

3. Revenue

(a) Disaggregation of Revenue

We disaggregate our revenue into groups of similar products and services that depict the nature, amount, and timing of revenue and cash flows for our various offerings. The sales cycle, contractual obligations, customer requirements, and go-to-market strategies differ for each of our product categories, resulting in different economic risk profiles for each category.

The following table presents this disaggregation of revenue (in millions):

<u>Years Ended</u>	<u>July 27, 2019</u>	<u>July 28, 2018</u>	<u>July 29, 2017</u>
Revenue:			
Infrastructure Platforms	\$ 30,191	\$ 28,322	\$ 27,817
Applications	5,803	5,036	4,568
Security	2,730	2,352	2,152
Other Products	281	999	1,168
Total Product	39,005	36,709	35,705
Services	12,899	12,621	12,300
Total ⁽¹⁾	<u>\$ 51,904</u>	<u>\$ 49,330</u>	<u>\$ 48,005</u>

Amounts may not sum due to rounding.

⁽¹⁾ During the second quarter of fiscal 2019, we completed the divestiture of the Service Provider Video Software Solutions (SPVSS) business. Total revenue includes SPVSS business revenue of \$168 million and \$903 million for fiscal 2019 and 2018, respectively.

Infrastructure Platforms consist of our core networking technologies of switching, routing, wireless, and data center products that are designed to work together to deliver networking capabilities and transport and/or store data. These technologies consist of both hardware and software offerings, including software licenses and software-as-a-service (SaaS), that help our customers build networks, automate, orchestrate, integrate, and digitize data. We are shifting and expanding more of our business to software and subscriptions across our core networking portfolio. Our hardware and perpetual software in this category are distinct performance obligations where revenue is recognized upfront upon transfer of control. Term software licenses are multiple performance obligations where the term license is recognized upfront upon transfer of control with the associated software maintenance revenue recognized ratably over the contract term. SaaS arrangements in this category have one distinct performance obligation which is satisfied over time with revenue recognized ratably over the contract term.

Applications consists of offerings that utilize the core networking and data center platforms to provide their functions. The products consist primarily of software offerings, including software licenses and SaaS, as well as hardware. Our perpetual software and hardware in this category are distinct performance obligations where revenue is recognized upfront upon transfer of control. Term software licenses are multiple performance obligations where the term license is recognized upfront upon transfer of control with the associated software maintenance revenue recognized ratably over the contract term. SaaS arrangements in this category have one distinct performance obligation which is satisfied over time with revenue recognized ratably over the contract term.

Security primarily includes our network security, cloud and email security, identity and access management, advanced threat protection, and unified threat management products. These products consist of both hardware and software offerings, including software licenses and SaaS. Updates and upgrades for the term software licenses are critical for our software to perform its intended commercial purpose because of the continuous need for our software to secure our customers' network environments against frequent threats. Therefore, security software licenses are generally represented by a single distinct performance obligation with revenue recognized ratably over the contract term. Our hardware and perpetual software in this category are distinct performance obligations where revenue is recognized upfront upon transfer of control. SaaS arrangements in this category have one distinct performance obligation which is satisfied over time with revenue recognized ratably over the contract term.

Other Products primarily include our Service Provider Video Software Solutions and cloud and system management products. On October 28, 2018, we completed the sale of the SPVSS. These products include both hardware and software licenses. Our offerings in this category are distinct performance obligations where revenue is recognized upfront upon transfer of control.

In addition to our product offerings, we provide a broad range of service and support options for our customers, including technical support services and advanced services. Technical support services represent the majority of these offerings which are distinct performance obligations that are satisfied over time with revenue recognized ratably over the contract term. Advanced services are distinct performance obligations that are satisfied over time with revenue recognized as services are delivered.

The sales arrangements as discussed above are typically made pursuant to customer purchase orders based on master purchase or partner agreements. Cash is received based on our standard payment terms which is typically 30 days. We provide financing arrangements to customers for all of our hardware, software and service offerings. Refer to Note 8 for additional information. For these arrangements, cash is typically received over time.

(b) Contract Balances

Accounts receivable, net was \$5.5 billion as of July 27, 2019 compared to \$5.6 billion as of July 28, 2018.

Contract assets consist of unbilled receivables and are recorded when revenue is recognized in advance of scheduled billings to our customers. These amounts are primarily related to software and service arrangements where transfer of control has occurred but we have not yet invoiced. As of July 27, 2019 and July 29, 2018, our contract assets for these unbilled receivables were \$860 million and \$122 million, respectively, and were included in other current assets and other assets.

Contract liabilities consist of deferred revenue. Deferred revenue was \$18.5 billion as of July 27, 2019 compared to \$19.7 billion as of July 28, 2018. In connection with the adoption of ASC 606, we recorded an adjustment to retained earnings to reduce deferred revenue by \$2.8 billion. We recognized approximately \$9.6 billion of revenue during fiscal 2019 that was included in the deferred revenue balance at July 29, 2018.

(c) Remaining Performance Obligations

Remaining Performance Obligations (RPO) are comprised of deferred revenue plus unbilled contract revenue. As of July 27, 2019, the aggregate amount of RPO was \$25.3 billion, comprised of \$18.5 billion of deferred revenue and \$6.8 billion of unbilled contract revenue. We expect approximately 56% of this amount to be recognized as revenue over the next year. Unbilled contract revenue represents non-cancelable contracts for which we have not invoiced, have an obligation to perform, and revenue has not yet been recognized in the financial statements.

(d) Capitalized Contract Acquisition Costs

In connection with the adoption of ASC 606, we began to capitalize direct and incremental costs incurred to acquire contracts, primarily sales commissions, for which the associated revenue is expected to be recognized in future periods. We incur these costs in connection with both initial contracts and renewals. These costs are initially deferred and typically amortized over the term of the customer contract which corresponds to the period of benefit. Deferred sales commissions were \$750 million as of July 27, 2019, and was included in other current assets and other assets. The amortization expense associated with these costs was \$471 million for fiscal 2019 and was included in sales and marketing expenses.

4. Acquisitions and Divestitures

(a) Acquisition Summary

We completed five acquisitions during fiscal 2019. A summary of the allocation of the total purchase consideration is presented as follows (in millions):

<u>Fiscal 2019</u>	<u>Purchase Consideration</u>	<u>Net Tangible Assets Acquired (Liabilities Assumed)</u>	<u>Purchased Intangible Assets</u>	<u>Goodwill</u>
Duo	\$ 2,025	\$ (57)	\$ 342	\$ 1,740
Luxtera	596	(19)	319	296
Others (three in total)	65	2	11	52
Total	<u>\$ 2,686</u>	<u>\$ (74)</u>	<u>\$ 672</u>	<u>\$ 2,088</u>

On September 28, 2018, we completed our acquisition of privately held Duo Security, Inc. (“Duo”), a leading provider of unified access security and multi-factor authentication delivered through the cloud. Revenue from the Duo acquisition has been included in our Security product category.

On February 6, 2019, we completed our acquisition of Luxtera, Inc. (“Luxtera”), a privately held semiconductor company. Revenue from the Luxtera acquisition has been included in our Infrastructure Platforms product category.

The total purchase consideration related to our acquisitions completed during fiscal 2019 consisted of cash consideration and vested share-based awards assumed. The total cash and cash equivalents acquired from these acquisitions was approximately \$100 million.