



Technology Highlights

Challenges Associated With Applying the New Revenue Standard: Identifying the Performance Obligations in a Hybrid Cloud-Based Arrangement

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For public entities, the new revenue standard (ASC 606¹) became 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. 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 companies. This *Technology Alert* is part of a [series](#) intended to help technology entities better understand the new guidance, particularly private organizations that are currently adopting the standard's requirements.

Executive Summary

Many software entities offer hybrid solutions in which a customer may have the right to deploy the software (1) as either on-premise software or a cloud-based service (with the ability to switch from one to the other as needed) or (2) by using the on-premise software together with the cloud-based service. On-premise software is installed and runs on the customer's devices (e.g., computers and servers) or is hosted by a third party under a separate contract between the customer and that third party.² A cloud-based service involves software that is physically hosted on the software entity's systems (or hosted by the software entity's cloud-computing vendor) and accessed by the customer over the Internet.

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 accordance with ASC 606-10-55-54 and ASC 985-20-15-5, software subject to a hosting arrangement is a license of intellectual property (i.e., on-premise software) if (1) the "customer has the contractual right to take possession of the software at any time during the hosting period without significant penalty" and (2) "[i]t is feasible for the customer to either run the software on its own hardware or contract with another party unrelated to the vendor to host the software."

In arrangements involving these hybrid solutions, questions arise about how to identify the performance obligations. The interpretive guidance below provides factors that an entity may consider in identifying the performance obligations of a hybrid cloud-based arrangement.

Interpretive Guidance

The functionality of on-premise software and a cloud-based service in a hybrid cloud-based arrangement can vary between offerings to customers and between entities. When identifying performance obligations in a hybrid cloud-based arrangement, an entity should consider the guidance in ASC 606-10-25-19 to determine whether the on-premise software and the cloud-based service are distinct (i.e., whether each promise is both capable of being distinct and distinct within the context of the contract). While on-premise software and a cloud-based service 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. [Emphasis added]

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 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.

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 on-premise software is distinct from its cloud-based service:

- *Whether the entity's on-premise software and cloud-based service are ever sold separately* — The entity's practice of selling the on-premise software or the cloud-based service 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 on-premise software or the cloud-based service on its own. Separate sales also suggest that the on-premise software and the cloud-based service each have significant stand-alone functionality, which indicates that they are distinct within the context of the contract. For example, if the on-premise software separately provides substantially the same functionality as the cloud-based service, the two promises are likely to be distinct.
- *Whether the customer can benefit from each product or service (i.e., the on-premise software or the cloud-based service) 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 the same or similar cloud-based service from a different vendor, (2) use the alternative vendor's cloud-based service with the entity's on-premise software, and (3) receive substantially the same combined functionality as that of the entity's hybrid offering. That ability may indicate that the entity's on-premise software and cloud-based service each are 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 on-premise software and the cloud-based service and (2) it is less likely that the on-premise software and the cloud-based service are highly interdependent or highly interrelated.

Alternatively, suppose that the functionality of the on-premise software is significantly integrated with (rather than just improved by) the cloud-based service in such a way that the entity's hybrid offering provides significant additional capabilities that cannot be obtained from an alternative vendor providing the cloud-based service. In that case, the presence of an alternative vendor providing a portion of the same utility with its cloud-based service 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 cloud-based service significantly modifies the on-premise software* — The cloud-based service and the on-premise software may not be distinct within the context of the contract if rather than just enhancing the capabilities of the on-premise software, the cloud-based service modifies and significantly affects the functionality of the on-premise software. For example, suppose that the cloud-based service (1) employs artificial intelligence (AI) or machine learning that teaches and significantly affects the functionality of the on-premise software and (2) cannot employ the AI or machine learning without using the functionality of the on-premise software. This situation would indicate that the cloud-based service and the on-premise software are not distinct within the context of the contract because rather than just enhancing the capabilities of the on-premise software, the cloud-based service modifies and significantly affects the functionality of the on-premise software.
- *Whether the absence of either the on-premise software or the cloud-based service significantly limits or diminishes the utility (i.e., the ability to provide benefit or value) of the other* — If the on-premise software's functionality is significantly limited or diminished without the use of the cloud-based service, and vice versa, that significantly limited or diminished functionality may indicate that the on-premise software and the cloud-based service (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 on-premise software or the cloud-based service without the other. That is, while the customer may be able to obtain some functionality from the on-premise software on a stand-alone basis, it would not obtain the intended outputs from the on-premise software if the on-premise software is not connected to the cloud-based service because the cloud-based service is critical to the customer's intended use of the hybrid solution. In this situation, the entity cannot fulfill its promise to the customer by transferring the on-premise software or the cloud-based service 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 on-premise software and cloud-based service is transformative rather than additive* — Transformative functionality should be assessed separately from additive functionality. Transformative functionality comprises features that significantly affect the overall operation and interaction of the on-premise software and the cloud-based service (e.g., collaboration, pushdown learning, customization). To be transformative, the on-premise software and the cloud-based service must significantly affect each other. That is, the on-premise software and the cloud-based service 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, additive 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 the functionality of the on-premise software or the cloud-based service on a stand-alone basis. Even if added functionality is significant, it may not be transformative. It is more likely that the on-premise software and the cloud-based service are highly interdependent or highly interrelated when the functionality of the combined on-premise software and cloud-based service is transformative rather than additive.
- *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 on-premise software and the cloud-based service. Circumstances in which an entity markets its product as a "solution" (i.e., the marketing materials discuss the functions, features, and benefits of the combined offering with little or no discussion of the on-premise software and the cloud-based service 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 hybrid offering would not, by itself, be sufficient to support a conclusion that the on-premise software and the cloud-based service represent a combined performance obligation.

Example 1

Entity A is a developer of modeling software that enables its customers to analyze, design, and render virtual prototypes to assess the real-world impact of products its customers are developing. Entity A enters into a three-year noncancelable contract with a customer to provide (1) an on-premise license to the software and (2) a cloud-based service, which is an online repository for in-process and final prototypes that can be accessed by the customer's employees from any device that also has the on-premise software. While the on-premise software and the cloud-based service are never sold separately and are marketed as an integrated offering, the on-premise software is fully functional without the cloud-based service and has significant utility on its own. The cloud-based service provides the added benefit of allowing the customer's employees to share and collaborate on projects but is similar to other cloud-based services provided by alternative vendors. Those other cloud-based services would require only minimal modifications to function with A's on-premise software.

Entity A concludes that it has two performance obligations in its contract: (1) the on-premise software license and (2) the cloud-based service.

Question

Is A's conclusion appropriate?

Answer

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

- While the on-premise software and the cloud-based service are not sold separately and are marketed as an integrated offering, there are other vendors that provide similar cloud-based services.
- The cloud-based service does not significantly modify the on-premise software but merely serves as a repository for sharing prototypes.
- The on-premise software is not significantly integrated with the cloud-based service since alternative cloud-based services would require only minimal modifications to function with the on-premise service.
- The absence of the cloud-based service does not significantly limit or diminish the utility of the on-premise software (the intended use of the on-premise software is to analyze, design, and render virtual prototypes).
- The functionality provided by the cloud-based service (added storage and collaboration functionality) is additive rather than transformative.

Example 2

Entity B is a developer of modeling software that enables its customers to analyze, design, and render virtual prototypes to assess the real-world impact of products its customers are developing. Entity B enters into a three-year noncancelable contract with a customer to provide (1) an on-premise license to the software and (2) a cloud-based service. The cloud-based service serves as an online repository for in-process and final prototypes that can be accessed by the customer's employees from any device that also has the on-premise software. In addition, the cloud-based service interacts with the on-premise software to provide continuous real-time data updates, data mining and analysis, predictive modeling, and machine-based learning (which are computationally intensive tasks that can be performed only through the cloud-based service) to enable the customer to enhance and improve its products. The nature of the customer's products makes their continual enhancement and improvement critical because without such continual enhancement and improvement, the products would quickly become obsolete. Similarly, functions performed by B's cloud-based service are critical because without those functions, the on-premise software would have little utility to the customer.

The on-premise software and the cloud-based service are never sold separately and are marketed as an integrated offering. There is significant integration of, and interaction between, the on-premise software and the cloud-based service such that together, they provide the functionality required by the customer. The cloud-based service is proprietary and can be used only with the on-premise software; no other competitors can provide (1) a similar service that can function with B's on-premise software or (2) a software product that can function with B's cloud-based service. Accordingly, B determines that there is a transformative relationship between the on-premise software and the cloud-based service such that they are inputs to a combined output. Further, because the on-premise software and the cloud-based service each have little or no utility without the other, they are highly interrelated and highly interdependent.

Entity B concludes that it has one performance obligation in its contract: an integrated hybrid cloud-based offering.

Question

Is B's conclusion appropriate?

Answer

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

- Entity B's on-premise software and cloud-based service are never sold separately.
- The customer cannot benefit from the on-premise software or the cloud-based service either on its own or together with other resources that are readily available to the customer. There is no on-premise software or cloud-based service available from other vendors that can function with B's offering.
- The functionality of the on-premise software is significantly integrated with that of the cloud-based service in such a way that only together can the on-premise software and the cloud-based service provide the functionality (i.e., the intended benefit) required by the customer.
- The absence of either the on-premise software or the cloud-based service significantly limits or diminishes the utility (i.e., the ability to provide benefit or value) of the other. The on-premise software's functionality is significantly limited or diminished without the use of the cloud-based service, and vice versa. Therefore, the on-premise software and the cloud-based service (1) are highly interdependent and highly 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 on-premise software or the cloud-based service on a stand-alone basis because each is critical to the customer's intended use of the hybrid solution. Therefore, B cannot fulfill its promise to the customer by transferring the on-premise software or the cloud-based service 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).
- The functionality of the combined on-premise software and cloud-based service is transformative rather than additive. That transformative functionality comprises features that significantly affect the overall operation and interaction of the on-premise software and the cloud-based service in such a way that the on-premise software and the cloud-based service significantly affect each other.
- Entity B's marketing materials support a conclusion that the arrangement is for a combined solution rather than separate product or service offerings.

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