Technology Highlights

Challenges Associated With Applying the New Revenue Standard: Estimating Stand-Alone Selling Prices for Term Licenses and Postcontract Customer Support

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For public entities, the new revenue standard (ASC 606[1]) 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. The questions and answers (Q&As) below on establishing the stand-alone selling prices (SSPs) for term licenses and postcontract customer support (PCS) in the software industry when stand-alone sales do not exist are the third installment in a series intended to help technology entities better understand the new guidance, particularly private organizations that are currently adopting the standard's requirements. For previously issued Q&As in this series, see Deloitte's July 24 and December 14, 2018, *Technology Alert* publications.

Executive Summary

When a contract includes multiple performance obligations, step 4 of the new revenue standard generally requires allocation of the transaction price on a relative SSP basis (see ASC 606-10-32-29 and ASC 606-10-32-31). Determining the SSP of each performance obligation is a prerequisite to completing this step.

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

In the software industry, this requirement may present a challenge to entities that were not required or able to determine the respective selling prices of licenses, PCS, or both under legacy U.S. GAAP. The legacy guidance required such selling prices to be vendor-specific and objective.[2]

ASC 606-10-32-32 through 32-35 provide guidance on how an entity may determine the SSP of a promised good or service, including a preference for the use of observable prices from actual stand-alone sales. This guidance also includes an overarching requirement that if the SSP is not directly observable, the estimation technique must maximize the use of *observable* inputs. Further, in the absence of stand-alone sales, a contractually stated price or a list price for a distinct good or service may be (but should not be presumed to be) indicative of the SSP.

Questions have arisen regarding the determination of SSPs when observable pricing from stand-alone sales (typically the most persuasive data point) does not exist for one or more performance obligations. In addition, contractually stated or list prices to be used as data points may not exist for one or more performance obligations. These circumstances frequently exist when term licenses are sold with PCS. Regardless of whether any of these circumstances apply, entities will generally have to estimate the SSP of each performance obligation. We believe that in many such cases, there may be *reasonably available* observable data from which to determine the SSPs. The Q&As below illustrate this point.

Q&As on Establishing SSPs for Term Licenses and PCS

Value Relationship

Q&A 1-1 Market-Based Approach — Value Relationship

Entity A has developed a software solution similar to solutions offered by its peers. Although A's solution has certain proprietary features that other competitors do not offer, A determines that the products are very comparable. Entity A licenses its software on a term basis. Each license includes coterminous PCS (i.e., PCS that begins and ends at the same time as the license term). Entity A has concluded that the license is functional intellectual property (IP) and that the license and PCS each constitute a distinct performance obligation.

Entity A always sells the license with the PCS. Given the coterminous nature of the PCS, there are no stand-alone renewals of PCS or stand-alone sales of term licenses. Entity A prices the license and PCS as a bundle and does not have any entity-specific information related to pricing for the term license and PCS separately. Consequently, there are no contractually stated or list prices for each performance obligation.

Entity A obtains data related to its competitors' historical and current pricing of similar licenses and PCS. The data indicate that while pricing is variable, a value relationship exists between the pricing of licenses and the pricing of PCS. Specifically, on average, the data indicate that PCS for software products similar to those offered by A is consistently priced at 22–28 percent of the net license price.

Question

How should A estimate the SSPs of the license and PCS, respectively?

Answer

We believe that A may use a market-based approach to estimate the SSPs if the data represent reliable pricing information and the products are sufficiently similar. ASC 606-10-32-33 includes market conditions as information that could be used to estimate the SSP of a promised good or service. In addition, paragraphs 9.4.31 and 9.4.34 of the 2018 AICPA Audit and Accounting Guide *Revenue Recognition* (the "AICPA Guide") state the following, in part, regarding the estimation of the SSP:

> **9.4.31** An entity's estimate of the stand-alone selling price will require judgment and the consideration of a number of different factors. . . . A vendor may consider the following information when estimating the stand-alone selling price of the distinct goods or services included in a contract:
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> *a.* Historical selling prices for any stand-alone sales of the good or service (for example, stand-alone maintenance renewals), even if limited stand-alone sales exist. An entity will have to consider its facts and circumstances to

[2] Certain software products were accounted for under ASC 605-25 after the adoption of FASB Accounting Standards Update No. 2009-14, *Certain Revenue Arrangements That Include Software Elements* — a consensus of the FASB Emerging Issues Task Force (codified in ASC 985-605 and based on EITF Issue No. 09-3, "Research and Development Assets Acquired in an Asset Acquisition"). Under ASC 605-25, an entity could use other methods in addition to vendor-specific objective evidence to determine the selling price of a deliverable.

determine how relevant historical pricing is to the determination of current stand-alone selling price. For example, if an entity recently changed its pricing strategy, historical pricing data is likely less relevant for the current determination of stand-alone selling price.

b. Historical selling prices for non-stand-alone sales/bundled sales.

c. **Competitor pricing for a similar product, especially in a competitive market or in situations in which the entities directly compete for customers.**

d. Vendor's pricing for similar products, adjusting for differences in functionality and features.

e. Industry pricing practices for similar products.

f. Profit and pricing objectives of the entity, including pricing practices used to price bundled products.

g. Effect of proposed transaction on pricing and the class of the customer (for example, the size of the deal, the characteristics of the targeted customer, the geography of the customer, or the attractiveness of the market in which the customer resides).

h. Published price lists.

i. The costs incurred to manufacture or provide the good or service, plus a reasonable profit margin.

j. Valuation techniques; for example, the value of intellectual property could be estimated based on what a reasonable royalty rate would be for the use of intellectual property.

9.4.34 Depending on the inherent uniqueness of a license to proprietary software and the related vendor maintenance, **third-party or industry pricing may or may not be useful for determining stand-alone selling price of distinct goods or services included in these arrangements.** When evaluating whether third-party or industry pricing is a relevant and reliable basis for establishing the stand-alone selling price, **the data points should be based on information of comparable items sold on a stand-alone basis to similar types of customers. Products or services are generally similar if they are largely interchangeable and can be used in similar situations by similar customers.** For these reasons, third-party or industry pricing for software licenses may not be a relevant data point. However, **third-party or industry pricing may be a relevant data point for estimating stand-alone selling price for maintenance, hosting, or professional services if other vendors sell similar services on a stand-alone basis and their pricing is known by the vendor.** For example, third-party pricing may be a relevant data point if other vendors provide implementation services or host the vendor's software products. [Emphasis added]

In accordance with the guidance above, if A's software solution is similar to solutions offered by its peers and the market data are reliable, A may use a market-based approach to estimate the SSPs by using the pricing data related to its peers. Under such an approach, A may conclude that the SSP of the PCS is 25 percent of the net selling price of the license (i.e., the midpoint of the SSP range that A determined through its analysis of available observable market data), which may also be expressed as 20 percent of the bundle price (0.25 ÷ 1.25). Consequently, A may also conclude that the SSP of the license is equal to 80 percent of the bundle price.

Q&A 1-2 Entity-Specific Approach — Value Relationship

Entity B licenses its proprietary software on a term basis for five years. There are no other similar products[3] on the market, and because any incremental direct costs involved in the production and distribution of copies of B's software product are minimal, B does not use cost as a basis for establishing pricing. Customers are required to purchase one year of PCS in conjunction with any license purchase. Consequently, licenses are never sold on a stand-alone basis. On the basis of B's historical experience, PCS is consistently priced at approximately 20 percent of the contractually stated net license fee for both the initial purchase and any subsequent renewals. Therefore, observable stand-alone sales of PCS exist upon renewal. Further, B has concluded that the license is functional and that the license and PCS each constitute a distinct performance obligation.

Question

How should B estimate the SSPs of the term license and PCS, respectively?

Answer

It may be reasonable for B to use the approach described below to estimate the SSPs.

Since there are no similar software products on the market, B does not use a market-based approach to estimate the SSP of the license. In addition, because the incremental direct costs involved in the production and distribution of copies of B's software product are minimal and such costs are not used as a basis for establishing

[3] Even when similar products do exist, reliable pricing information may not be available for determining SSPs under a market-based approach.

pricing, B does not use a cost-based approach to estimate the SSP of the license. However, B determines that observable data and pricing practices demonstrate the existence of a value relationship between the license and the PCS (PCS is consistently priced at 20 percent of the net license fee).

Paragraphs 9.4.34 and 9.4.44 of the AICPA Guide state the following, in part, regarding the concept of a value relationship:

> **9.4.34** [O]ver time, the software industry has developed a common practice of pricing maintenance services as a percentage of the license fee for related software products, indicating there may be a consistent value relationship between those two items. . . .
>
> **9.4.44** [The] lack of history of selling goods or services on a stand-alone basis combined with minimal direct costs and a lack of third-party or industry-comparable pricing may result in some software vendors focusing on entity-specific and market factors when estimating stand-alone selling price of both the license or the maintenance such as internal pricing strategies and practices. That is, based on its established pricing practices, an entity may conclude that it has established a value relationship between a software product and the maintenance that is helpful in determining stand-alone selling price.

In a manner consistent with the guidance above, B determines that the value relationship between the term license and the PCS for establishing their respective SSPs in a given contract is a ratio of 83 percent (1 ÷ 1.2) to 17 percent (0.2 ÷ 1.2). Therefore, if the transaction price for a contract is $120, B would allocate $100 to the license and $20 to the PCS.[4]

Using Observable Data From Perpetual Licenses

Q&A 2-1 Entity-Specific Approach — Observable Data From Perpetual Licenses

Entity C has developed a unique proprietary software solution. The entity licenses this software on a perpetual basis and has determined that the economic useful life of the software is five years. All customers are required to purchase at least one year of PCS when they purchase a license. Consequently, licenses are never sold on a stand-alone basis. On the basis of C's historical experience, PCS is consistently priced at approximately 20 percent of the contractually stated net license fee for both the initial purchase and any subsequent stand-alone renewals. In addition, C has determined from historical experience that customers typically purchase a total of five years of PCS over the life of a perpetual license.

Like Entity B in Q&A 1-2 above, C does not use a market- or cost-based approach to estimate the SSP of a license. Therefore, C estimates the SSPs of a perpetual license and PCS, respectively, by using the value relationship observed between the license and PCS (i.e., 83%/17%).

Entity C charges an up-front fee of $100 for a perpetual license and prices PCS at 20 percent of the license fee both initially and upon renewal. The resulting value relationship between a perpetual license and PCS, which varies depending on the total years of PCS purchased, is shown in the table below.

Perpetual License Price*	Price of Initial Year of PCS	Years of PCS Renewed	Price of PCS Renewals	Total Cumulative PCS Price	Total Cumulative Transaction Price	Value Relationship**
$100	$20	0	$0	$20	$120	83%/17%
$100	$0	1	$20	$40	$140	71%/29%
$100	$0	2	$20	$60	$160	62%/38%
$100	$0	3	$20	$80	$180	56%/44%
$100	$0	4	$20	$100	$200	50%/50%

* This price is paid up front and only once.

** The value relationship is the ratio of (1) the license price divided by the total cumulative transaction price to (2) the total cumulative PCS price divided by the total cumulative transaction price.

4 If B had determined that pricing for its software product is highly variable under ASC 606-10-32-34(c)(1) and that an observable SSP exists for PCS, it would have been reasonable for B to conclude that a residual approach is appropriate. This approach may yield an answer similar to the one resulting from the value relationship approach described above. The use of a residual approach will be discussed in a subsequent publication.

Entity C also licenses the same software product discussed above on a term basis for five years. Each sale of a term license is bundled with coterminous PCS (i.e., PCS that begins and ends at the same time as the license term). Entity C has concluded that the term license is functional IP and that a term license and PCS each constitute a distinct performance obligation. The term license is always sold with PCS, and given the coterminous nature of the PCS, there are no stand-alone renewals of PCS on term licenses. That is, stand-alone sales of PCS and term licenses do not occur. Entity C prices term licenses and PCS as a bundle; consequently, contractually stated prices for a term license and PCS individually are unavailable. However, C determines that its internal pricing process for a term license (1) is similar to that for a perpetual license and (2) takes into consideration the length of a term license relative to renewals of PCS on a perpetual license.

Question

How should C estimate the SSP of a five-year term license and that of the associated PCS?

Answer

It may be reasonable for C to use the approach described below to estimate the SSPs.

Entity C considers the observable entity-specific information related to its perpetual licenses to estimate the SSP of a five-year term license and that of the associated PCS.

Paragraph 9.4.32 of the AICPA Guide states the following:

> The quantity and type of reasonably available data points used in determining stand-alone selling price will not only vary among software vendors but may differ for products or services offered by the same vendor. Furthermore, with respect to software licenses, **reasonably available data points may vary for the same software product that has differing attributes/licensing rights (that is, perpetual versus term license, exclusive versus nonexclusive).** For example, **a vendor may have stand-alone observable sales of the maintenance services in its perpetual software license (that is, maintenance renewals). These observable sales may be a useful data point for similar maintenance services bundled with other types of software licenses (for example, term licenses).** [Emphasis added]

In a manner consistent with the guidance above, an entity may consider observable data related to the value relationship between a perpetual license and the associated PCS to be a relevant and useful data point in determining the SSPs of term licenses for the same software and the associated PCS, especially when other observable data are limited or nonexistent. While the entity should not presume such data to be determinative when estimating the SSPs, we acknowledge that in certain cases in which the observable inputs for the determination of SSPs for term licenses and PCS are limited to data on the same licenses and PCS sold on a perpetual basis, such data may represent the best available information for making the determination.

Legacy guidance in AICPA Technical Practice Aid (TPA) Section 5100.68, "Revenue Recognition: Fair Value of PCS in Perpetual and Multi-Year Time-Based Licenses and Software Revenue Recognition," indicates that the value of PCS for a term license is different from that of PCS for the same license sold on a perpetual basis because upgrades and enhancements associated with the latter are retained indefinitely. AICPA TPA 5100.68 states, in part:

> **PCS services for a perpetual license and PCS services for a multi-year time-based license are two different elements.** Though the same unspecified product upgrades or enhancements may be provided under each PCS arrangement, **the time period during which the software vendor's customer has the right to use such upgrades or enhancements differs based on the terms of the underlying licenses.** Because PCS services are bundled for the entire term of the multi-year time-based license, those PCS services are not sold separately. [Emphasis added]

While this guidance has been superseded by ASC 606, we believe that the concept that differences in value may exist between PCS for a term license and PCS for a perpetual license remains valid. However, we also note that AICPA TPA 5100.68 goes on to state the following:

> **[I]n the rare situations in which both of the following circumstances exist, the PCS renewal terms in a perpetual license provide [vendor-specific objective evidence] of the fair value of the PCS services element included (bundled) in the multi-year time-based software arrangement:** (1) **the term of the multi-year time-based software arrangement is substantially the same as the estimated economic life of the software product** and related enhancements that occur during that term; and (2) **the fees charged for the perpetual (including fees from the assumed renewal of PCS for the estimated economic life of the software) and multi-year time-based licenses are substantially the same.** [Emphasis added]

Similarly, pricing data from transactions involving a perpetual license may, in certain situations, be relevant to the determination of the SSPs for a term license and associated PCS. This concept is similar to that of the above-referenced guidance in paragraph 9.4.32 of the AICPA Guide, but determining the SSP for a term license under ASC 606 on the basis of pricing for a perpetual license is more flexible than under legacy U.S. GAAP. Nonetheless, pricing data for the perpetual license should not be considered in isolation from the facts and circumstances associated with the term license. Paragraph 9.4.51 of the AICPA Guide states the following:

> As discussed in paragraph 9.4.44, a software vendor may have established a value relationship between the perpetual software license and the maintenance services for that license that influences the vendor's determination of stand-alone selling price for each of those items. **Given that the underlying products (software license) and services (technical support and unspecified upgrades and enhancements) are similar for both a perpetual and a term license arrangement, FinREC believes that the renewal pricing for the maintenance associated with one type of license (for example, a percentage of the license fee for a perpetual license) would be a good starting point for establishing stand-alone selling price for the maintenance associated with the license without renewal pricing. Entities would have to determine whether the stand-alone selling price of the maintenance for one type of license would be different from the other type of license. Management would need to carefully analyze its particular facts and circumstances and the related market dynamics, but should consider any stand-alone renewal transaction data, adjusting as necessary for the type of license, in formulating its stand-alone selling price.** For example, some vendors may determine that the renewal rates would not differ based on market dynamics. Conversely, other vendors may determine that the ability to use the updates provided in maintenance associated with perpetual or longer-term licenses might cause that maintenance to have higher pricing. [Emphasis added]

In a manner consistent with the guidance above and C's internal pricing process, C determines that the value relationship observed between sales of perpetual licenses and the associated PCS is the best available observable information for estimating the SSP of the term license and that of the associated PCS. Therefore, after considering all of the facts and circumstances, C estimates the SSPs of the term license and PCS, respectively, by using the value relationship observed in the sale of a perpetual license with five total years of PCS, or 50%/50%.

We believe that this example may be expanded to include various scenarios in which the economic useful life of the perpetual license is *not* equivalent to the term of the term license. In such cases, various factors could be considered, including, but not limited to, the following:

- The *expected term* (i.e., the stated duration of the term license and PCS *as well as* subsequent renewals of both) of the term license as compared with the economic useful life of the perpetual license.
- The initial term of the term license as compared with the economic useful life of the perpetual license.
- Renewals of the term license and associated PCS as compared with renewals of PCS for the perpetual license.
- The internal pricing process and practices (e.g., if the internal pricing process and practices for the term license are consistent with those for the perpetual license inclusive of PCS renewals, the value relationship table for the perpetual license may be more relevant).
- The pace of technological advancement that could affect whether the customer is more likely to renew the term license (rather than upgrade to a new version or buy a license to a different software product).

The Q&As below demonstrate how observable data from perpetual licenses may be used in various scenarios.

Q&A 2-2 High Renewal Rates and Expected Term

Assume the same facts as in Q&A 2-1, except that Entity C sells (1) a term license with an initial two-year term, (2) coterminous PCS, and (3) annual renewals of both the term license and PCS on a bundled basis. On the basis of historical experience, 95 percent of C's customers are expected to renew the license and PCS on an annual basis for at least three additional years.

Question

How should C estimate the SSPs of the two-year term license and PCS, respectively?

Answer

It may be reasonable for C to use the approach described below to estimate the SSPs.

In a manner similar to that discussed in Q&A 2-1, C determines that the value relationship observed between sales of perpetual licenses and the associated PCS is the best available observable information for estimating the SSP of the term license and that of the associated PCS. Entity C considers that the expected term of the term license and PCS (i.e., the term that is inclusive of anticipated renewals) is *greater* than the initial two-year term and approximates the economic useful life of the perpetual license. That is, C concludes that a two-year term license with coterminous PCS and annual renewals is not substantially different from a five-year term license with coterminous PCS since the term license and PCS are renewed annually 95 percent of the time for an additional three years. Therefore, after considering all facts and circumstances, C estimates the SSPs of the term license and PCS, respectively, by using the value relationship observed in the sale of a perpetual license with five total years of PCS, or 50%/50%.

The example below illustrates the application of this approach.

Example

In addition to the facts previously outlined in this Q&A, assume the following:

- The transaction price for the initial two-year term license with coterminous PCS is $100 and is paid up front.
- The transaction price for the three annual renewals of the coterminous term license and PCS is $50 per year.

The license revenue will be recognized up front ($50 in year 1 and $25 at the start of years 3, 4, and 5 as renewals occur) when the customer obtains the right to use and benefit from the software in accordance with ASC 606-10-55-58C. PCS revenue will be recognized over time ($50 over the first two-year period for the initial two-year PCS and then $25 over each subsequent one-year period as renewals occur), typically on a straight-line, ratable basis because of the stand-ready nature of most PCS offerings.

The table below summarizes the allocation of the transaction price and associated revenue recognition.

	Year 1	Year 2	Year 3	Year 4	Year 5	Total (Years 1–5)
Consideration	$100	—	$50	$50	$50	$250
License revenue	$50	—	$25	$25	$25	$125
PCS revenue	$25	$25	$25	$25	$25	$125
Total revenue (license and PCS)	$75	$25	$50	$50	$50	$250

Q&A 2-3 Low Renewal Rates and Expected Term

Assume the same facts as in Q&A 2-1, except that Entity C sells (1) a term license with an initial one-year term, (2) coterminous PCS, and (3) annual renewals of both the term license and PCS on a bundled basis. On the basis of historical experience, only 10 percent of C's customers are expected to renew the license and PCS for one additional year. Entity C believes that it (1) would not price its one-year term license and PCS differently from its perpetual license with one year of PCS and (2) does not have any other observable information that would indicate that the pricing of its one-year term license and PCS would be different from the pricing of its perpetual license with one year of PCS.

Question

How should C estimate the SSPs of the one-year term license and PCS, respectively?

Answer

It may be reasonable for C to use the approach described below to estimate the SSPs.

In a manner similar to that discussed in Q&A 2-1, C determines that the value relationship observed between sales of perpetual licenses and the associated PCS is the best available observable information for estimating the SSP of the term license and that of the associated PCS. However, C considers that the expected term of the term license and PCS (i.e., the term that is inclusive of anticipated renewals) is substantially different from the economic useful life of the perpetual license because the term license and associated PCS are infrequently renewed beyond the initial term. In addition, the initial term of the term license is only one year. However, C does not believe that it would price the two types of licenses and PCS differently. Therefore, after considering all of the facts and circumstances, C estimates the SSPs of the term license and PCS, respectively, by using the value relationship observed in the sale of a perpetual license with one year of PCS, or approximately 83%/17%. Since C does not have any other observable information that conflicts with the 83%/17% split, and management asserts that it would not price term licenses differently, the only — and, therefore, best — observable information is the value relationship observed in sales of perpetual licenses with one year of PCS.

Q&A 2-4 Moderate Renewal Rates and Expected Term

Assume the same facts as in Q&A 2-1, except that Entity C sells (1) a term license with an initial two-year term, (2) coterminous PCS, and (3) annual renewals of both the term license and PCS on a bundled basis. On the basis of historical experience, 70 percent of C's customers are expected to renew the license and PCS on an annual basis. While there is no consistent pattern of renewals, most customers that renew do so for one or two years. In addition, C has an internal pricing policy that indicates that renewals of the term license should be targeted at approximately 67 percent (per additional year) of the original annualized transaction price, while renewals of PCS should be targeted at approximately 33 percent (per additional year) of the original annualized transaction price.

Question

How should C estimate the SSPs of the two-year term license and PCS, respectively?

Answer

It may be reasonable for C to use the approach described below to estimate the SSPs.

Entity C determines that its internal pricing policy and the value relationship observed between sales of perpetual licenses and the associated PCS constitute the best available information for estimating the SSP of the term license and that of the associated PCS. The entity considers that the expected term of the term license and PCS (i.e., the term that is inclusive of anticipated renewals) is most likely greater than the initial two-year term given the renewal rate of 70 percent but is most likely shorter than the economic useful life of a perpetual license. Consequently, by using the observable data related to the value relationship between a perpetual license and various durations of PCS, C determines that a value relationship between the term license and the PCS should be between 71%/29% (perpetual license with two years of PCS) and 50%/50% (perpetual license with five years of PCS). Entity C also considers its internal pricing policy and notes that the policy indicates a value relationship closer to 67%/33%. Accordingly, after considering all of the facts and circumstances, C estimates the SSPs of the term license and PCS, respectively, by using the value relationship observed in the sale of a perpetual license with three years of PCS, or approximately 62%/38%.

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