



In This Issue

- [Background](#)
- [Interpretive Guidance](#)
- [Contacts](#)

Applying the Revenue Standard to Identify the Performance Obligations in Arrangements That Include Smart Devices, Updates, and Cloud-Based Services

The Bottom Line

- Many technology entities sell smart devices that function with ongoing services, such as cloud-based services. Given the ubiquity of the Internet of Things, or IoT, and the growing use of edge computing, an increasing number of technology entities have to face the accounting challenges associated with the sale of smart devices.
- Technology entities must often use significant judgment to identify performance obligations in arrangements that include smart devices. Accounting outcomes can differ materially depending on whether an entity identifies a combined performance obligation or multiple performance obligations in an arrangement.
- When an arrangement for smart devices contains a combined performance obligation that comprises a smart device and ongoing services, revenue for the combined performance obligation is typically recognized over time. However, when an arrangement for smart devices contains multiple performance obligations such that the smart devices are accounted for separately from the ongoing services, revenue for each smart device is typically recognized at a point in time, while revenue for the ongoing services is typically recognized over time.

Beyond the Bottom Line

This publication assumes that an entity has adopted the revenue standard (ASC 606¹). For public entities, ASC 606 is effective for annual reporting periods beginning after December 15, 2017. The standard is effective for all other entities for annual reporting periods beginning after December 15, 2018, or December 15, 2019.² Early adoption is permitted for annual reporting periods beginning after December 15, 2016.

While ASC 606 will affect organizations differently depending on their facts and circumstances, we have identified certain aspects of its application that are especially challenging for technology entities. This *Technology Spotlight* is intended to help technology entities better understand how to apply the revenue standard when they identify performance obligations in arrangements that include smart devices.

Background

Many technology entities offer solutions in which a customer purchases (1) a smart device with an embedded software component (e.g., firmware), (2) maintenance and support (i.e., postcontract customer support [PCS]), and (3) a cloud-based service. In these offerings, the firmware allows the smart device to connect to the cloud-based application, which is physically hosted on the technology entity's systems (or hosted by the entity's cloud-computing vendor) and accessed by the customer over the Internet. For arrangements in which the software is always embedded in the smart device and the software is essential to the device's core functionality, an entity will typically conclude that the embedded software is not distinct from the smart device. This is because the software is a component of the tangible device and integral to the functionality of that device in accordance with ASC 606-10-55-56(a).³

Challenges arise when entities need to identify performance obligations in arrangements that include promises to provide (1) hardware and embedded software (i.e., a smart device), (2) PCS, and (3) a cloud-based service. There are additional considerations when an entity leases the smart device with the related PCS and cloud-based service instead of selling the smart device. The interpretive guidance below provides factors that an entity may consider in identifying the performance obligations in these arrangements and discusses situations in which a smart device is subject to a lease accounted for under ASC 842.⁴

Because PCS and a cloud-based service typically are sold together, are coterminous, and have the same pattern of transfer (i.e., ratably over time as stand-ready obligations), they will be referred to collectively as "subscription services."⁵ In some cases, the smart device and both

¹ For titles of *FASB Accounting Standards Codification* (ASC) references, see Deloitte's "[Titles of Topics and Subtopics in the FASB Accounting Standards Codification.](#)"

² In June 2020, the FASB issued *FASB Accounting Standards Update (ASU) No. 2020-05, Revenue From Contracts With Customers (Topic 606) and Leases (Topic 842): Effective Dates for Certain Entities*. The ASU permits nonpublic entities that had not yet issued their financial statements or made financial statements available for issuance as of June 3, 2020, to adopt ASC 606 for annual reporting periods beginning after December 15, 2019, and for interim reporting periods within annual reporting periods beginning after December 15, 2020. Since the deferral is not mandatory, nonpublic entities may still elect to adopt ASC 606 in accordance with previous guidance (i.e., for annual reporting periods beginning after December 15, 2018, and for interim reporting periods within annual reporting periods beginning after December 15, 2019).

³ The analysis of whether the embedded software is distinct from the smart device is not discussed in this publication.

⁴ This publication assumes that an entity has adopted ASC 842. ASC 842 is effective for public entities (including public not-for-profit entities) for annual reporting periods beginning after December 15, 2018 (including interim reporting periods therein). The standard is effective for all other entities for annual reporting periods beginning after December 15, 2020, and interim reporting periods within annual reporting periods beginning after December 15, 2021. In June 2020, the FASB issued ASU 2020-05, which permits public not-for-profit entities and all other entities that had not yet issued their financial statements or made financial statements available for issuance as of June 3, 2020, to adopt ASC 842 (1) for annual reporting periods beginning after December 15, 2019, including interim reporting periods therein (for public not-for-profit entities), and (2) for annual reporting periods beginning after December 15, 2021, and interim reporting periods within annual reporting periods beginning after December 15, 2022 (for all other entities). Early adoption is permitted.

⁵ When control of two or more goods or services is transferred at exactly the same time, or on the same basis over the same period, and if those items do not need to be segregated for presentation or disclosure purposes, it will not be necessary to unbundle each of those concurrently delivered items because the amount and timing of revenue recognized and disclosed would not differ if the items were unbundled. The FASB acknowledges this in paragraph BC116 of *FASB Accounting Standards Update No. 2014-09, Revenue From Contracts With Customers (Topic 606)*, and paragraph BC47 of *FASB Accounting Standards Update No. 2016-10, Revenue From Contracts With Customers (Topic 606): Identifying Performance Obligations and Licensing*.

the PCS and the cloud-based service may constitute a combined performance obligation. However, there may be instances in which the smart device and either the PCS (without the cloud-based service) or the cloud-based service (without the PCS) constitute a combined performance obligation.

Interpretive Guidance

Identifying Performance Obligations

The functionality of smart devices and subscription services can vary between offerings to customers and between entities. When identifying performance obligations in these arrangements, an entity should consider the guidance in ASC 606-10-25-19 to determine whether the smart device and the subscription services are distinct (i.e., whether each promise is capable of being distinct and distinct within the context of the contract). While a smart device and related subscription services are each often capable of being distinct, determining whether they are distinct within the context of the contract is much more challenging. ASC 606-10-25-21 provides the following guidance on determining whether goods or services are distinct within the context of the contract:

In assessing whether an entity's promises to transfer goods or services to the customer are separately identifiable in accordance with paragraph 606-10-25-19(b), the objective is to determine whether the nature of the promise, within the context of the contract, is to transfer each of those goods or services individually or, instead, to transfer a combined item or items to which the promised goods or services are inputs. Factors that indicate that two or more promises to transfer goods or services to a customer are not separately identifiable include, but are not limited to, the following:

- a. The entity provides a significant service of integrating goods or services with other goods or services promised in the contract into a bundle of goods or services that represent the combined output or outputs for which the customer has contracted. In other words, the entity is using the goods or services as inputs to produce or deliver the combined output or outputs specified by the customer. A combined output or outputs might include more than one phase, element, or unit.
- b. One or more of the goods or services significantly modifies or customizes, or are significantly modified or customized by, one or more of the other goods or services promised in the contract.
- c. The goods or services are highly interdependent or highly interrelated. In other words, each of the goods or services is significantly affected by one or more of the other goods or services in the contract. For example, in some cases, two or more goods or services are significantly affected by each other because the entity would not be able to fulfill its promise by transferring each of the goods or services independently.

In ASC 606, Case C of Example 10 (ASC 606-10-55-140D through 55-140F) and Example 55 (ASC 606-10-55-364 through 55-366) illustrate circumstances in which promised goods or services are not distinct from one another:

Example 10 — Goods and Services Are Not Distinct

Case C — Combined Item

55-140D An entity grants a customer a three-year term license to anti-virus software and promises to provide the customer with when-and-if available updates to that software during the license period. **The entity frequently provides updates that are critical to the continued utility of the software. Without the updates, the customer's ability to benefit from the software would decline significantly during the three-year arrangement.**

55-140E The entity concludes that the software and the updates are each promised goods or services in the contract and are each capable of being distinct in accordance with paragraph 606-10-25-19(a). The software and the updates are capable of being distinct because the customer can derive economic benefit from the software on its own throughout the license period (that is, without the updates the software would still provide its original functionality to the customer), while the customer can benefit from the updates together with the software license transferred at the outset of the contract.

55-140F The entity concludes that its promises to transfer the software license and to provide the updates, when-and-if available, are not separately identifiable (in accordance with paragraph 606-10-25-19(b)) because **the license and the updates are, in effect, inputs to a combined item** (anti-virus protection) in the contract. **The updates significantly modify the functionality of the software (that is, they permit the software to protect the customer from a significant number of additional viruses that the software did not protect against previously) and are integral to maintaining the utility of the software license to the customer. Consequently, the license and updates fulfill a single promise to the customer in the contract** (a promise to provide protection from computer viruses for three years). Therefore, in this Example, the entity accounts for the software license and the when-and-if available updates as a single performance obligation. In accordance with paragraph 606-10-25-33, the entity concludes that the nature of the combined good or service it promised to transfer to the customer in this Example is computer virus protection for three years. The entity considers the nature of the combined good or service (that is, to provide anti-virus protection for three years) in determining whether the performance obligation is satisfied over time or at a point in time in accordance with paragraphs 606-10-25-23 through 25-30 and in determining the appropriate method for measuring progress toward complete satisfaction of the performance obligation in accordance with paragraphs 606-10-25-31 through 25-37.

Example 55 — License of Intellectual Property

55-364 An entity enters into a contract with a customer to license (for a period of three years) intellectual property related to the design and production processes for a good. The contract also specifies that the customer will obtain any updates to that intellectual property for new designs or production processes that may be developed by the entity. **The updates are integral to the customer's ability to derive benefit from the license during the license period because the intellectual property is used in an industry in which technologies change rapidly.**

55-365 The entity assesses the goods and services promised to the customer to determine which goods and services are distinct in accordance with paragraph 606-10-25-19. The entity determines that the customer can benefit from (a) the license on its own without the updates and (b) the updates together with the initial license. Although the benefit the customer can derive from the license on its own (that is, without the updates) is limited because the updates are integral to the customer's ability to continue to use the intellectual property in an industry in which technologies change rapidly, the license can be used in a way that generates some economic benefits. Therefore, the criterion in paragraph 606-10-25-19(a) is met for the license and the updates.

55-365A **The fact that the benefit the customer can derive from the license on its own (that is, without the updates) is limited (because the updates are integral to the customer's ability to continue to use the license in the rapidly changing technological environment) also is considered in assessing whether the criterion in paragraph 606-10-25-19(b) is met. Because the benefit that the customer could obtain from the license over the three-year term without the updates would be significantly limited, the entity's promises to grant the license and to provide the expected updates are, in effect, inputs that, together fulfill a single promise to deliver a combined item to the customer.** That is, the nature of the entity's promise in the contract is to provide ongoing access to the entity's intellectual property related to the design and production processes for a good for the three-year term of the contract. The promises within that combined item (that is, to grant the license and to provide when-and-if available updates) are therefore not separately identifiable in accordance with the criterion in paragraph 606-10-25-19(b).

55-366 The nature of the combined good or service that the entity promised to transfer to the customer is ongoing access to the entity's intellectual property related to the design and production processes for a good for the three-year term of the contract. Based on this conclusion, the entity applies paragraphs 606-10-25-23 through 25-30 to determine whether the single performance obligation is satisfied at a point in time or over time and paragraphs 606-10-25-31 through 25-37 to determine the appropriate method for measuring progress toward complete satisfaction of the performance obligation. The entity concludes that because the customer simultaneously receives and consumes the benefits of the entity's performance as it occurs, the performance obligation is satisfied over time in accordance with paragraph 606-10-25-27(a) and that a time-based input measure of progress is appropriate because the entity expects, on the basis of its relevant history with similar contracts, to expend efforts to develop and transfer updates to the customer on a generally even basis throughout the three-year term. [Emphasis added]

In addition, Example 9-2-3 of the AICPA Audit and Accounting Guide *Revenue Recognition* states, in part:

Many hybrid offerings will enable customers to perform some functions with the on-premise software even when they are not connected to the hosting service. An entity may determine that the on-premise software meets the criteria of FASB ASC 985-20-15-5 and is capable of being distinct. However, even when the software license is within the scope of FASB ASC 606-10-55-54a and is capable of being distinct, it may not be distinct in the context of the contract because it is, for example, highly interdependent or interrelated with the hosting service. In making this determination, the entity may consider indicators such as the following:

- a. Hosted functionality is limited to capabilities that are widely available from other vendors. For example, the entity offers online file storage and sharing with minimal integration to the on-premise software workflow. In such cases, a customer could gain substantially all of the benefits included in the offering by utilizing alternative vendor services. This would indicate that the software license likely is both capable of being distinct from the hosted service and distinct within the context of the contract because the entity is not providing unique and additional value from the integration of the software and the file storage.
- b. A portion of the hosted functionality is available from other vendors, but the entity provides significant additional utility from the manner in which it integrates the software with its own hosted functionality. For example, the online storage and sharing is integrated with the on-premise software in such a manner that the customer gains significant capabilities or workflow efficiencies that would not be available when using another vendor's hosted services. In such circumstances, the on-premise software is capable of being distinct, but the customer obtains a significant functional benefit by purchasing the complete hybrid offering from the entity. This may indicate that the software license and hosting service are highly interrelated to each other and are not distinct within the context of the contract.
- c. Hosted functionality is limited to functions that the customer may also perform locally with the on-premise software. For example, the customer has the option to perform computationally intensive tasks on its own computer or upload them to the entity's servers as part of the hosting service. In such circumstances, the customer can obtain the intended benefit of the offering with only the on-premise software. This may indicate that the software is not highly dependent on or interrelated with the hosting service and is therefore distinct within the context of the contract.
- d. The hybrid offering workflow involves ongoing interactions between the on-premise software and hosted services. As a result, the utility of the offering would be significantly diminished if the customer is not connected to the hosting service. For example, the utility of the offering would be significantly diminished if the customer is unable to perform computationally intensive tasks when not connected to the hosting services. In such circumstances, the software and hosted services are highly interdependent or interrelated because (1) the customer gains significant functionality from the software and hosting services functioning together and (2) the entity fulfills its overall promise to the customer only by both transferring the on-premise license and providing the hosting services. This would indicate that the software is not distinct within the context of the contract.

Further, in a [speech](#) at the 2018 AICPA Conference on Current SEC and PCAOB Developments, Sheri York, a professional accounting fellow in the SEC's Office of the Chief Accountant (OCA), discussed her views on determining whether an entity provides a significant integration service resulting in a combined performance obligation that comprises equipment and services:

I would now like to discuss my views regarding the identification of performance obligations; specifically, whether or not a promise to transfer a good or service to the customer is distinct within the context of the contract. The objective of this assessment is to determine whether the nature of the promise, within the context of the contract, is to transfer each of the goods or services individually or, instead, to transfer a combined item for which the promised goods or services are inputs.

In a recent consultation with OCA, a registrant provided its customer with a commercial security monitoring service by integrating a variety of cameras and sensors (which I will refer to as "equipment") with the registrant's technology platform. The equipment was integrated via a control panel that was installed at the customer's location and enabled communication between the equipment and the registrant's technology platform. The registrant's technology platform also incorporated an element of artificial intelligence that used data from the cameras and sensors to learn the patterns of the customer's behavior. It then used that information to create a "smart" security monitoring service. For example, motion detectors may identify an attempt to open a window while other sensors may simultaneously indicate, based on a lack of body temperature readings, that personnel are not currently located within the building. In this case, the control panel

would route this information obtained from the equipment to the registrant's technology platform, which may alert the customer and/or the authorities about a potential issue.

The registrant concluded that each piece of equipment (including the control panel), the installation, and the monitoring services were capable of being distinct, but believed that these promises comprised a single performance obligation as they were not distinct in the context of the contract. The registrant believed it was providing a significant service of integrating the goods and services in the contract into a bundle that represented the combined output for which the customer had contracted. More specifically, the delivery of a "smart" security monitoring service would not be possible if the equipment were not integrated with the technology platform.

The staff did not object to the registrant's conclusion and considered it reasonable to conclude that the nature of the promise is to transfer a combined item — the commercial security solution — to which each piece of equipment (including the control panel), the technology platform, and installation are inputs. In this fact pattern, the entity demonstrated reasonable judgment that they were providing a significant integration service that transformed the equipment and services into a combined output that provided the customer with an overall service offering that was greater than the customer could receive from each individual part. [Footnotes omitted]

On the basis of the above guidance, we believe that an entity may consider the following indicators, which are not individually determinative or all-inclusive, in determining whether its smart device is distinct from its subscription services:

- *Whether the entity's smart device and subscription services are ever sold separately* — The entity's practice of selling the smart device and the subscription services separately typically indicates that there are two separate performance obligations (i.e., the promises should not be combined) since the customer may benefit from the smart device or the subscription services offering on its own. In addition, separate sales also suggest that the smart device and the subscription services each have significant stand-alone functionality, which indicates that those items are distinct within the context of the contract.
- *Whether the customer can benefit from each product or service (i.e., the smart device or the subscription services) either on its own or together with other resources that are readily available to the customer* — For example, suppose that the customer has the ability to (1) obtain from a different vendor a smart device or subscription services offering that is the same as or similar to that sold by the entity, (2) use the alternative vendor's smart device with the entity's subscription services (or use the alternative vendor's subscription services with the entity's smart device), and (3) receive substantially the same functionality as that of the entity's combined offering. That ability may indicate that the entity's smart device and subscription services are each capable of being distinct and are distinct within the context of the contract since (1) the entity is not providing a significant integration service for the device and the subscription services and (2) it is less likely that the smart device and the subscription services are highly interdependent or highly interrelated.

Alternatively, suppose that the functionality of the smart device is significantly integrated with (rather than just improved by) the subscription services in such a way that the entity's combined offering provides significant additional capabilities that cannot be obtained from an alternative vendor providing the subscription services. In that case, the presence of an alternative vendor providing a portion of the same utility with its subscription services would indicate that the promises are capable of being distinct, but the integrated nature of the promises would indicate that the promises are not distinct within the context of the contract.

- *Whether the subscription services significantly modify the smart device* — The subscription services and the smart device may not be distinct within the context of the contract if rather than just enhancing the capabilities of the smart device, the subscription services modify and significantly affect the functionality of the smart device. For example, suppose that the subscription services (1) employ artificial intelligence (AI) or machine learning that teaches and significantly affects the functionality of the

smart device and (2) cannot employ the AI or machine learning without using the functionality of the smart device. This situation would indicate that the subscription services and the smart device are not distinct within the context of the contract because rather than just enhancing the capabilities of the smart device, the subscription services modify and significantly affect the functionality of the smart device.

- *Whether the absence of either the smart device or the subscription services significantly limits or diminishes the utility (i.e., the ability to provide benefit or value) of the other* — If the smart device's functionality is significantly limited or diminished without the use of the subscription services, and vice versa, that significantly limited or diminished functionality may indicate that the smart device and the subscription services (1) are highly interdependent or highly interrelated (i.e., they significantly affect each other) and (2) function together as inputs to a combined output. This, in turn, may indicate that the promises are not distinct within the context of the contract since the customer cannot obtain the intended benefit of the smart device or the subscription services without the other. That is, while the customer may be able to obtain some functionality from the smart device on a stand-alone basis, it would not obtain the intended outputs from the smart device if the smart device is not updated by or connected to the subscription services because the subscription services are critical to the customer's intended use of the combined solution. In this situation, the entity cannot fulfill its promise to the customer by transferring the smart device or the subscription services independently (i.e., the customer could not choose to purchase one good or service without significantly affecting the other good or service in the contract).
- *Whether the functionality of the combined smart device and subscription services is transformative rather than additive* — Transformative functionality should be assessed separately from added functionality. Transformative functionality comprises features that significantly affect the overall operation and interaction of the smart device and the subscription services (e.g., integrated data analytics, pushdown learning, customization). To be transformative, the smart device and the subscription services must significantly affect each other. That is, the smart device and the subscription services are inputs to a combined output such that the combined output has greater value than, or is substantively different from, the sum of the inputs. By contrast, added functionality comprises features that provide an added benefit to the customer without substantively altering (1) the manner in which the functionality is used and (2) the benefits derived from that functionality of the smart device or the subscription services on a stand-alone basis. Even if the added functionality is significant, it may not be transformative. It is more likely that the smart device and the subscription services are highly interdependent or highly interrelated when the functionality of the combined offering is transformative rather than additive.
- *Whether the entity's smart devices and subscription services are always sold on a one-to-one basis* — If the entity has a practice of selling smart devices without the subscription services, this may indicate that the customer can obtain its intended benefit from the smart devices separately. For example, if a customer purchases the entity's subscription services and 10 devices and has an option to subsequently purchase additional devices without additional subscription services, the entity is able to fulfill any promise to provide additional devices without any related subscription services. If the entity is able to fulfill its promise to provide a smart device independently from its promise to provide subscription services, the smart device and the subscription services may not be highly interdependent or highly interrelated. By contrast, if a customer is always required to purchase additional subscription services for each smart device purchased, this may indicate that the smart device and the subscription services are not distinct.

- *Whether the smart devices are sold on a stand-alone basis through a distribution channel or in an aftermarket* — If the entity's smart devices are sold on a stand-alone basis by other third parties and the entity will sell its subscription services separately to any customer that has purchased or obtained a smart device from a third party, the entity is able to fulfill its promise to provide subscription services independently from any promise to provide smart devices. This indicates that the smart device and the subscription services are not highly interdependent or highly interrelated. By contrast, if the entity will not sell its subscription services to a customer unless the customer has purchased a smart device directly from the entity, this may indicate that the smart device and the subscription services are not distinct.
- *Whether the entity's marketing materials support a conclusion that the arrangement is for a combined solution rather than separate products or service offerings* — The entity's marketing materials may help clarify what the entity has promised to deliver to its customer and may provide evidence of the customer's intended use of the smart device and the subscription services. Circumstances in which an entity markets its product as a "solution" (i.e., the materials discuss the functions, features, and benefits of the combined offering with little or no discussion of the smart device and the subscription services separately) may help support a conclusion that the entity's promise is a combined performance obligation. However, the entity should exercise caution when relying on its marketing materials since the manner in which the entity markets its combined offering would not, by itself, be sufficient to support a conclusion that the smart device and the subscription services represent a combined performance obligation.

Example 1

Entity X sells a bundled cybersecurity solution to protect against advanced cybersecurity threats to enterprise customers. In its standard revenue contracts, X promises to provide customers with a smart device (i.e., hardware with embedded software) and annual subscription services. The smart device has behavior and security analytics engines that use machine learning and AI to monitor and protect a customer's IT infrastructure (including e-mails, Internet applications, endpoints, and networks) on a real-time basis against cyberattacks. The subscription services include (1) a cloud-based service that pulls data on cyberattacks and other intelligence updates from various sources and (2) PCS that consists of support and critical software updates that enable the cloud-based service to stay compatible with the smart device. The cloud-based service is provided hourly in response to evolving cybersecurity threats, and software updates are provided on a daily or weekly basis. Entity X never sells the smart device without subscription services, but subscription services are sold separately on a renewal basis (approximately 95 percent of X's customers renew each year). Customers are required to purchase subscription services with each smart device purchased, and the smart device must be purchased from X directly (i.e., there are no distributors or resellers). Customers are also prohibited from reselling the smart device, and X will not sell subscription services to a customer that has not purchased the smart device directly from X (i.e., there is no aftermarket for the smart device).

The smart device on a stand-alone basis is functional and will monitor and prevent some level of cyberattacks. However, given the nature of the security updates and the cybersecurity environment for enterprise customers, the utility of the smart device diminishes significantly and quickly without the subscription services since the smart device would not be able to respond to evolving cybersecurity threats. The subscription services have no utility without the smart device, and there is significant integration of, and interaction between, the smart device and the subscription services such that together, they provide the functionality required by the customer. The smart device and the subscription services are proprietary and can only be used with each other; no similar third-party subscription services are compatible with X's smart device, and no similar third-party smart devices are compatible with X's subscription services. Entity X markets its smart device and subscription services as a single integrated offering; X does not describe the smart device or subscription services separately, and it refers only to the features, functionality, and benefits of the combined offering.

Example 1 (continued)

Entity X determines that there is a transformative relationship between the smart device and the subscription services such that they are inputs to a combined output. Further, because the smart device and the subscription services each have little or no utility without the other, they are highly interrelated and highly interdependent. Entity X therefore concludes that there is a single performance obligation in its contracts.⁶

We believe that it is reasonable to conclude that there is one performance obligation for the following reasons:

- Entity X's smart device is never sold separately.
- The customer cannot obtain the intended benefit from the smart device or the subscription services offering on its own. There are no smart devices or subscription services available from other vendors that can function with X's offering.
- The functionality of the smart device is significantly integrated with the subscription services in such a way that only together can they provide the functionality (i.e., the intended benefit) required by the customer.
- The absence of either the smart device or the subscription services significantly limits or diminishes the utility (i.e., the ability to provide benefit or value) of the other. The smart device's functionality is significantly limited or diminished without the use of the subscription services, and vice versa. Therefore, the smart device and the subscription services (1) are highly interdependent and interrelated (i.e., they significantly affect each other) and (2) function together as inputs to a combined output. The customer cannot obtain the full intended benefit of the smart device or the subscription services on a stand-alone basis because the smart device and the subscription services are each critical to the customer's intended use of the security solution.
- The functionality of the combined smart device and subscription services is transformative rather than additive. That transformative functionality comprises features that significantly affect the overall operation and interaction of the smart device and the subscription services in such a way that the smart device and the subscription services significantly affect each other.
- Entity X always sells the smart device and the subscription services on a one-to-one basis. In addition, the smart device must be purchased from X directly (i.e., there are no distributors or resellers). Customers are also prohibited from reselling the smart device, and X will not sell subscription services to a customer that has not purchased the smart device directly from X (i.e., there is no aftermarket for the smart device). Therefore, X cannot fulfill its promise to the customer by transferring the smart device or the subscription services independently (i.e., the customer could not choose to purchase one good or service without significantly affecting the other good or service in the contract).
- Entity X's marketing materials support a conclusion that the arrangement is for a combined solution rather than separate product or service offerings.

Example 2

Entity Y sells GPS tracking devices (with embedded software) that enable its customers to monitor the location of its various products. In its standard revenue contracts, Y also sells a one-year cloud-based subscription service so that customers can monitor the devices online and perform data analytics. The devices have minimal functionality unless a customer has an active subscription service (i.e., the subscription service is required to enable a customer to monitor the devices). Likewise, if a customer has an active subscription service without an associated device, the subscription service will not monitor anything. The subscription service does not alter or modify the existing firmware on the device. In addition, Y is not providing a significant integration service that transforms the device and subscription service into a combined output.

⁶ Often in these arrangements, a customer is required to pay an up-front fee for the smart device but is not required to pay that fee again upon renewal of the subscription services. In those circumstances, if the smart device is not distinct from the subscription services, an entity should consider whether a material right has been provided.

Example 2 (continued)

Entity Y markets and sells the device and the subscription service as one bundled offering but does have stand-alone sales of the device and the subscription service. In addition to selling the device directly, Y sells the device to independent distributors. The device can also be resold in an aftermarket. If a customer purchases a device from a reseller or in an aftermarket, the customer will purchase the subscription service separately from Y. In addition, Y sells the subscription service separately on a renewal basis (approximately 95 percent of Y's customers renew each year).

Entity Y concludes that it has multiple performance obligations in its contracts with direct customers: (1) each device and (2) the subscription service.

We believe that it is reasonable to conclude that there are multiple performance obligations for the following reasons:

- While Y markets and sells the device and the subscription service as one bundled offering, it has stand-alone sales of the device and the subscription service. Entity Y sells the device separately to distributors and sells the subscription service separately to direct customers.
- Entity Y is not providing a significant integration service that transforms the device and the subscription service into a combined item.
- The device is not modified by the subscription service.
- The device and the subscription service are not highly interdependent or highly interrelated. Although the customer can only benefit from the functionality of the device with the subscription service (i.e., the device would have minimal functionality without the subscription service) and the device is required for the subscription service to function, the device and the subscription service do not significantly affect each other. This is because Y would be able to fulfill each of its promises in its contracts independently of the other, since (1) the device is sold separately through independent distributors and an aftermarket, and (2) Y will sell its subscription service separately to any customer that has purchased the device from a distributor or in the aftermarket. In addition, independent distributors and customers can obtain the benefits from the device separately by reselling it, and the buyer of the device can benefit from it by separately purchasing subscription services from Y.

Lease Arrangements

An entity may decide to (1) lease its smart device (instead of selling the device) and (2) sell its subscription service to the same customer. In these situations, the entity's device would be subject to the provisions in ASC 842,⁷ and consideration would generally be allocated to the separate lease component (i.e., the smart device⁸) and the nonlease component (i.e., the subscription service) in accordance with the guidance in ASC 606 on allocating the transaction price to performance obligations. Because the device would be subject to the leasing guidance, the entity would not evaluate whether the leased device represents a distinct promise in accordance with ASC 606.

However, the entity may elect to apply a practical expedient if certain conditions are met in accordance with ASC 842-10-15-42A through 15-42C, which state the following:

15-42A As a practical expedient, a lessor may, as an accounting policy election, by class of underlying asset, choose to not separate nonlease components from lease components and, instead, to account for each separate lease component and the nonlease components associated with that lease component as a single component if the nonlease components otherwise would be accounted for under Topic 606 on revenue from contracts with customers and both of the following are met:

- a. The timing and pattern of transfer for the lease component and nonlease components associated with that lease component are the same.
- b. The lease component, if accounted for separately, would be classified as an operating lease in accordance with paragraphs 842-10-25-2 through 25-3.

⁷ While it is assumed that the lease of the smart device would be subject to ASC 842, entities should carefully evaluate the scope provisions of the leasing guidance in making that determination.

⁸ While the smart device may have embedded software, such software would not need to be treated as a separate nonlease component if it is essential to the functionality of the device. If the software is not essential to the functionality of the device (i.e., it is distinct from the device), the software would not be within the scope of ASC 842.

15-42B A lessor that elects the practical expedient in paragraph 842-10-15-42A shall account for the combined component:

- a. As a single performance obligation entirely in accordance with Topic 606 if the nonlease component or components are the predominant component(s) of the combined component. In applying Topic 606, the entity shall do both of the following:
 1. Use the same measure of progress as used for applying paragraph 842-10-15-42A(a)
 2. Account for all variable payments related to any good or service, including the lease, that is part of the combined component in accordance with the guidance on variable consideration in Topic 606.
- b. Otherwise, as an operating lease entirely in accordance with this Topic. In applying this Topic, the entity shall account for all variable payments related to any good or service that is part of the combined component as variable lease payments.

In determining whether a nonlease component or components are the predominant component(s) of a combined component, a lessor shall consider whether the lessee would be reasonably expected to ascribe more value to the nonlease component(s) than to the lease component.

15-42C A lessor that elects the practical expedient in paragraph 842-10-15-42A shall combine all nonlease components that qualify for the practical expedient with the associated lease component and shall account for the combined component in accordance with paragraph 842-10-15-42B. A lessor shall separately account for nonlease components that do not qualify for the practical expedient. Accordingly, a lessor shall apply paragraphs 842-10-15-38 through 15-42 to account for nonlease components that do not qualify for the practical expedient.

Practical Expedient Criteria

If the entity elects to use the practical expedient, it may combine the device (i.e., the lease component) and the subscription service (i.e., the nonlease component) if the subscription service would otherwise be accounted for under ASC 606 and both of the conditions in ASC 842-10-15-42A(a) and (b) are met.

As explained in [ASU 2018-11](#),⁹ the criterion in ASC 842-10-15-42A(a) focuses on the timing and pattern of transfer (i.e., a “straight-line pattern of transfer . . . to the customer over the same time period”) rather than on the timing and pattern of revenue recognition. Therefore, an entity may qualify for the practical expedient if it (1) leases a device that is classified as an operating lease and (2) sells subscription services constituting a stand-ready obligation that has a straight-line pattern of transfer over the same period as the operating lease.

Example 3

Entity Z leases a hardware device over a one-year period and sells a cloud-based service for the device over the same period. The cloud-based service would be subject to ASC 606 if accounted for separately from the leased device. The service is a stand-ready obligation that has a straight-line pattern of transfer over the one-year period. In addition, the leased device would be classified as an operating lease under ASC 842 if accounted for separately from the cloud-based service. The leased device similarly has a straight-line pattern of transfer over the one-year period.

Entity Z can elect the practical expedient to account for the leased device and the cloud-based service as a single combined component because (1) the cloud-based service otherwise would be accounted for under ASC 606, (2) the timing and pattern of transfer for the leased device and the cloud-based service are the same, and (3) the leased device, if accounted for separately, would be classified as an operating lease under ASC 842.

⁹ FASB Accounting Standards Update No. 2018-11, *Leases (Topic 842): Targeted Improvements*.

Example 4

Assume the same facts as in Example 3, except that the cloud-based service only has a one-month term. The customer has the option to renew the service over the one-year lease term but is not contractually obligated to do so. Therefore, the lease term for the device and the contractual service period for the cloud-based service are not coterminous.

Entity Z can elect the practical expedient to account for the leased device and the cloud-based service as a single combined component if certain conditions are met. We believe that, in some circumstances, the practical expedient can be applied even if the nonlease component is not coterminous with the lease component. Specifically, we think that if the separation of the lease component from the nonlease component would only affect presentation and disclosure (i.e., the pattern and timing of revenue recognition would not differ if the nonlease component were accounted for separately), the lessor can elect the practical expedient to combine the lease component and the nonlease component even if the timing of transfer of the nonlease component is not coterminous with the lease component. This would generally be the case when (1) the lease component and the optional nonlease component are each priced at their stand-alone selling price and an allocation between components would therefore not be necessary (i.e., they are not priced at a significant discount in such a way that a material right within the scope of ASC 606 might need to be identified) and (2) the timing and pattern of transfer of the nonlease component are the same as those for the lease component for the period over which the nonlease component will be transferred to the lessee.

This view is supported by paragraph BC31 of ASU 2018-11, which states, in part, "The Board noted that its objective in providing the practical expedient was to align the accounting by lessors under the new leases standard more closely with the revenue guidance." Further, paragraph BC116 of ASU 2014-09 notes that "Topic 606 would not need to specify the accounting for concurrently delivered distinct goods or services that have the same pattern of transfer. This is because, in those cases, an entity is not precluded from accounting for the goods or services as if they were a single performance obligation, if the outcome is the same as accounting for the goods and services as individual performance obligations."

On the basis of the Board's stated objective, we believe that the practical expedient in ASC 842-10-15-42A can be applied when the only impact is on presentation and disclosure of amounts recognized as part of the arrangement (i.e., the pattern and timing of recognition are the same), provided that the lease component, if accounted for separately, would be classified as an operating lease. Therefore, if the leased device and the cloud-based service are each priced at their stand-alone selling price and renewals of the cloud-based service are not priced at a discount, Z may elect to apply the practice expedient.

The presence of a nonlease component that is ineligible for the practical expedient does not preclude the entity from electing the expedient for the lease component and nonlease component that meet the criteria. Rather, the entity would account for the nonlease components that do not qualify for the practical expedient separately from the combined lease and nonlease components that do qualify. For example, if the entity also provides professional services that do not qualify for the practical expedient, it would not necessarily be precluded from electing the practical expedient.

Example 5

Assume the same facts as in Example 3, except that Entity Z also sells implementation services that are transferred over a three-month period. The implementation services are distinct from the cloud-based service, and Z recognizes revenue for the implementation services over time by using a cost-based measure of progress under ASC 606.

Entity Z can elect the practical expedient to account for the leased device and the cloud-based service as a single combined component for the reasons stated in Example 3. However, because Z recognizes revenue for the implementation services by using a cost-based measure of progress over a three-month period, those services do not have the same timing and pattern of transfer as the leased device (which is transferred ratably over a one-year period). Therefore, the implementation services do not qualify for the practical expedient and should be accounted for separately under ASC 606.

Example 5 (continued)

This conclusion is supported by the guidance in ASC 842-10-15-42C, which states that those components that qualify for the practical expedient are combined while those components that do not qualify are accounted for separately.

Determining Which Component Is Predominant

If the entity elects to apply the practical expedient to its leased device and cloud-based service, it should determine whether the cloud-based service associated with the leased device is the predominant component of the combined component. If so, the entity is required to account for the combined component in accordance with ASC 606. Otherwise, the entity must account for the combined component as an operating lease in accordance with ASC 842.

As indicated in the Background Information and Basis for Conclusions of ASU 2018-11, the FASB decided not to include a separate definition or threshold for determining whether “the nonlease component is the *predominant* component of the combined component.” Rather, the Board noted that a lessor should consider whether the lessee would “ascribe more value to the nonlease component(s) than to the lease component.” Further, the Board acknowledged that the term “predominant” is used elsewhere in U.S. GAAP, including ASC 842 and ASC 606.

The Board also explained that it does not expect that an entity will need to perform a detailed quantitative analysis or allocation to determine whether the nonlease component is predominant. Rather, it is sufficient if an entity can reasonably determine, on a qualitative basis, whether to apply ASC 842 or ASC 606. Therefore, entities will need to use judgment in making this determination.

At its March 28, 2018, meeting, the FASB discussed a scenario in which the components were evenly split (e.g., a 50/50 split of value) and suggested that, in such circumstances, the combined component should be accounted for under ASC 842 because the nonlease component is not predominant. That is, the entity would need to demonstrate that the predominant element is the nonlease component; otherwise, the combined unit of account would be accounted for as a lease under ASC 842. We believe that the final language in ASU 2018-11 is intended to indicate that an entity would need to determine whether the lease or nonlease component (or components) is larger (i.e., has more value); only when the nonlease component is larger should the combined component be accounted for under ASC 606.

In discussions with the FASB staff, we confirmed that an entity needs to look at which component has more value, not *significantly* more value. In a quantitative analysis, “more value” would constitute more than 50 percent. For example, when the value of the nonlease component is 51 percent and the value of the lease component is 49 percent, the nonlease component would be the predominant component. However, the FASB staff indicated that it generally expects that entities will be able to make this determination qualitatively. We also confirmed that the language “ascribe more value to the nonlease component(s) than to the lease component” intentionally excludes the wording “ascribe significantly more value to the license” from ASC 606-10-55-65A. Accordingly, we believe that, to be predominant, the nonlease component only needs to be larger (not *significantly* larger) than the lease component.

Variable Payments

The accounting for variable payments should be consistent with that for the combined component. That is, when the combined component is accounted for as a lease under ASC 842, there are no longer any nonlease (revenue) variable payments; rather, there are only variable payments related to the combined lease component, and that variability should be accounted for in accordance with ASC 842. Conversely, if the combined component is accounted for as a service under ASC 606, all variable payments related to the combined component should be accounted for in accordance with the guidance in ASC 606 on variable consideration. That is, the entity would be required to estimate the variable consideration and constrain such estimates in accordance with the guidance in ASC 606-10-32-11. The entity would also be required to consider the variable consideration guidance in ASC 606-10-32-40 to determine whether a variable amount should be allocated to a distinct good or service.

For example, if the entity elects the practical expedient and the cloud-based service is the predominant component, the single combined component (consisting of the leased device and the cloud-based service) would be accounted for under ASC 606. If the entity also charges usage-based fees for the cloud-based service, it would need to consider the variable consideration guidance in ASC 606. See Deloitte's December 2, 2019, [Technology Alert, "Technology Highlights — Challenges Associated With Applying the New Revenue Standard: Accounting for Cloud-Based or Hosted Software Arrangements With Variable Consideration,"](#) for additional guidance on accounting for stand-ready software-as-a-service arrangements with usage-based variable consideration.

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