

## Cisco Systems, Inc.

### Summary

Cisco Systems, Inc. is a Communications Equipment company that creates networking, routing, data management, cloud-based solutions and data security hardware and software for business-to-business customers. Founded in 1984 and incorporated in San Jose, California, Cisco Systems, Inc. is the largest networking company in the world with over \$200 billion in market capitalization.

### Investment Thesis

We are recommending that investors SELL Cisco Systems, Inc. due to the following reasons:

- Much of the current stock price is speculative based on a strategic shift to a recurring revenue stream the company has not yet achieved
- Cisco's market share in certain key areas of business have been declining in recent years and may continue to decline as focus shifts
- Discounted Cash Flow and Valuation Metrics show Cisco's stock price to be overvalued when shifts in revenue are considered

### Risks

Risks to investing in Cisco Systems, Inc. include:

- Macroeconomic factors like tariffs that may slowdown current economic expansion
- Federal Reserve interest rate increases
- Slowdown in IT spending

#### Company Information

Ticker	CSCO
Sector	Information Technology
Industry	Communication Equipment
Price as of 5/23/18	\$43.68
Market cap (mn)	\$218,837
Shares Outstanding (mn)	5,010

#### Recommendation

Stock Rating	Sell
Price Target	\$41.11
Implied Upside	-5.88%
Dividend Yield	3.02%

#### Key Statistics

Revenue (TTM- mn)	\$48,005
Earnings (TTM- mn)	\$30,224
EPS (TTM)	\$1.90
P/E	20.83
Beta	1.26

#### Performance History

52-week High	\$46.37
52-week Low	\$30.36
1-year return	53%



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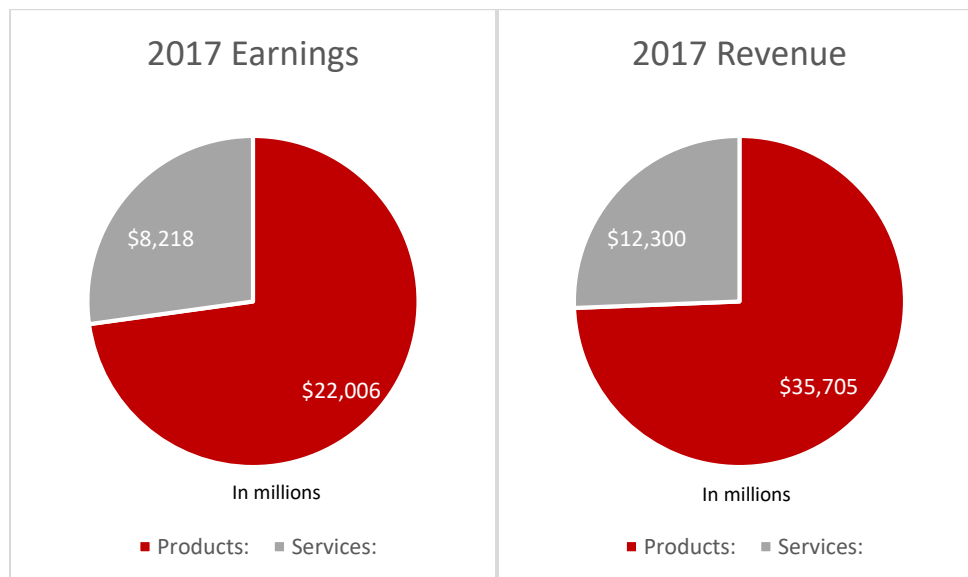
## Company Overview

Cisco Systems, Inc. is an Information Technology company specializing in networking, security, collaboration and cloud-based technologies. Cisco Systems places an emphasis on acquiring companies and technologies and integrating them into the Cisco Strategy, making over 25 acquisitions since 2013. Notable acquisitions include OpenDNS, WebEx, Jabber and Jasper. Over the last few years, Cisco Systems has placed a larger emphasis on their Services Revenue and expanding their Internet of Things product and services offerings.<sup>1</sup>

Cisco Systems, Inc. is headquartered in San Jose, California, within the heart of the Silicon Valley. Cisco Systems operates worldwide, separating its business into geographic segments: Americas; Europe, Middle East and Africa; and Asia Pacific, Japan and China.<sup>2</sup> Founded in 1984 and incorporated in California, Cisco Systems is the largest networking company in the world based on market capitalization.<sup>3</sup>

## Business Segments

Cisco Systems separates their business into 2 main categories: Products and Services. Historically, Cisco has been primarily a networking hardware firm, and Products accounted for 74% of Cisco’s revenue in 2017. In recent years, Cisco has seen Services Revenue grow, at \$11.0B in 2014 to \$12.3B in 2017. Comparatively, Products accounted for 73% of 2017 Earnings while Services accounted for 27% of 2017 Earnings, proving the higher margin potential associated with Services compared to Products.<sup>2</sup>



Source: [https://s2.q4cdn.com/230918913/files/doc\\_financials/annual/2017/View-Printable-2017-Annual-Report.pdf](https://s2.q4cdn.com/230918913/files/doc_financials/annual/2017/View-Printable-2017-Annual-Report.pdf)

## Products

Cisco breaks down the product category into 8 subcategories: Switching, Next-Generation Network (NGN) Routing, Collaboration, Data Center, Wireless, Security, Service Provider Video and Other.<sup>2</sup>

### Switching

The Switching subcategory is the largest of the product categories, making up 39% of Products Revenue and 29% of total Revenue for Cisco in 2017.<sup>2</sup> The Switching segment works with technology to interconnect different devices on the same network and help them to work efficiently together. This segment deals primarily with business-to-business relationships, promoting managed switching technology to create more controllable and secure networks.<sup>4</sup>

### Next-Generation Network (NGN) Routing

The NGN Routing subcategory is the second largest product category, accounting for 22% of Products Revenue and 16% of Cisco's total revenue in 2017.<sup>2</sup> NGN Routing is an initiative by companies like Cisco to create one more efficient network that can transport all types of information, including voice, video, data and signaling, and be able to package and transport it through this efficient network. This technology creates efficiencies for companies utilizing different forms of communication within its network.<sup>5</sup>

### Collaboration

The Collaboration subcategory accounted for 12% of Cisco's Products Revenue and 9% of Total Revenue in 2017. Collaboration focuses on communications and telecommunications technology, such as Unified Communications, Conferencing, Collaboration Endpoints and Business Messaging. Video and voice conferencing, including WebEx, are included within this subcategory.<sup>2</sup>

### Data Center

The Data Center subcategory accounted for 9% of Cisco's Products Revenue and 7% of Total Revenue in 2017.<sup>2</sup> Cisco's Data Centers offer customers an efficient, smart, secure, self-adapting and analytical place to store and retrieve data. Cisco's Data Centers are equipped with Artificial Intelligence that will not only store but analyze data that customers deem valuable to learning about their business.<sup>6</sup>

### Wireless

The Wireless subcategory accounted for 8% of Cisco's Products Revenue and 6% of Total Revenue in 2017.<sup>2</sup> Cisco's Wireless business is centered around providing businesses with wireless access to the internet and clouds and is very important to the Internet of Things

initiative. This subcategory offers products like wireless access points, WLAN controllers, connected mobile experiences and software associated with wireless access security.<sup>7</sup>

### Security

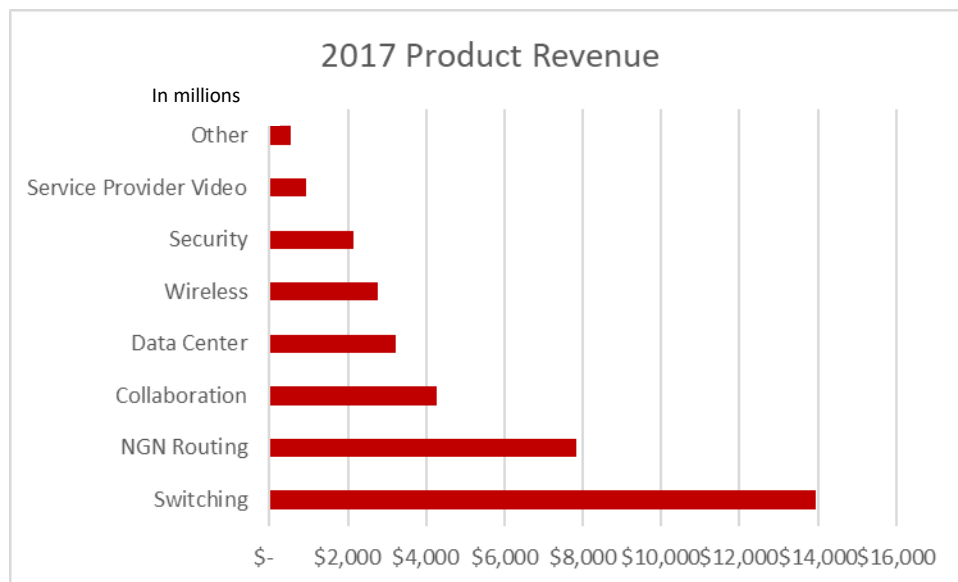
The Security subcategory accounted for 6% of Cisco’s Products Revenue and 4% of Total Revenue in 2017. Cisco’s Security products are focused on providing their customers with ways to shorten the time it takes to detect and respond to a cyber-attack and to identify ransomware and malware very quickly so customers can feel secure that the information in their networks and clouds is secure.<sup>2</sup>

### Service Provider Video

The Service Provider Video subcategory accounted for 3% of Cisco’s Products Revenue and 4% of Total Revenue in 2017. Service Provider Video seeks to utilize Internet Protocol (IP) to broadcast and transmit entertainment that has traditionally been transmitted through cable or satellite devices. Cisco launched their Infinite Video Platform within this subcategory to provide customers with faster speeds and the video-over-IP they are looking for.<sup>2</sup>

### Other Products

Other Products accounted for 2% of Cisco’s Products Revenue and 1% of Total Revenue in 2017. This subcategory consists mostly of emerging technologies and products that Cisco offers and includes new products associated with expanding the Internet of Things initiative. This subcategory includes the acquired Jasper technologies and products, which works with companies to launch Internet of Things technologies around the globe.<sup>2</sup>

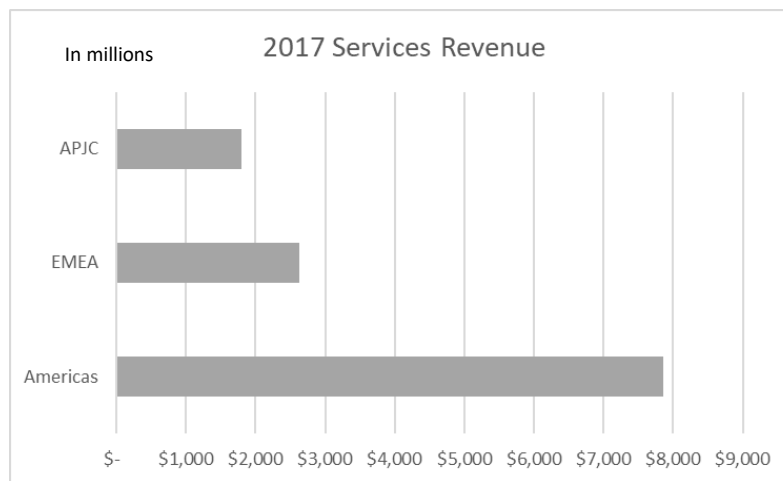


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## Services

Cisco offers a variety of services alongside their products, many of which are related to technical support for the products themselves. Cisco additionally offers advanced services to customers with very specific needs to help them solve communications and networking problems. Cisco breaks their services customers into 4 segments: Enterprise Businesses, Commercial Businesses, Service Providers and Public Sector. No single customer makes up more than 10% of the Services Revenue.<sup>2</sup>

Cisco tracks Service Revenue by geographic regions: Americas; Europe, Middle East and Africa (EMEA); Asia Pacific, Japan and China (APJC). Of these geographic areas, Americas accounts for 64% of the Total Services Revenue.<sup>2</sup>

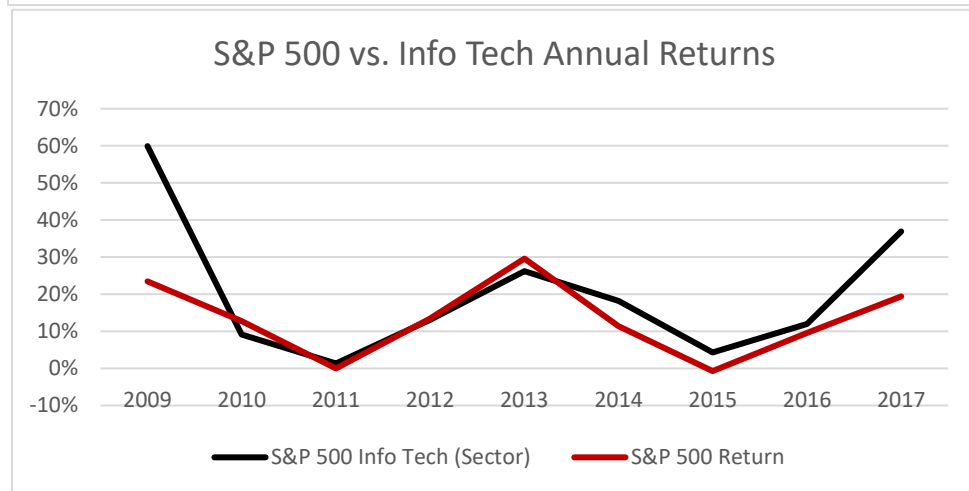
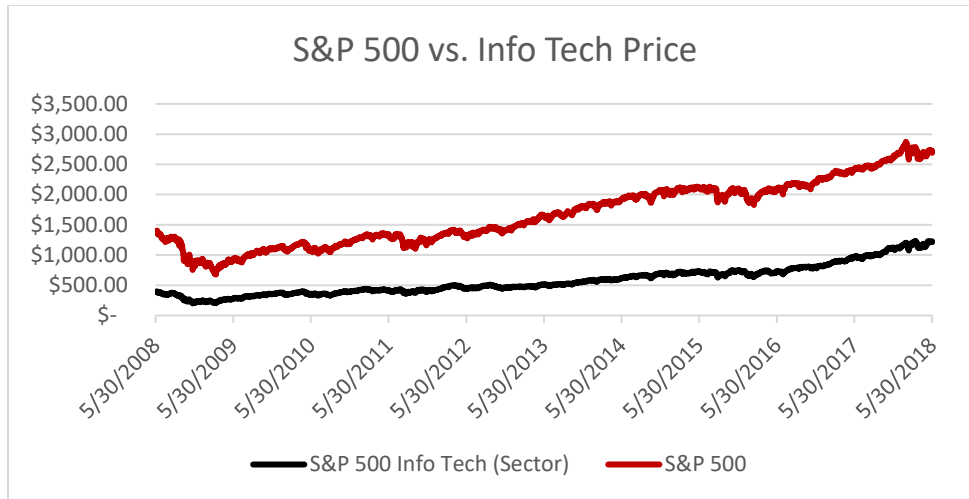


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## Market Landscape

### Sector Landscape

The current expansion has seen the S&P 500 increase by 95% in 10 years. During that same period, the Information Technology sector has increased by 211%.<sup>8</sup> Current belief is that the market is approaching the end of the current expansion. However, if this is true, the Information Technology sector is not behaving how it is expected to during the end of an expansion. The Information Technology sector is expected to outperform the S&P 500 during the early and middle stages of an economic expansion, but then underperform the S&P 500 during the later stages of expansion and during any recession.<sup>9</sup> The Information Technology sector saw its largest gains since 2009 during 2017, with an average return of 37%. This may signal that an economic downturn could be further off than many believe.



Source: <https://finance.yahoo.com/quote/%5EGSPC/history?period1=1212120000&period2=1527652800&interval=1d&filter=history&frequency=1d>

### Competitive Landscape

Cisco competes in a number of different products and services, each one having its own industry and competitive landscape.

Within switching, while still holding the largest piece of the switching market share at 60% in 2016, they have fallen significantly from 2011 when they were 75% of the market share.<sup>10</sup> Additionally, switching revenue fell from \$14.7 billion in 2016 to \$13.9 billion in 2017.<sup>11</sup>

Within collaboration, Microsoft has increased its position in this market with an integrated solution for its customers already utilizing its Office 365 Suite with Skype for Business and Skype for Business Voice. With many companies already utilizing Microsoft programs like Outlook, Skype for Business is already available as an integrated program.<sup>12</sup>

Within data center, Cisco has a strong relationship with Dell, which has been beneficial for both companies when competing with Hewlett-Packard Enterprises. However, the market is moving

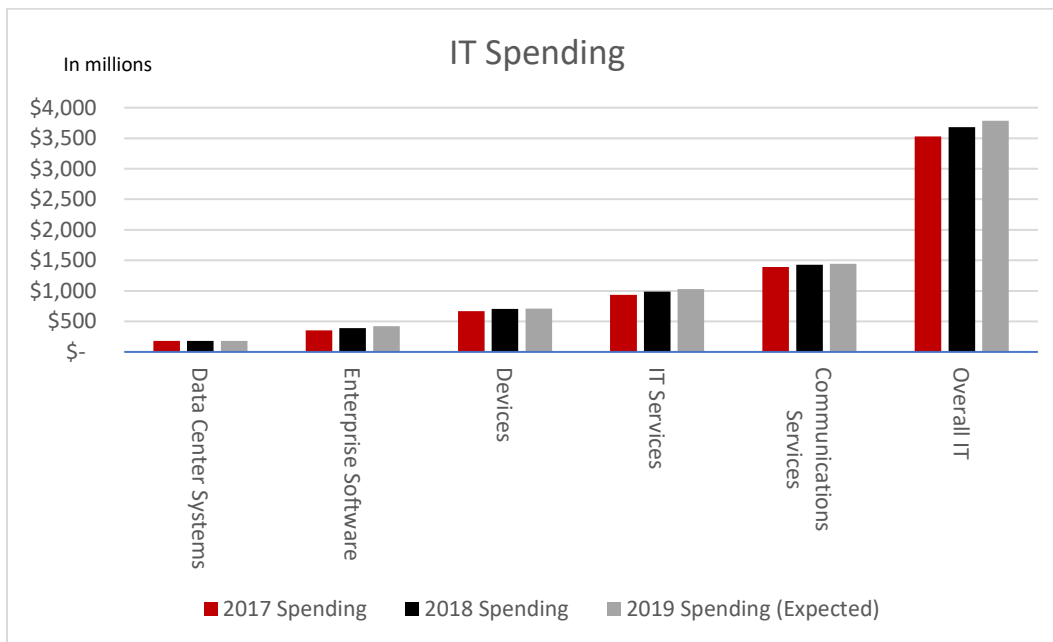
away from a converged infrastructure, which Cisco offers with its HyperFlex product, and moving toward Hyperconverged, which Dell offers with its VxRail and VxRail products. Additionally, smaller players, like Arista and Broadcom, are expected to increase competition in this market in the coming years.<sup>12</sup>

Within Security, Cisco has a competitive advantage because very few alternatives can offer customers security at so many different points in a customer’s network. Companies like FireEye, VMware and Fortinet are companies that are beginning to emerge as players within this market. However, expectations are that it will be a few years before they will be in a position to compete with Cisco.<sup>12</sup>

Within Wireless, Cisco CEO Chuck Robbins is predicting that controller-less solutions are becoming preferred within the market, which could put Cisco at a disadvantage in the coming years. Companies like Aruba and Aerohive are primed to introduce more controller-less solutions and could move market share away from Cisco in this way.<sup>12</sup>

**Market Drivers**

Between 2018 and 2017, spending on Information Technology is expected to grow at a rate of 4.4%, and expectations are that it should continue to grow by 2.7% into 2019.<sup>13</sup> This points to continued expansion within the Information Technology sector of the S&P 500, as companies use items like the tax cuts and high revenues to upgrade and invest in technologies to help business. With Cisco’s emphasis on business-to-business IT solutions and creating efficient networks for businesses, it is expected that Cisco’s revenue should increase in 2018 and 2019.



Source: <https://www.gartner.com/newsroom/id/3845563>



### Strategy Shift

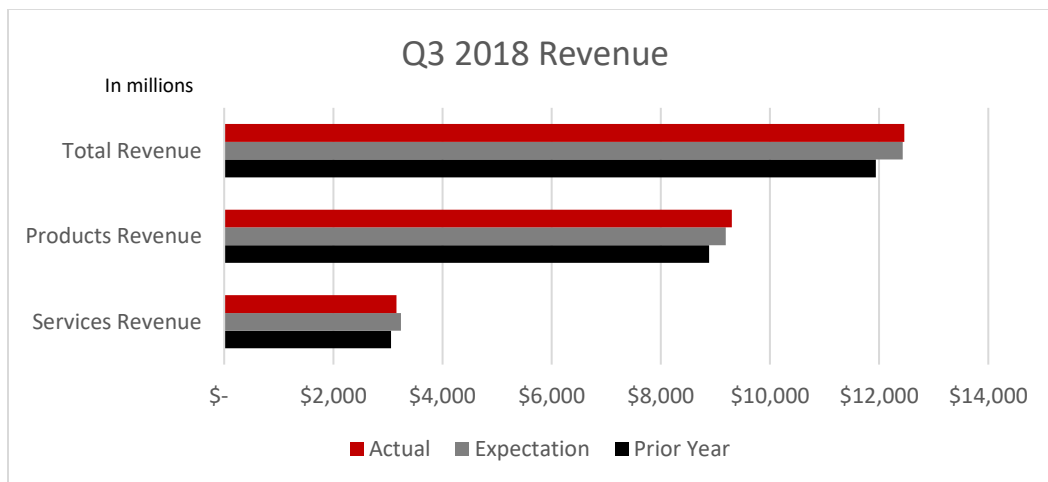
In 2016, Cisco announced that they would be overhauling their strategy and moving away from a hardware-based business and begin moving into cloud-based software programming and subscription-based services to create a more stable revenue stream.<sup>14</sup> Considering that in 2017, Product Revenue consisted of 74% of revenue while Services accounted for 26%, this is a major shift in Cisco’s core business.

### Recent Stock News

#### Mixed Results

On May 16<sup>th</sup>, Cisco announced its most recent quarter-end results. Though Cisco beat analyst’s expectations for overall revenue growth during the third quarter, investors were upset by the lack of change in the share of revenue coming from Services. Total Revenue was increased by 4% over the same quarter prior year, and Services Revenue increased by 3% over the same quarter prior year. However, Products Revenue increased by 5%, and the mix of revenues coming from Services and Products remained unchanged from the same quarter prior year.<sup>15</sup>

Considering the announcement regarding the shift in strategy from Products to Services was made almost 2 years prior to these quarter-end results, investors are concerned that the shift is not taking place as quickly as they would like. Concern exists that while Services are taking the focus on innovation away from Products, Services are not gaining in the share of revenue. This may cause problems down the road if Cisco’s Services are not producing enough revenue to make up for lost revenue planned within Products. Concern also exists that the implementation of this strategy shift is taking longer than a fast-paced sector like Information Technology may allow.<sup>15</sup>



Source: <https://investor.cisco.com/investor-relations/financial-information/Financial-Results/default.aspx>

## New Partnerships

### Google Cloud

In June 2018, Cisco announced at their annual Cisco Live US event in Orlando that they would be partnering with Google to utilize Google's Cloud technology to jumpstart its efforts to implement more cloud networking software. This announcement comes as competitors of Cisco, like IBM and Oracle, have implemented their own cloud technology and struggled to reach customers due to concerns around data security and functionality within the cloud. Cisco seeks to capitalize on Google's brand name and experience with an integrated cloud to move forward with its shift of focus from hardware to more cloud-based software programming.<sup>16</sup>

### Disney StudioLAB

In June 2018, Cisco and Disney announced a partnership to collaborate on Disney's StudioLAB initiative. This initiative was launched in March of 2018 by Disney to innovate and change how audiences consume entertainment, which Disney believes Cisco can help with. Cisco and Disney believe that Cisco's technology can be used to create more efficient studio production processes and can allow for data and production assets to be uploaded from studio sets to the cloud. Additionally, Cisco will help Disney with security and using collaborative software.<sup>17</sup>

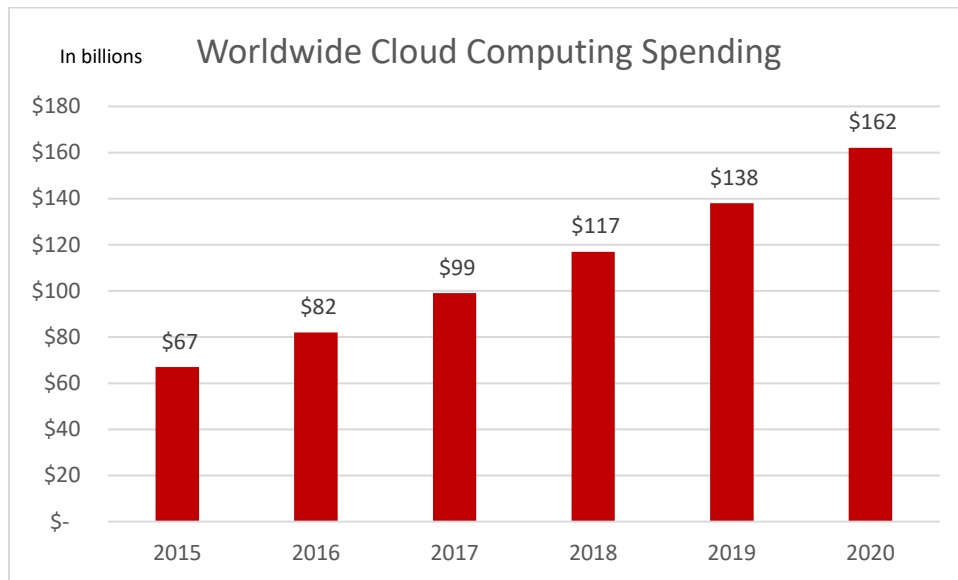
## Investment Thesis

### Fundamental Drivers

There are three drivers that will determine Cisco's outlook moving forward, some of which are currently over-valued: **1) Cloud-based software initiatives, 2) Move to subscription-based service revenue, 3) Hardware staying competitive** to hedge software and service revenues. The current outlook for Cisco is uncertain, which should be reflected in the current stock price. However, investors have speculated that Cisco will successfully make the transition to service revenue, which is artificially inflating the stock price.

### Cloud-Based Software Initiatives

Historically, most large companies have been concerned with control and security around their data. This has led technology companies like Cisco to invest in Enterprise Content Management (ECM), which puts data on-site for organizations. While ECM has been more secure, it limits an enterprise's employees' ability to access the information remotely, is very costly to maintain and house the equipment required, and the data transfer can be inefficient. With advances in cloud-based storage security, companies are now looking to move to cloud-based data storage to capitalize on the efficiencies and cost savings that this technology can provide. Because of this, the worldwide annual spend on cloud computing rose more than 20% between 2015 and 2017, and is expected to increase by more than 15% between 2018 and 2020.<sup>18</sup>

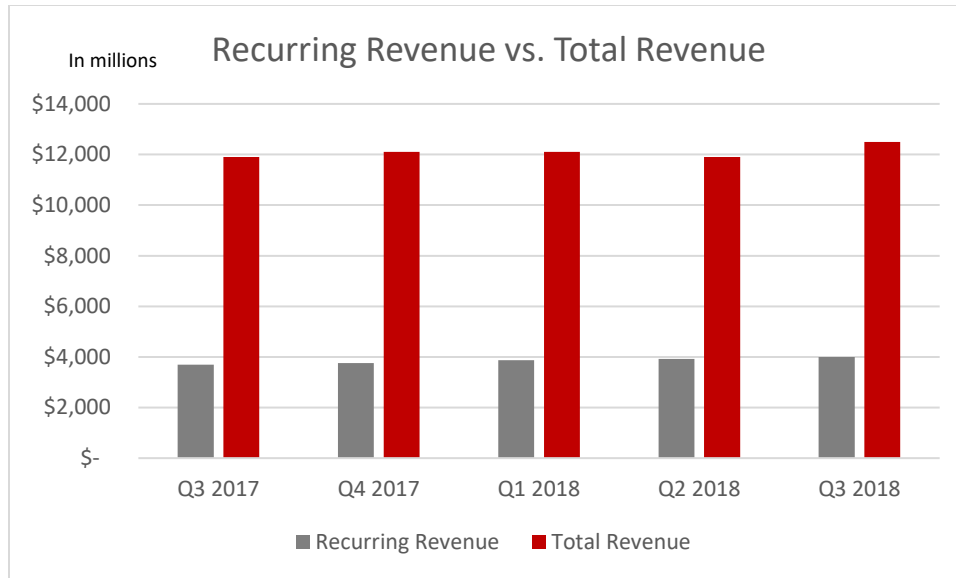


Source: <https://www.forbes.com/sites/louiscolombus/2017/04/29/roundup-of-cloud-computing-forecasts-2017/#70b0507731e8>

As was noted in the Recent Stock News section, Cisco recently entered into a partnership with Google to utilize the brand and security associated with the Google Cloud as Cisco moves into more cloud-based products for its customers. With many large and highly-publicized data breach cases that have tarnished the image of companies like Equifax, companies are concerned that not all clouds are secure. With the desire still existing for more cloud-based data storage, companies are looking for secure solutions. Google's cloud technology provides Cisco with a highly secure cloud environment that Cisco's customers can trust.<sup>16</sup>

### Move to Subscription-based Service Revenue

With the strategy shift to cloud-based and subscription-based Services revenue to create more recurring revenue compared to Cisco's traditional strategy of completing large, one-time sales and equipment installations, Cisco is attempting to create a more predictable revenue stream. However, the third quarter results that were announced in May showed some troubling trends for a company two years into a strategy shift. While much emphasis can be put on the lack of revenue shifting from products to services, what may be more troubling is that only 32% of Cisco's revenue during this quarter was recurring revenue.<sup>15</sup> The past 4 quarters had seen steady increases in recurring revenue as a percent of total revenue.<sup>2</sup>



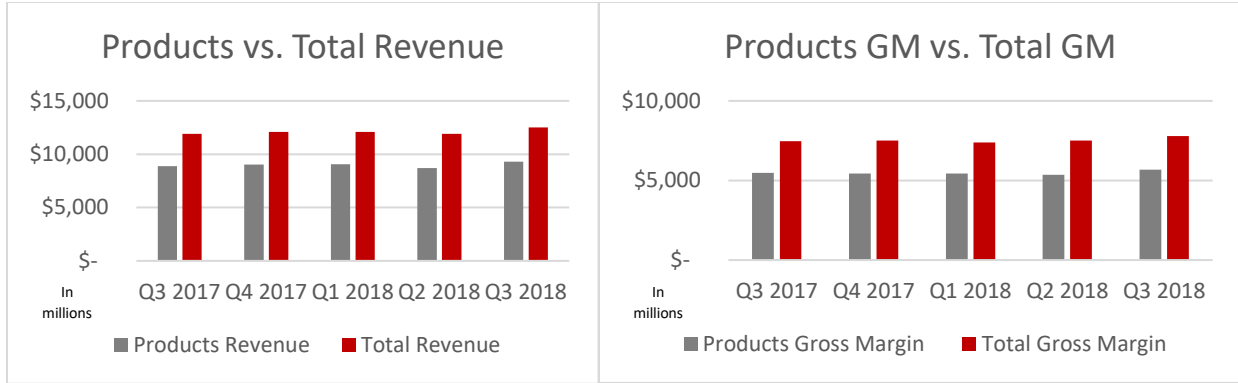
Source: <https://investor.cisco.com/investor-relations/financial-information/Financial-Results/default.aspx>

### Hardware Staying Competitive

Reviewing the past five quarters, Product Revenues have made up 74% of revenues while making up 73 % of Gross Margin. Between the second and third quarters of 2018, Product Revenue as a percent of Total Revenue rose from 73% to 74%, showing that while Cisco continues to push their shifting strategy from Products to Services, Products are continuing to make up the majority of revenue and margin.<sup>2</sup>

While Cisco continues to hold the largest market share of its largest product subcategories like switching, they have been losing market share over the course of the last 5-10 years. New products like Microsoft’s Skype for Business as a collaboration tool and Dell’s VxRack look to challenge Cisco’s market dominance in these areas. As Cisco continues to focus on cloud-based software and subscription-based revenue streams, focus on products to maintain market share and compete with these new products may fall.

As Cisco enters the cloud-based network market, they will be competing against established players like IBM and Arista. There is no guarantee of success with new strategies and Cisco may need to fall back on its products as a revenue source as it continues to establish itself as a cloud-based software company. On a positive note, Cisco grew Products Revenue in the third quarter of 2018 by 5% over the same quarter prior year. This accounts for \$419 million in additional revenue during that quarter alone.

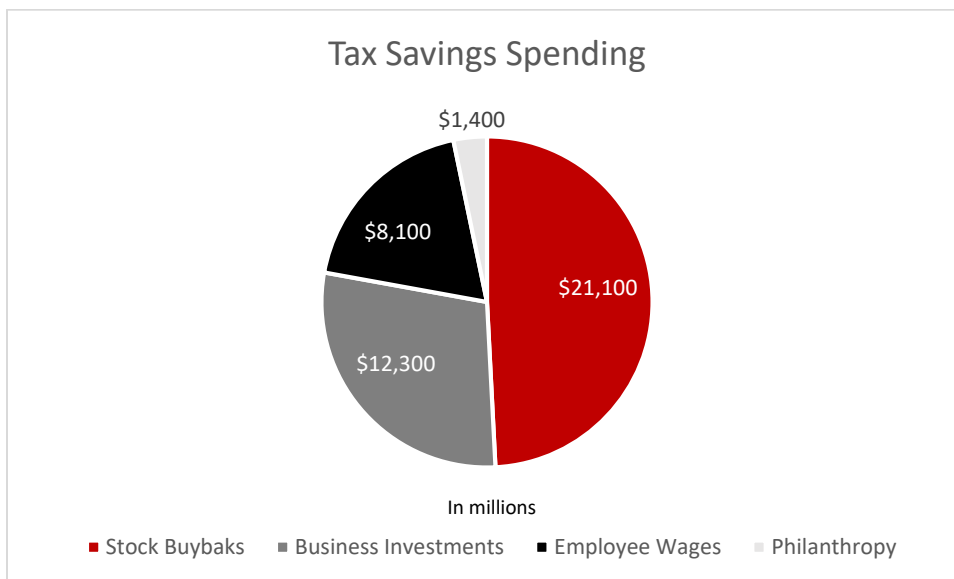


Source: <https://investor.cisco.com/investor-relations/financial-information/Financial-Results/default.aspx>

### Economic Analysis

The Information Technology sector has benefited from the current economic expansion. However, the increases have not been as expected. During the initial phases of the expansion, when Information Technology is expected to increase the most, increases were smaller, while the last two years of the expansion, which many believe to be the late stages, increases have been very strong compared to the S&P 500.<sup>14</sup> This leaves the short-term future of the sector somewhat uncertain as investors work to understand what stage of the current economic expansion is.

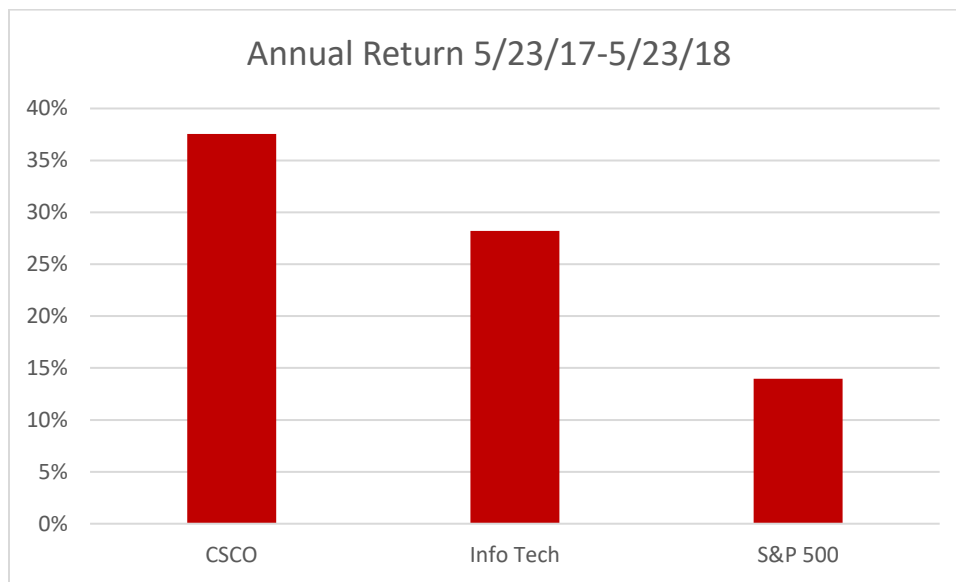
A positive for the Information Technology sector is the Federal Tax Cuts for businesses that took place in January of 2018. The tax cuts are expected to increase Business and Capital investments by companies by more than \$12 billion. However, these cuts are not as impactful as many lawmakers had hoped, as companies are spending more than \$21 billion on stock buybacks and less on capital investments and job creation.<sup>19</sup>



Source: <https://investor.cisco.com/investor-relations/financial-information/Financial-Results/default.aspx>

## Financial Forecasts

Over the last 12 months, Cisco has seen a 38% increase in its stock price. Comparing this to the Information Technology sector at 28% and the S&P 500 at 14%, Cisco has well outperformed the market during this period. Much of this overperformance has been due investor anticipation of better operating margins associated with the strategy shift to recurring income. However, given the slow move from Product Revenues to Service Revenues, Cisco’s stock price has dipped as investors have grown concerned about Cisco’s ability to effectively implement this new strategy. On May 17<sup>th</sup> alone, the day of the third quarter press release, Cisco’s stock fell 3.8% due to the lack of shifting revenue streams.



Source: <https://finance.yahoo.com>

Although the returns of Cisco have been higher than the Info Tech sector and the S&P 500, relative to its competitors, Cisco’s returns have been consistent or even conservative compared to companies like Microsoft and Arista. While Cisco’s returns are lower compared to these competitors, Cisco’s price may be based more on speculation compared to real results.

	Cisco	Microsoft	Arista	Hewlett-Packard
Ticker	CSCO	MSFT	ANET	HPE
12-month Return	38%	44%	79%	6%
Revenue (TTM)- mn	\$48,005	\$89,950	\$1,646	\$28,871
Net Income (TTM)- mn	\$9,609	\$21,204	\$423	\$344
EPS	\$1.90	\$1.48	\$6.07	\$1.77
P/E Ratio	20.83	66.67	42.43	8.24

Source: <https://finance.yahoo.com>

Our projected income statement for Cisco is shown in Appendix I. Our projections reflect management’s goal of moving revenue from Products to Services and the higher margins associated with Services compared to Products.

We expect Product Revenue to grow by 1% each year for three years and Service Revenue to grow by 4% each year for three years. We believe Gross Margin Percent for both Products and Services will increase, with Products continuing to increase to 65% and Services to increase to 70%. Operating Margin is expected to increase from 25% in 2017 to over 28% for each of the next three years.

### Valuation and Price Target

Beginning with the Discounted Cash Flow (DCF) Model, we used the Income Statement in Appendix I to incorporate the effects of growing Service Revenue at a faster rate than Product Revenue and the higher margins associated with the Services Revenue. This change reflects the strategic shift of Cisco’s management. We are projecting that 2021 is the year that Cisco will be able to fully capitalize on their cloud-based software platforms to create more recurring revenue, with revenues in 2021 and 2022 reaching 7% growth, 5% in 2023 and then 3% after that. Additionally, we assumed Operating Income would increase to 30% in 2021 and stay level in the years that follow. Based on these assumptions, and using a 10.8% terminal discount rate, the DCF Model projects Cisco’s current equity value to be \$200 billion. With over 5 billion shares outstanding, the implied equity value/share of Cisco is currently \$39.93. Comparing this to Cisco’s current stock price of \$43.68, the DCF Model predicts a downside of purchasing Cisco of 8.59%.

Moving to a comparison of valuation metrics, we compared Cisco with its closest 5 competitors: Microsoft (MSFT), Arista (ANET), Hewlett-Packard Enterprises (HPE), Arris International (ARRS) and F5 Networks (FFIV). Comparing this, Cisco is under the average for both the P/E ratio and the P/S ration, but very close to average on both P/B ratio and EV/EBITDA.

Ticker	P/E Ratio	P/S Ratio	P/B Ratio	EV/EBITDA
Average	28.42	3.08	4.46	12.88
CSCO	20.84	4.23	4.46	12.20
MSFT	66.67	7.63	9.57	20.75
ANET	10.84	0.20	1.79	11.50
HPE	8.24	0.73	0.93	10.45
ARRS	38.68	0.68	1.44	7.60
FFIV	25.27	4.99	8.59	14.80

Source: <https://finance.yahoo.com>

Applying these multiples to Cisco, we get a range of valuations and share prices, from \$29.86 a share for the P/S ratio on the low end, to \$54.00 a share for the P/E ratio on the high end. We

then combined the valuation metrics and the DCF price targets to come up with weighted models, with the DCF model getting 70% of the weight. We then applied 10% weight to both the P/E and P/B ratios as these are often the most considered valuation metrics when investors are evaluating a stock.<sup>20</sup> We then applied 5% weight to the final 2 ratios, P/S and EV/EBITDA, to get a target price for Cisco of \$41.11. All price targets and weights are shown in the table below.

Valuation Metric	Weight	Price Target
DCF	70%	\$39.93
P/E Ratio	10%	\$54.00
P/S Ratio	5%	\$29.86
P/B Ratio	10%	\$44.01
EV/EBITDA	5%	\$37.26
<b>Final Price Target:</b>		<b>\$41.11</b>

## Risks

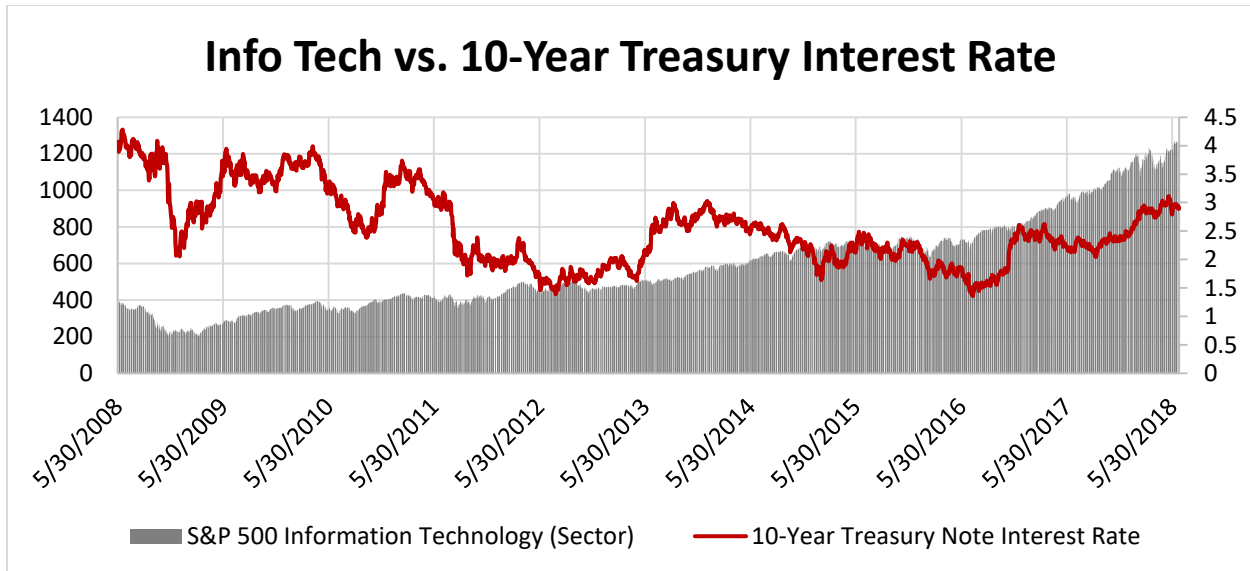
### Industry Risks

The first risk is going to be associated with the economy in general. The current economic expansion began in mid-2009, and the economy is still expanding nine years later, making this the second longest expansion in American History.<sup>21</sup> Many predict the economy may begin to slow within the next 12 to 24 months. Cisco, being a business-to-business company, may see their customers and potential customers begin to slow spending on upgrading their communications and networks if an economic downturn were to take place. Additionally, Information Technology generally tends to decline before the rest of the economy when a recession hits, meaning investors will not have time to see warning signs of a coming recession before Information Technology companies like Cisco begin to decline.

In addition to the fears that the expansion may slow due to normal cyclical nature of the economy, current fears exist regarding a trade war with China, as well as other traditional US trade partners. In March, following an announcement that President Trump would be imposing steel and aluminum tariffs on the Chinese, the market tumbled. Although the imposition of tariffs have not yet slowed the economic expansion, long-term tariffs may have an impact on the overall US Economy.<sup>22</sup>

In June 2018, the Federal Reserve raised the federal funds rate from 1.75% to 2%, and signaled that they plan to lift rates 2 more times in 2018 in an effort to stem inflation. Historically, the Information Technology sector tends to see less growth when interest rates are high, however, the correlation is weak at -0.35 over the last 10 years.<sup>23</sup>





Source: <https://www.investing.com/rates-bonds/u.s.-10-year-bond-yield-historical-data>

### Company-specific Risks

Cisco faces some uncertainty in how their planned business model is going to pan out. Historically, Cisco has capitalized on providing companies with secure solutions to data, networking and collaboration. Companies, however, are shifting their focus and now want not just security, but ease of use and low implementation and housing costs. As Cisco continues to work on their cloud-based software initiatives and create more recurring revenue, they are challenged to make this strategic shift while still innovating in products to hedge their strategic bets.

Cisco also faces new competitive risks. Companies like Microsoft and Dell that weren't traditionally integrated to compete with collaboration and data storage are now poised to begin offering these products to their customers as an alternative to Cisco's products. Companies like Arista are also coming into the cloud-based market with products that compete with Cisco.

### Conclusion

**SELL Cisco Systems, Inc (NASDAQ: CSCO) with a target price of \$41.11 and an implied upside of -2.86%.**

Cisco is currently slightly overvalued and much of their current share price has speculation associated with the planned strategic shift to recurring revenues. If Cisco is able to effectively implement their cloud-based software initiatives over the next 12 months and shift more revenue to their service category, Cisco's value will increase slightly over the current share price, however, Cisco's shift is already factored into this share price and therefore has limited upside if it does make the revenue shift.

## Appendices

### Appendix I: Cisco Systems, Inc. Income Statement

<i>in millions, except per-share amounts</i>	FY 2020E	FY 2019E	FY 2018E	FY 2017	FY 2016	FY 2015	FY 2014	FY 2013
<b>Consensus</b>	<b>52,029</b>	<b>50,730</b>	<b>49,260</b>					
<b>REVENUE:</b>								
Product	36,787	36,423	36,062	35,705	37,254	37,750	36,172	38,029
Service	13,836	13,304	12,792	12,300	11,993	11,411	10,970	10,578
Total revenue	50,623	49,726	48,854	48,005	49,247	49,161	47,142	48,607
<b>COST OF SALES:</b>								
Product (a) - (e)	12,875	12,748	12,622	13,699	14,161	15,377	15,641	15,541
Service (a) & (d)	4,151	3,991	3,838	4,082	4,126	4,103	3,732	3,626
Total cost of sales (a) - (e)	17,026	16,739	16,459	17,781	18,287	19,480	19,373	19,167
<b>GROSS MARGIN (a) - (e)</b>	<b>33,597</b>	<b>32,987</b>	<b>32,395</b>	<b>30,224</b>	<b>30,960</b>	<b>29,681</b>	<b>27,769</b>	<b>29,440</b>
Product gross margin percentage	65.0%	65.0%	65.0%	61.6%	62.0%	59.3%	56.8%	59.1%
Service gross margin percentage	70.0%	70.0%	70.0%	66.8%	65.6%	64.0%	66.0%	65.7%
Total gross margin percentage	66.4%	66.3%	66.3%	63.0%	62.9%	60.4%	58.9%	60.6%
<b>OPERATING EXPENSES:</b>								
Research and development (a) & (d)	6,440	6,326	6,215	6,059	6,296	6,207	6,294	5,942
Sales and marketing (a) & (d)	9,965	9,788	9,617	9,184	9,619	9,821	9,503	9,538
General and administrative (a) & (d)	2,100	2,063	2,027	1,993	1,814	2,040	1,934	2,264
Amortization of purchased intangible assets (b)	332	326	321	259	303	359	275	395
Restructuring and other charges (e)	426	418	411	756	268	484	418	105
Total operating expenses (a), (b), (d) & (e)	19,263	18,922	18,590	18,251	18,300	18,911	18,424	18,244
Operating expense as a percentage of revenue	38.1%	38.1%	38.1%	38.0%	37.2%	38.5%	39.1%	37.5%
<b>OPERATING INCOME (a) - (e)</b>	<b>14,333</b>	<b>14,065</b>	<b>13,805</b>	<b>11,973</b>	<b>12,660</b>	<b>10,770</b>	<b>9,345</b>	<b>11,196</b>
Operating income as a percentage of revenue	28.3%	28.3%	28.3%	24.9%	25.7%	21.9%	19.8%	23.0%
Interest income	932	915	899	1,338	1,005	769	691	654
Interest expense	(680)	(668)	(656)	(861)	(676)	(566)	(564)	(583)
Other income (loss), net	42	42	41	(163)	(69)	228	243	(40)
Interest and other income (loss), net	294	289	284	314	260	431	370	31
<b>INCOME BEFORE PROVISION FOR INCOME TAXES (a) - (e)</b>	<b>14,628</b>	<b>14,354</b>	<b>14,089</b>	<b>12,287</b>	<b>12,920</b>	<b>11,201</b>	<b>9,715</b>	<b>11,227</b>
Provision for income taxes (f) - (g)	2,926	2,871	2,818	2,678	2,181	2,220	1,862	1,244
<b>NET INCOME (a) - (g)</b>	<b>11,702</b>	<b>11,484</b>	<b>11,271</b>	<b>9,609</b>	<b>10,739</b>	<b>8,981</b>	<b>7,853</b>	<b>9,983</b>
<b>Net income per share:</b>								
Basic (a) - (g)	\$ 2.34	\$ 2.29	\$ 2.25	\$ 1.92	\$ 2.13	\$ 1.76	\$ 1.50	\$ 1.87
Diluted (a) - (g)	\$ 2.32	\$ 2.27	\$ 2.23	\$ 1.90	\$ 2.11	\$ 1.75	\$ 1.49	\$ 1.86
Consensus	\$ 2.73	\$ 2.61	\$ 2.34					
<b>Shares used in per-share calculation:</b>								
Basic	5,010	5,010	5,010	5,010	5,053	5,104	5,234	5,329
Diluted	5,049	5,049	5,049	5,049	5,088	5,146	5,281	5,380
Cash dividends declared per common share				\$ 1.10	\$ 0.94	\$ 0.80	\$ 0.72	\$ 0.62
Tax Rate	20.0%	20.0%	20.0%	21.8%	16.9%	19.8%	19.2%	11.1%
<b>Balance Sheet</b>								
Receivables	5,568	5,470	5,374	5,146	5,847	5,344	5,157	5,470
% of Sales	11.0%	11.0%	11.0%	10.7%	11.9%	10.9%	10.9%	11.3%
Inventory	1,012	1,243	1,466	1,616	1,217	1,627	1,591	1,476
% of Sales	2.0%	2.5%	3.0%	3.4%	2.5%	3.3%	3.4%	3.0%
Payables	1,266	1,243	1,221	1,385	1,056	1,104	1,032	1,029
% of Sales	2.5%	2.5%	2.5%	2.9%	2.1%	2.2%	2.2%	2.1%
Change in WC	110	105	86	(27)	(45)	(295)	195	
<b>Cash Flow</b>								
Depreciation & Amortization	2,531	2,486	2,443	2,286	2,150	2,442	2,439	2,460
% of Sales	5.0%	5.0%	5.0%	4.8%	4.4%	5.0%	5.2%	5.1%
CapEx	1,012	995	977	964	1,146	1,227	1,275	1,160
% of Sales	2.0%	2.0%	2.0%	2.0%	2.3%	2.5%	2.7%	2.4%
<b>Expenses as % of Sales</b>								
Research and development (a) & (d)	12.7%	12.7%	12.7%	12.6%	12.8%	12.6%	13.4%	12.2%
Sales and marketing (a) & (d)	19.7%	19.7%	19.7%	19.1%	19.5%	20.0%	20.2%	19.6%
General and administrative (a) & (d)	4.1%	4.1%	4.1%	4.2%	3.7%	4.1%	4.1%	4.7%
Amortization of purchased intangible assets (b)	0.7%	0.7%	0.7%	0.5%	0.6%	0.7%	0.6%	0.8%
Restructuring and other charges (e)	0.8%	0.8%	0.8%	1.6%	0.5%	1.0%	0.9%	0.2%
Total operating expenses (a), (b), (d) & (e)	38.1%	38.1%	38.1%	38.0%	37.2%	38.5%	39.1%	37.5%
Interest income	1.8%	1.8%	1.8%	2.8%	2.0%	1.6%	1.5%	1.3%
Interest expense	-1.3%	-1.3%	-1.3%	-1.8%	-1.4%	-1.2%	-1.2%	-1.2%
Other income (loss), net	0.1%	0.1%	0.1%	-0.3%	-0.1%	0.5%	0.5%	-0.1%
Interest and other income (loss), net	0.6%	0.6%	0.6%	0.7%	0.5%	0.9%	0.8%	0.1%
Operating Margin	28.3%	28.3%	28.3%	24.9%	25.7%	21.9%	19.8%	23.0%



<sup>7</sup><https://www.cisco.com/c/dam/en/us/solutions/collateral/enterprise-networks/802-11ac-solution/at-a-glance-c45-734218.pdf>

<sup>8</sup><https://finance.yahoo.com/quote/%5EGSPC/history?period1=1212120000&period2=1527652800&interval=1d&filter=history&frequency=1d>

<sup>9</sup>[https://eresearch.fidelity.com/eresearch/markets\\_sectors/sectors/sectors\\_in\\_market.jhtml?tab=sdbusiness&sector=45](https://eresearch.fidelity.com/eresearch/markets_sectors/sectors/sectors_in_market.jhtml?tab=sdbusiness&sector=45)

<sup>10</sup><https://www.forbes.com/forbes/welcome/?toURL=https://www.forbes.com/sites/greatspeculations/2017/04/12/where-does-cisco-stand-in-the-ethernet-switch-market/&refURL=&referrer=#38740437434a>

<sup>11</sup>[https://s2.q4cdn.com/230918913/files/doc\\_financials/annual/2016/2016-annual-report-full.pdf](https://s2.q4cdn.com/230918913/files/doc_financials/annual/2016/2016-annual-report-full.pdf)

<sup>12</sup><https://www.networkworld.com/article/3149585/uc-voip/what-to-expect-from-ciscos-competitors-in-2017.html>

<sup>13</sup><https://www.gartner.com/newsroom/id/3845563>

<sup>14</sup><https://investorplace.com/2018/05/cisco-earnings-report-clarifies-how-slow-the-train-is-moving/>

<sup>15</sup>[https://s2.q4cdn.com/230918913/files/doc\\_news/Q3FY18-Press-Release.pdf](https://s2.q4cdn.com/230918913/files/doc_news/Q3FY18-Press-Release.pdf)

<sup>16</sup><https://www.networkcomputing.com/data-centers/cisco%E2%80%99s-container-journey-cloud/721136785>

<sup>17</sup><https://www.msn.com/en-us/finance/smallbusiness/disney-partners-with-cisco-for-its-studiolab/ar-AAzEbQ>

<sup>18</sup><https://www.forbes.com/sites/louiscolumbus/2017/04/29/roundup-of-cloud-computing-forecasts-2017/#16ed8e0831e8>

<sup>19</sup><https://www.bloomberg.com/gadfly/articles/2018-03-05/five-charts-that-show-where-those-corporate-tax-savings-are-going>

<sup>20</sup><https://www.investopedia.com/articles/fundamental-analysis/09/five-must-have-metrics-value-investors.asp>

<sup>21</sup><http://money.cnn.com/2018/01/30/news/economy/us-economy-boom-history/index.html>

<sup>22</sup><https://www.usatoday.com/story/money/2018/03/05/tariffs-trump-impact/395314002/>

<sup>23</sup><http://www.businessinsider.com/federal-reserve-fomc-statement-and-interest-rate-decision-june-2018-2018-6>