect your

ability to acquire or sell the shares of Common Stock or rights to shares under the Plan during such times as you are considered to have “inside information” regarding the Company (as defined by the laws in your country). Any restrictions under these laws or regulations are separate from and in addition to any restrictions that may be imposed under the Company's Insider Trading Policy. You acknowledge that it is your responsibility to comply with any applicable restrictions, and you are advised to speak to your personal advisor on this matter.

15. Foreign Asset/Account Reporting, Exchange Control and Tax Requirements.

You acknowledge that there may be certain foreign asset and/or account reporting requirements and exchange controls which may affect your ability to acquire or hold shares of Common Stock acquired under the Plan or cash received from participating in the Plan (including from any dividends paid on shares of Common Stock acquired under the Plan) in a brokerage or bank account outside your country. You may be required to report such accounts, assets or transactions to the tax or other authorities in your country. You also may be required to repatriate sale proceeds or other funds received as a result of your participation in the Plan to your country through a designated bank or broker within a certain time after receipt. In addition, you may be subject to tax payment and/or reporting obligations in connection with any income realized under the Plan and/or from the sale of shares of Common Stock. You acknowledge that it is your responsibility to be compliant with all such requirements, and you are advised to consult your personal legal and tax advisors, as applicable, to ensure your compliance.

* * * * *

Your signature below (or online acceptance, if applicable) indicates that you have read this Agreement and agree to be bound by the terms and conditions of the Plan and this Agreement. You acknowledge receipt of, and understand and agree to, this Agreement, the Plan, the related Plan prospectus, the Compensation Recovery Policy (if applicable to you), the Company's Section 16 Officer and Director Trading Procedures (if applicable to you) and the Company's Insider Trading Policy. You further acknowledge that as of the grant date, the Agreement and the Plan set forth the entire understanding between the Company and you regarding the award of the Option and the underlying Common Stock and supersede all prior oral and written agreements on that subject with the exception of (i) Awards previously granted and delivered to you under the Plan, and (ii) if applicable to you (A) the terms of any applicable Company change of control severance plan or provisions and (B) the Compensation Recovery Policy.

* * * * *

Your signature below or online acceptance (where permitted) indicates that you have read this Agreement (including any appendices hereto) and agree to be bound by the terms and conditions of the Plan and this Agreement.

Synopsys, Inc.	Participant
By: _____	_____ %%FIRST_NAME%-%% %%LAST_NAME%-%%
Title:	Date:
Date: <u>%%OPTION_DATE%-%</u>	

Appendix

Synopsys, Inc. Notice of Grant of Stock Options and Option Agreement

This Appendix, which is part of the Notice of Grant of Stock Options and Option Agreement, contains the additional terms and conditions of the Option that will apply to Participants in the countries listed below. If you are a citizen or resident of a country other than the one in which you are currently residing and/or working, you transfer employment and/or residency to another country after the Option is granted or you are considered a resident of another country for local law purposes, the Company shall, in its sole discretion, determine to what extent the terms and conditions included herein will apply under these circumstances. Capitalized terms used but not defined herein shall have the same meanings assigned to them in the Plan and/or the Agreement.

All Non-US Jurisdictions

Exercise, Including Upon Termination of Employment. The following provision supplements Section 1 of the Agreement:

Paying the exercise price by means of delivery to the Company (either by actual delivery or attestation) of shares of Common Stock is prohibited and not an available method of exercise.

Canada

There are no country-specific terms or conditions.

Finland

There are no country-specific terms or conditions.

France

Consent to Receive Information in English. By accepting the Option, you confirm having read and understood the Plan and Agreement, including all terms and conditions included therein, which were provided in the English language. You accept the terms of those documents accordingly.

En acceptant cette Option, vous confirmez avoir lu et compris le Plan and le Contrat y relatifs, incluant leurs termes et conditions, qui ont été transmis en langue anglaise. Vous acceptez les dispositions de ces documents en connaissance de cause.

Germany

There are no country-specific terms or conditions.

Hong Kong

Securities Warning. *The contents of this document have not been reviewed by any regulatory authority in Hong Kong. You should exercise caution in relation to the offer. The Option and any shares of Common Stock issued at exercise of the Option do not constitute a public offering of securities under Hong Kong law and are available only to employees and consultants of the Company and its Affiliates. The Agreement, including this Appendix, the Plan and other incidental communication materials (i) have not been prepared in accordance with and are not intended to constitute a “prospectus” for a public offering of securities under the applicable securities legislation in Hong Kong, and (ii) are intended only for your personal use and may not be distributed to any other person. If you are in any doubt about any of the contents of the Agreement, including this Appendix, or the Plan, you should obtain independent legal advice.*

Sale of Shares. In the event the Option vests within six months of the grant date, you agree that you will not sell any shares of Common Stock acquired upon exercise prior to the six-month anniversary of the grant date.

India

Exercise, Including Upon Termination of Employment. The following provision supplements Section 1 of the Agreement:

Upon the exercise of the Option, any shares to be issued to you will be immediately sold in a same-day sale transaction. In no case may you exercise and hold Common Stock following the exercise of the Option. You agree that the Company is authorized to instruct its designated broker to assist with the mandatory sale of such shares (on your behalf pursuant to this authorization) and you expressly authorize the Company’s designated broker to complete the sale of such shares. You acknowledge that the Company’s designated broker is under no obligation to arrange for the sale of the shares at any particular price. Upon the sale of the shares, the Company agrees to pay you the cash proceeds from the sale, less any brokerage fees or commissions and subject to any obligation to satisfy Tax-Related Items.

Ireland

There are no country-specific terms or conditions.

Israel

Trust Arrangement. You understand and agree that the Option is granted subject to and in accordance with the Synopsys, Inc. 2006 Employee Equity Incentive Plan Israeli Subplan (the “Subplan”), the trust deed between the Company and ESOP Management and Trust Services Ltd. or any successor trustee (the “Trustee”), the Confirmation Letter -- Trustee 102 Awards, the Agreement and the Plan. You further understand and agree that the Option and any shares of Common Stock issued upon exercise of the Option are intended to qualify for the favorable tax treatment available in Israel pursuant to the provisions of the 102 Capital Gains Track (as defined in the Subplan). The Company does not make any undertaking or representation to maintain the

qualified status of the Option. In the event of any inconsistencies between the Subplan, the Agreement and/or the Plan, you agree that the Subplan will govern the Option granted to you in Israel.

If you have not already signed the Confirmation Letter -- Trustee 102 Awards provided by ESOP Management and Trust Services Ltd. or the Employer in connection with grants made under the Subplan, then you must print, sign and deliver the signed copy of the Confirmation Letter within 90 days to ESOP Management and Trust Services Ltd. by email to esop-helpdesk@esop.co.il or by fax to 972-3-7602632. If you deliver your signed Confirmation Letter by fax, you should confirm receipt by contacting ESOP Management and Trust Services Ltd. by email at esop-helpdesk@esop.co.il or by phone at 1700-70-3767. If the Trustee does not receive the signed Confirmation Letter within 90 days, the Option may not qualify for the favorable tax treatment under Section 102.

Method of Exercise & Transfer Restrictions. This provision supplements Section 1(b) of the Agreement:

To receive the favorable tax treatment provided for in Section 102, the Option and the shares of Common Stock issued upon exercise of the Option will be held or controlled by the Trustee, pursuant to the terms of the trust deed, for your benefit, during the Required Holding Period (as defined in the Subplan), which, until further election by the Company, shall be twenty-four (24) months from the grant date, or any other period determined under the ITO (as defined in the Subplan) as now in effect or as hereafter amended or determined by the Israeli Income Tax Authority. You may still exercise the Option and sell shares of Common Stock through your account with the Company's designated broker, subject to the terms set forth in this Appendix. You hereby understand and agree you cannot require the designated broker or the Trustee to release or sell the shares of Common Stock during the Required Holding Period. After the Required Holding Period has expired, the shares of Common Stock issued at exercise of the Option will continue to be held or controlled by the Trustee until the earlier of (i) the receipt by the Trustee of an acknowledgment from the Israeli Income Tax Authority that you have paid all applicable taxes due pursuant to the ITO and Section 102, or (ii) the Trustee withholds any applicable tax due pursuant to the ITO and Section 102. Notwithstanding the above, if any release or sale of shares of Common Stock occurs during the Required Holding Period, the tax consequences under Section 102 shall apply to and shall be borne solely by you.

Securities Law Exemption. An exemption from the requirement to file a prospectus with respect to the Plan has been granted to the Company by the Israeli Securities Authority. Copies of the Plan and Form S-8 registration statement for the Plan file with the United States Securities and Exchange Commission are available free of charge upon request at your local HR department.

Italy

Data Privacy. The following provision replaces Section 4 of the Agreement:

You hereby acknowledge that your personal data is collected, used, processed and transferred outside of the European Union, as described in this Agreement and any other Option grant materials,

by and among, as applicable, the Employer, the Company and any Affiliate for the exclusive purpose of implementing, administering and managing your participation in the Plan. You understand that the Employer and/or the Company hold certain personal information about you, including, but not limited to, your name, home address and telephone number, date of birth, national insurance number or other identification number, salary, nationality, job title, any shares of Common Stock or directorships held in the Company, details of all Options or other entitlement to shares of Common Stock awarded, canceled, exercised, vested, unvested or outstanding in your favor, for the purpose of implementing, administering and managing the Plan ("Data").

You are aware that providing the Company with the Data is necessary for the performance of this Agreement and that your refusal to provide the Data would make it impossible for the Company to perform its contractual obligations and may impact your ability to exercise or realize benefits from the Option. Your Data shall be accessible within the Company's organization only by the persons specifically charged with Data-processing operations and by the persons that need to access the Data because of their duties and position in relation to the performance of the contract. The Controller of personal data-processing is the Company, with registered offices at 690 East Middlefield Road, Mountain View, CA 94043, U.S.A., and, pursuant to Legislative Decree no. 196/2003, its representative in Italy is Synopsys Italia S.r.l. with registered offices at Centro Direzionale Colleoni, Viale Colleoni 11 - Palazzo Sirio 3, 20041 Agrate Brianza (MI), Italy.

*You understand that Data will be transferred to E*Trade Securities LLC and/or to such other stock plan service provider as may be selected by the Company, which are assisting the Company with the implementation, administration and management of the Plan and that Data may be transferred to certain other third parties assisting in the implementation, administration and management of the Plan, including any requisite transfer of such Data as may be required to a broker or other third party with whom you may elect to deposit any shares of Common Stock acquired upon exercise of the Option. You understand that these recipients, which may receive, possess, use, retain and transfer such Data for the above-mentioned purposes, may be located in the United States, or elsewhere, including outside of the European Economic Area, and that the recipient's country may have different data privacy laws and protections than your country. The processing activity, including transfer of Data abroad, including outside of the European Economic Area, as herein specified and pursuant to applicable laws and regulations, does not require your consent thereto as the processing is necessary to performance of contractual obligations related to the implementation, administration and management of the Plan.*

You understand that Data-processing relating to the purposes above specified shall take place under automated or non-automated conditions, anonymously when possible, that comply with the purposes for which Data is collected and with confidentiality and security provisions as set forth by applicable laws and regulations, with specific reference to Legislative Decree no. 196/2003. You understand that Data will be held only as long as is required by the law or is necessary to implement, administer and manage your participation in the Plan. You understand that, pursuant to Article 7 of Legislative Decree No. 196/2003, you have the right, without limitation, to access, delete, update, request the rectification of your Data and cease, for legitimate reasons, the Data-processing. Furthermore, you are aware that the Data will not be used for direct marketing purposes. In addition, the Data

provided can be reviewed and questions or complaints can be addressed by contacting your local HR representative.

Plan Document Acknowledgment. By accepting the Option, you acknowledge that you have received a copy of the Plan and the Agreement and have reviewed the Plan and the Agreement, including this Appendix, in their entirety and fully accept all provisions thereof. You further acknowledge that you have read and specifically and expressly approve the following provisions of the Agreement: Section 1: Exercise; Section 2: Responsibility for Taxes; Section 3: Nature of Grant; Section 5: Governing Law and Venue; Section 13: Miscellaneous; and the Data Privacy section included in this Appendix.

Japan

There are no country-specific terms or conditions.

Korea

There are no country-specific terms or conditions.

Netherlands

There are no country-specific terms or conditions.

People's Republic of China

Exercise, Including Upon Termination of Employment. The following provision supplements Section 1 of the Agreement:

Notwithstanding the specified twelve (12) month period for exercising the Option following death or disability, in no event may the Option be exercised more than six (6) months following termination of your Continuous Service.

Due to local requirements, upon the exercise of the Option, any shares to be issued to you will be immediately sold in a same-day sale transaction. In no case may you exercise and hold Common Stock following the exercise of the Option. You agree that the Company is authorized to instruct its designated broker to assist with the mandatory sale of such shares (on your behalf pursuant to this authorization) and you expressly authorize the Company's designated broker to complete the sale of such shares. You acknowledge that the Company's designated broker is under no obligation to arrange for the sale of the shares at any particular price. Upon the sale of the shares, the Company agrees to pay you the cash proceeds from the sale, less any brokerage fees or commissions and subject to any obligation to satisfy Tax-Related Items.

In addition, you understand and agree that, pursuant to local exchange control requirements, you will be required to repatriate the cash proceeds from the immediate sale of the shares issued upon the exercise of the Option to the PRC if you are a PRC national or are otherwise determined to be subject to the requirements imposed by the State Administration of Foreign Exchange by the Company. You further understand that, under local law, the sale proceeds will need to be repatriated

through a special exchange control account established by an Affiliate in the PRC and you hereby consent and agree that any proceeds from the sale may be transferred to such special account prior to being delivered to you. You further agree to comply with any other requirements that may be imposed by the Company in the future in order to facilitate compliance with exchange control requirements in the PRC.

You further understand and agree that the Company may distribute the proceeds of the sale of shares either in U.S. dollars or in local currency. If the proceeds are distributed in local currency, the Company is under no obligation to secure any particular exchange conversion rate and there will be delays in converting the cash proceeds to local currency due to exchange control restrictions. You agree to bear any currency fluctuation risk between the time the shares are sold and the time the cash proceeds are distributed to you through the special account described above.

Singapore

There are no country-specific terms or conditions.

Sweden

There are no country-specific terms or conditions.

Switzerland

There are no country-specific terms or conditions.

Taiwan

There are no country-specific terms or conditions.

United Kingdom

Responsibility for Taxes. The following provision supplements Section 2 of the Agreement:

If you do not pay, or the Company or the Employer does not withhold from you, the full amount of any income tax that you owe within ninety (90) days of the end of the U.K. tax year in which the event giving rise to the Tax-Related Items occurs (the “**Due Date**”) or such other period specified in Section 222(1)(c) of the U.K. Income Tax (Earnings and Pensions) Act 2003, the amount of any uncollected income tax will constitute a loan owed by you to the Employer, effective on the Due Date. You agree that the loan will bear interest at the then-current official rate of Her Majesty’s Revenue and Customs (“**HMRC**”), it will be immediately due and repayable, and the Company or the Employer may recover it at any time thereafter by any of the means referred to in Section 2 of the Agreement. Notwithstanding the foregoing, if you are a director or executive officer of the Company (within the meaning of Section 13(k) of the Exchange Act), you will not be eligible for such a loan to cover the income tax. In the event that you are a director or executive officer and the income tax is not collected from or paid by you by the Due Date, the amount of any uncollected income tax may constitute a benefit to you on which additional income tax and National Insurance contributions (including the Employer’s Liability, as defined below) may be payable. You will be

responsible for reporting and paying any income tax due on this additional benefit directly to HMRC under the self-assessment regime and for reimbursing the Company or the Employer, as applicable, for the value of any employee National Insurance contributions due on this additional benefit, which the Company and/or the Employer may recover at any time thereafter by any of the means in Section 2 of the Agreement.

As a condition of participation in the Plan, you agree to accept any liability for secondary Class 1 National Insurance contributions (the “***Employer’s Liability***”) which may be payable by the Employer in connection with the Option and any event giving rise to Tax-Related Items. Without prejudice to the foregoing, you agree to execute a joint election with the Company (the “***Joint Election***”) prior to exercising the Option, the form of such Joint Election being formally approved by HMRC and attached hereto as Exhibit A, and any other consent or elections required to accomplish the transfer of the Employer’s Liability to you. You further agree to execute such other joint elections as may be required between you and any successor to the Company and/or the Employer. You further agree that the Company and/or the Employer may collect the Employer’s Liability by any of the means set forth in Section 2 of the Agreement.

If you do not enter into a Joint Election prior to exercising the Option, if approval of the Joint Election has been withdrawn by HMRC or if such Joint Election is jointly revoked by you and the Company or the Employer, as applicable, this Option shall, at the discretion of the Company, without any liability to the Company or the Employer, not be exercisable and/or the Company may choose not to issue or deliver any shares upon exercise of the Option.

Exhibit A

(UK Participants)

**PLEASE READ THE FOLLOWING IN ITS ENTIRETY
BEFORE ACCEPTING YOUR AWARD**

**SYNOPSYS, INC.
2006 EMPLOYEE EQUITY INCENTIVE PLAN**

**Important Note on the Joint Election to Transfer
Employer National Insurance Contributions**

As a condition of your participation in the 2006 Employee Equity Incentive Plan, you are required to enter into a joint election to transfer to you any liability for employer's national insurance contributions (the "***Employer's Liability***") that may arise in connection with your award of stock options and/or restricted stock units (together, the "***Awards***"), or in connection with future Awards that may be granted to you by Synopsys, Inc. (the "***Company***") under its 2006 Employee Equity Incentive Plan (the "***Joint Election***").

If you do not agree to enter into the Joint Election, the Awards will be worthless, you will not be able to exercise the options or vest in the restricted stock units, or receive any benefit in connection with the Awards, as set forth in your Award Agreement.

By entering into the Joint Election:

- you agree that any Employer's Liability that may arise in connection with or pursuant to the exercise or vesting of the Award, as applicable (and the acquisition of shares of the Company's common stock) or other taxable events in connection with the Award will be transferred to you; and
- you authorise the Company and/or your employer to recover an amount sufficient to cover this liability by any method set forth in the relevant Award Agreement and/or the Joint Election.

Indicating your acceptance of the Option Agreement and/or Restricted Stock Unit Award Agreement, as applicable, indicates your agreement to be bound by the terms of the Joint Election.

Please read the terms of the Joint Election carefully before accepting the Option Agreement and/or the Restricted Stock Unit Award Agreement and the Joint Election.

PLEASE PRINT AND KEEP A COPY OF THIS ELECTION FOR YOUR RECORDS

SYNOPSYS , INC.
2006 EMPLOYEE EQUITY INCENTIVE PLAN

(UK Participants)

**FORM OF ELECTION TO TRANSFER THE EMPLOYER'S SECONDARY
CLASS 1 NATIONAL INSURANCE LIABILITY TO THE EMPLOYEE**

1. Parties

This Election is between:

- (A) You, the individual who has obtained access to this Election (the “Participant”), who is employed by one of the employing companies listed in the attached schedule (the “Employer”) and who is eligible to receive stock options (“Options”) and/or restricted stock units (“RSUs”) (each an “Award” and together, the “Awards”) pursuant to the terms and conditions of the Synopsys, Inc. 2006 Employee Equity Incentive Plan (the “Plan”), and
- (B) Synopsys, Inc. of 690 East Middlefield Road, Mountain View, California 94043, United States (the “Company”), which may grant Awards under the Plan and is entering this Election on behalf of the Employer.

2. Purpose of Election

- 2.1. This Election relates to the Employer's secondary Class 1 National Insurance Contributions (the “Employer's Liability”) which may arise on the occurrence of a “Taxable Event” which gives rise to relevant employment income within section 4(4)(a) and/or paragraph 3B(1A) of Schedule 1 of the Social Security Contributions and Benefits Act 1992 (“SSCBA”), including but not limited to:
 - a. the acquisition of securities pursuant to the Awards (pursuant to section 477(3)(a) ITEPA); and/or
 - b. the assignment or release of the Awards in return for consideration (pursuant to section 477(3)(b) ITEPA); and/or
 - c. the receipt of any other benefit in connection with the Awards other than a benefit within (i) or (ii) above (pursuant to section 477(3)(c) ITEPA); and/or
 - d. post-acquisition events relating to the Awards or the securities acquired pursuant to the Awards (within section 426 ITEPA); and/or
 - e. post-acquisition events relating to the Awards or the securities acquired pursuant to the Awards (within section 438 ITEPA).

In this Election, ITEPA means the Income Tax (Earnings and Pensions) Act 2003.

- 2.2. This Election is made in accordance with paragraph 3B(1) of Schedule 1 to SSCBA.
- 2.3. This Election applies to all Awards granted to the Participant under the Plan on or after May 22, 2009 up to the termination date of the Plan.
- 2.4. This Election does not apply in relation to any liability, or any part of any liability, arising as a result of regulations being given retrospective effect by virtue of section 4B(2) of either the SSCBA, or the Social Security Contributions and Benefits (Northern Ireland) Act 1992.
- 2.5. This Election will not apply to the extent that it relates to relevant employment income which is employment income of the earner by virtue of Chapter 3A of Part 7 of ITEPA (employment income: securities with artificially depressed market value).

3. **The Election**

The Participant and the Company jointly elect that the entire liability of the Employer to pay the Employer's Liability on the Taxable Event is hereby transferred to the Participant. The Participant understands that by electronically accepting this Election, he or she will become personally liable for the Employer's Liability covered by this Election.

4. **Payment of the Employer's Liability**

- 4.1. The Participant and the Company acknowledge that the Employer is under a duty to remit the Employer's Liability to HM Revenue and Customs on behalf of the Participant within 14 days after the end of the UK tax month during which the Taxable Event occurs, or such other period of time, as prescribed. The Participant agrees to pay to the Company and/or the Employer the Employer's Liability on demand, at any time on or after the Taxable Event and hereby authorises the Company and/or the Employer to account for the Employer's Liability to HM Revenue and Customs.
- 4.2. Without limitation to Clause 4.1 above, the Participant hereby authorises the Company and/or the Employer to collect the Employer's Liability from the Participant at any time after the Taxable Event:
 - a. by deduction from salary or any other payment payable to the Participant at any time on or after the date of the Taxable Event; and/or
 - b. directly from the Participant by payment in cash or cleared funds; and/or
 - c. by arranging, on behalf of the Participant, for the sale of some of the securities which the Participant is entitled to receive in respect of the Awards; and/or
 - d. through any other method as set forth in the relevant Award agreement entered into between the Participant and the Company.

- 4.3. The Company hereby reserves for itself and the Employer the right to withhold the transfer of any securities to the Participant until full payment of the Employer's Liability is collected from the Participant.

5. **Duration of Election**

- 5.1. The Participant and the Company agree to be bound by the terms of this Election regardless of whether the Participant is transferred abroad or is not employed by the Employer on the date on which the Employer's Liability becomes due. Any reference to the Company, the Employer and/or the Participant shall include that entity's successors in title and assigns as permitted in accordance with the terms of the Plan and Award agreement.
- 5.2. This Election will continue in effect until the earliest of the following:
- a. such time as both the Participant and the Company agree in writing that it should cease to have effect;
 - b. on the date the Company serves written notice on the Participant terminating its effect;
 - c. on the date HM Revenue and Customs withdraws approval of this Election; or
 - d. on the date the Election ceases to have effect in accordance with its terms in respect of any outstanding Awards granted under the Plan.

Acceptance by THE PARTICIPANT

The Participant acknowledges that by clicking on the “I accept” button where indicated and from that date, the Participant agrees to be bound by the terms of this Election as stated above.

Acceptance by THE COMPANY

The Company acknowledges that by arranging for the scanned signature of an authorised representative to appear on this Election, the Company agrees to be bound by the terms of this Election as stated above.

Synopsys, Inc.

Name:

Title:

SCHEDULE TO FORM OF ELECTION – EMPLOYING COMPANIES

The employing companies to which this Election relates are:

- (1) Synopsys (Northern Europe) Limited

Registered Office:	100 Brook Drive Green Park, Reading RG2 6UJ United Kingdom
Company Registration Number:	2642054
Corporation Tax District:	Oxon and Bucks Area
Corporation Tax Reference:	402 56090 10710
PAYE District:	East Hampshire and Wight Area
PAYE Reference:	581/S3033

CERTIFICATION

I, Aart J. de Geus, certify that:

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

Date: February 17, 2017

/s/ Aart J. de Geus

Aart J. de Geus
Co-Chief Executive Officer and Chairman
(Co-Principal Executive Officer)

CERTIFICATION

I, Chi-Foon Chan, certify that:

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

Date: February 17, 2017

/s/ Chi-Foon Chan

Chi-Foon Chan
Co-Chief Executive Officer and President
(Co-Principal Executive Officer)

CERTIFICATION

I, Trac Pham, certify that:

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

Date: February 17, 2017

/s/ Trac Pham

Trac Pham
Chief Financial Officer
(Principal Financial Officer)

**Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Subsections (a) and (b) of
Section 1350, Chapter 63 of Title 18, United States Code)**

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and Section 1350, Chapter 63 of Title 18 of the United States Code (18 U.S.C-§1350), each of Aart J. de Geus, Co-Chief Executive Officer and Chairman of Synopsys, Inc., a Delaware corporation (the "Company"), Chi-Foon Chan, Co-Chief Executive Officer and President of the Company, and Trac Pham, Chief Financial Officer of the Company, does hereby certify, to such officer's knowledge that:

The Quarterly Report on Form 10-Q for the fiscal quarter ended January 31, 2017 (the "Form 10-Q") to which this Certification is attached as Exhibit 32.1 fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act. The information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

IN WITNESS WHEREOF, the undersigned have set their hands hereto as of February 17, 2017.

/s/ Aart J. de Geus

Aart J. de Geus
Co-Chief Executive Officer and Chairman

/s/ Chi-Foon Chan

Chi-Foon Chan
Co-Chief Executive Officer and President

/s/ Trac Pham

Trac Pham
Chief Financial Officer

The foregoing certification is being furnished solely pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code) and is not deemed filed with the Securities and Exchange Commission as part of the Form 10-Q or as a separate disclosure document and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.