

Employee Stock Purchase Plan

Eligible employees are offered shares through a 24-month offering period, which consists of four consecutive 6-month purchase periods. Employees may purchase a limited number of shares of the Company's stock at a discount of up to 15% of the lesser of the market value at the beginning of the offering period or the end of each 6-month purchase period. On September 13, 2018, the ESPP was amended to increase the shares reserved for issuance by 2 million shares of common stock. As of April 26, 2019, 7 million shares were available for issuance. The following table summarizes activity related to the purchase rights issued under the ESPP (in millions):

	Year Ended		
	April 26, 2019	April 27, 2018	April 28, 2017
Shares issued under the ESPP	3	4	4
Proceeds from issuance of shares	\$ 96	\$ 85	\$ 80

Stock-Based Compensation Expense

Stock-based compensation expense is included in the consolidated statements of operations as follows (in millions):

	Year Ended		
	April 26, 2019	April 27, 2018	April 28, 2017
Cost of product revenues	\$ 4	\$ 3	\$ 4
Cost of hardware maintenance and other services revenues	10	10	13
Sales and marketing	67	68	84
Research and development	48	49	59
General and administrative	29	31	35
Total stock-based compensation expense	\$ 158	\$ 161	\$ 195
Income tax benefit for stock-based compensation	\$ 15	\$ 29	\$ 41

As of April 26, 2019, total unrecognized compensation expense related to our equity awards was \$285 million, which is expected to be recognized on a straight-line basis over a weighted-average remaining service period of 2.1 years.

Valuation Assumptions

The valuation of RSUs and ESPP purchase rights and the underlying weighted-average assumptions are summarized as follows:

	Year Ended		
	April 26, 2019	April 27, 2018	April 28, 2017
RSUs:			
Risk-free interest rate	2.6%	1.4%	1.0%
Expected dividend yield	2.4%	2.0%	3.1%
Weighted-average fair value per share granted	\$ 63.40	\$ 39.74	\$ 24.99
ESPP:			
Expected term in years	1.2	1.2	1.2
Risk-free interest rate	2.6%	1.4%	0.8%
Expected volatility	31%	28%	30%
Expected dividend yield	2.4%	2.0%	3.1%
Weighted-average fair value per right granted	\$ 18.07	\$ 12.34	\$ 7.85

Stock Repurchase Program

As of April 26, 2019, our Board of Directors has authorized the repurchase of up to \$13.6 billion of our common stock under our stock repurchase program. Under this program, which we may suspend or discontinue at any time, we may purchase shares of our outstanding common stock through solicited or unsolicited transactions in the open market, in privately negotiated transactions, through accelerated share repurchase programs, pursuant to a Rule 10b5-1 plan or in such other manner as deemed appropriate by our management.