Applying IFRS

Accounting for cloud computing costs

July 2020

EY

Building a better working world

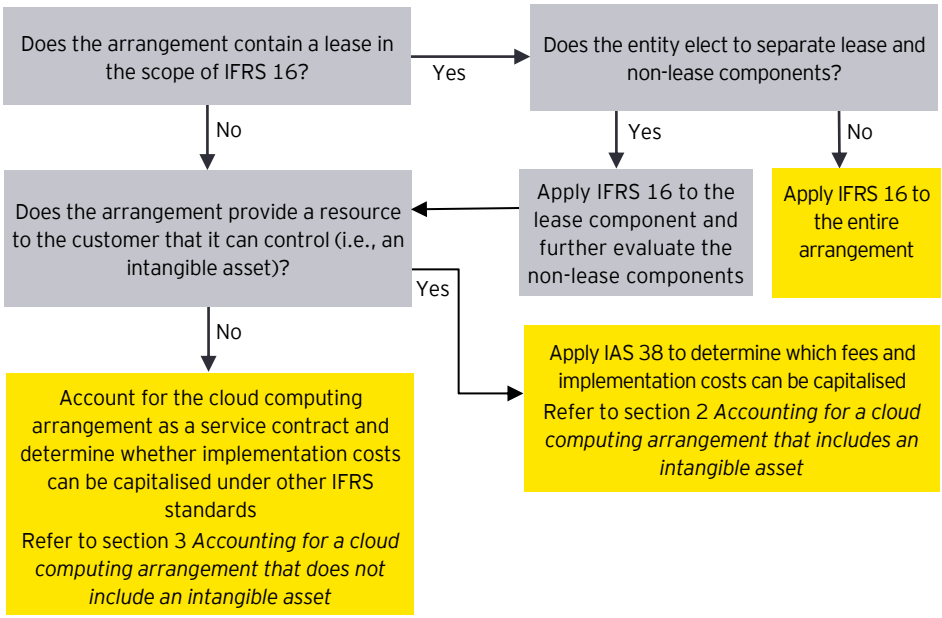
Contents

What you need to know

- IFRS standards do not contain explicit guidance on a customer's accounting for cloud computing arrangements or costs to implement them, so judgement will be required to account for these costs.
- An entity should evaluate whether the rights granted in a cloud computing arrangement are within the scope of IAS 38 *Intangible Assets* or IFRS 16 *Leases*. Otherwise, the arrangement is generally a service contract.
- Significant judgement will be required to determine whether a cloud computing arrangement that is not a lease provides the customer a resource that it can control i.e., an intangible asset.
- If the cloud computing arrangement includes an intangible asset in the scope of IAS 38, an entity should apply the guidance in IAS 38 to evaluate whether to capitalise or expense implementation costs.
- If the cloud computing arrangement does not include an intangible asset and does not contain a lease, an entity should generally expense implementation costs unless they can be capitalised under other IFRS standards.

Overview

As the use of technology, data and connectivity expands, cloud computing arrangements are becoming more common. Cloud computing arrangements are arrangements in which the customer does not currently have possession of the underlying software used in the arrangement. Rather, the customer accesses and uses the software on an as-needed basis (e.g., through the internet, or via a dedicated line). Examples of cloud computing arrangements include software as a service, platform as a service, infrastructure as a service and other hosting arrangements. IFRS standards do not contain explicit guidance on a customer's accounting for cloud computing arrangements or the costs to implement them. Therefore, an entity will need to apply judgement to account for these arrangements and may need to apply various IFRS standards, including IFRS 16 *Leases*, IAS 38 *Intangible Assets*, and IAS 16 *Property, Plant and Equipment*. The following diagram summarises the accounting for cloud computing arrangements.



This publication discusses how an entity might account for a cloud computing arrangement, including the costs to implement the arrangement, and is intended to help entities consider the requirements in the various IFRS standards. We encourage preparers and users of financial statements to read this publication carefully and consider the potential effects of the various IFRS standards on cloud computing arrangements.

The views we express in this publication represent our perspectives as of July 2020. We may identify additional issues as we continue to analyse application of the various IFRS standards, and our views may evolve during that process.

1. Scoping

1.1 Evaluating whether a cloud computing arrangement contains a lease

IFRS standards do not contain explicit guidance about a customer's accounting for cloud computing arrangements or implementation costs for those arrangements. A customer in a cloud computing arrangement will need to carefully evaluate which IFRS standards to apply when accounting for the costs of a cloud computing arrangement. The IFRS Interpretations Committee (the Committee) received a submission about the customer's accounting for a 'Software as a service' cloud computing arrangement, which was discussed at Committee meetings in September 2018, November 2018, and March 2019. In the IASB staff's analysis of the submission,[1] it noted that an entity should first evaluate whether the rights granted in the cloud computing arrangement are within the scope of IAS 38 or IFRS 16. Otherwise, the arrangement is generally a service contract.

The Committee's agenda decision published in the March 2019 *IFRIC Update* indicated the following about IFRS 16:

> "IFRS 16 Leases defines a lease as 'a contract, or part of a contract, that conveys the right to use an asset (the underlying asset) for a period of time in exchange for consideration'. Paragraphs 9 and B9 of IFRS 16 explain that a contract conveys the right to use an asset if, throughout the period of use, the customer has both:
>
> a. The right to obtain substantially all the economic benefits from use of the asset (an identified asset); and
>
> b. The right to direct the use of that asset.
>
> Paragraphs B9–B31 of IFRS 16 provide application guidance on the definition of a lease. Among other requirements, that application guidance specifies that a customer generally has the right to direct the use of an asset by having decision-making rights to change how and for what purpose the asset is used throughout the period of use. Accordingly, in a contract that contains a lease the supplier has given up those decision-making rights and transferred them to the customer at the lease commencement date."

Therefore, an entity should evaluate whether a cloud computing arrangement includes the right to use an asset (e.g., underlying servers or other tangible assets) for which it has the right to obtain substantially all the economic benefits from use of the asset and the right to direct the use of that asset. There are differing views about whether a licence of software is excluded from the scope of IFRS 16 based on interpretations of paragraph 3(e) of IFRS 16. If an entity determines a licence of software is not excluded from the scope of IFRS 16, paragraph 4 of IFRS 16 permits, but does not require, an entity to account for the licence of software as a lease.

If the cloud computing arrangement contains a lease of an asset other than a licence of software (or the entity has determined a licence of software is not excluded from the scope of IFRS 16 and has elected to account for leases of intangible assets under IFRS 16), an entity should apply the provisions of IFRS 16 to the cloud computing arrangement. This includes identifying and

separating lease and non-lease components and allocating contract consideration, which are not addressed in this document. Refer to our publication, *Applying IFRS: A closer look at IFRS 16* Leases, for a discussion of the provisions in IFRS 16. An entity that elects to separate non-lease components will then need to evaluate whether the non-lease components provide a resource to the customer that it can control (i.e., an intangible asset). Refer to section 1.2 *Evaluating whether a cloud computing arrangement includes an intangible asset*.

In evaluating whether the right to use underlying software in a cloud computing arrangement is a lease, the agenda decision stated, "The Committee observed that a right to receive future access to the supplier's software running on the supplier's cloud infrastructure does not in itself give the customer any decision-making rights about how and for what purpose the software is used — the supplier would have those rights by, for example, deciding how and when to update or reconfigure the software, or deciding on which hardware (or infrastructure) the software will run. Accordingly, if a contract conveys to the customer only the right to receive access to the supplier's application software over the contract term, the contract does not contain a software lease."

1.2 Evaluating whether a cloud computing arrangement includes an intangible asset

The Committee's agenda decision published in the March 2019 *IFRIC Update* also stated that:

> "IAS 38 defines an intangible asset as 'an identifiable non-monetary asset without physical substance'. It notes that an asset is a resource controlled by the entity and paragraph 13 specifies that an entity controls an intangible asset if it has the power to obtain the future economic benefits flowing from the underlying resource and to restrict the access of others to those benefits."

Therefore, an entity should evaluate whether a cloud computing arrangement provides the customer a resource that it can control (i.e., if the customer has the power to obtain the future economic benefits flowing from the underlying resource and to restrict the access of others to those benefits). If the customer receives a resource that it can control, then it should apply the guidance in IAS 38 to that resource (assuming it is not accounting for the intangible asset as a lease as described in section 1.1).

An entity will need to determine whether the cloud computing arrangement contains a lease in the scope of IFRS 16 or an intangible asset in the scope of IAS 38.

IFRS standards do not provide specific guidance on whether a cloud computing arrangement provides the customer a resource that it can control (i.e., an intangible asset). One situation in which an intangible asset for a software licence exists in a cloud computing arrangement (and is therefore substantive[2]) is when both of the following are met at the inception of the arrangement:

- The customer has the contractual right to take possession of the software during the hosting period without significant penalty.
- It is feasible for the customer to run the software on its own hardware or contract with another party unrelated to the supplier to host the software.

These facts indicate that the customer controls the underlying licence even if it is hosted by the supplier; they are similar to the criteria used in US GAAP[3]

to determine whether a cloud computing arrangement includes a software licence that should be accounted for under the internal-use software guidance. There may be other possible situations in which a customer concludes that a cloud computing arrangement provides the customer with a resource that it can control. However, the fact that an arrangement conveys to the customer a licence of software hosted by the supplier is not, in and of itself, a sufficient basis to conclude that the arrangement contains an intangible asset. The licence must be substantive.

The evaluation of the facts listed above is performed at the inception of the arrangement (or upon a modification of the arrangement) because the evaluation of whether an arrangement includes an intangible asset should be based on the facts and circumstances when the arrangement is entered into.

In evaluating whether the customer has the right to take possession of the software during the hosting period without a significant penalty, and the right is therefore substantive, an entity may consider whether it has both of the following:

- The ability to take delivery of the software without incurring significant costs
- The ability to use the software separately without a significant diminution in utility or value

To support the view that a customer has the ability to take delivery of software included in a cloud computing arrangement without incurring significant costs, an entity may consider the following factors:

- Whether financial penalties or operational barriers act as a significant disincentive[4] to the customer taking possession of the software. An example of such a barrier is a contractual requirement that significant fees or penalties must be paid to the supplier in connection with taking possession of the software. Another form of penalty may be a requirement to pay or forfeit a significant amount of "unused" hosting fees on cancellation of the cloud computing contract. Accordingly, a cloud computing arrangement should be evaluated carefully to determine if the amount of fees that the customer must either 1) pay on cancellation, or 2) forfeit if fees are prepaid represents a "significant cost".
- The evaluation of whether a penalty is significant should be based on whether the amount of the penalty creates a sufficiently large disincentive such that the customer would not incur the penalty to take possession of the software. In evaluating whether any fees or penalties are significant, an entity may evaluate the amount of the fees or penalties in the context of the overall arrangement economics.
- Whether there is an explicit, reasonable mechanism in the contractual arrangement by which the customer can exercise a right to take possession of the software.
- Whether other economic barriers or costs exist that act as a significant disincentive to the customer taking possession of the software. For example, new hardware may be required to run the software, but the cost of obtaining that hardware is so high that a significant disincentive exists. Furthermore, if specialised technicians are needed to run the software, the cost to hire the technicians also may be a significant disincentive.

- Whether there is an absence of an adequate number of qualified replacement service providers. A lack of service providers that could host the licenced software due to: 1) unique features, functionality or operating system requirements of the software; 2) the need to hire specialised technicians to run the software at a significant cost; or 3) other factors that may be significant disincentives.

To support the view that a customer has the ability to use the software separately without a significant diminution in utility or value, an entity may consider the following factors:

- Whether the customer can utilise all of the functionality of the software if the software is not hosted by the supplier. For example, if the software would not be able to process substantially the same number of transactions in approximately the same period if not hosted by the supplier, this may indicate that the customer cannot use the software separately from the supplier's hosting services without a significant diminution in utility or value.
- Whether software upgrades are only available to customers for whom the supplier hosts the software. If the functionality provided by upgrades to the software is important to customers, and such upgrades would not be made available if the software is not hosted by the supplier, the utility of the software to a customer is likely significantly diminished if the supplier's hosting services are discontinued.

If the cloud computing arrangement does not provide the customer with an intangible asset for the software (and does not contain a lease), then the right to access the underlying software in the cloud computing arrangement is generally a service contract. The Committee's agenda decision published in the March 2019 *IFRIC Update* indicates the following:

> "The Committee observed that, if a contract conveys to the customer only the right to receive access to the supplier's application software over the contract term, the customer does not receive a software intangible asset at the contract commencement date. A right to receive future access to the supplier's software does not, at the contract commencement date, give the customer the power to obtain the future economic benefits flowing from the software itself and to restrict others' access to those benefits.
>
> Consequently, the Committee concluded that a contract that conveys to the customer only the right to receive access to the supplier's application software in the future is a service contract. The customer receives the service—the access to the software—over the contract term."

A contract that conveys to the customer only the right to receive access to the supplier's application software in the future is a service contract.

However, when an arrangement conveys to the customer only a right to access and the customer pays the supplier before it receives the service, that prepayment gives the customer a right to future service and would be recognised as a prepaid asset by the customer.

2. Accounting for a cloud computing arrangement that includes an intangible asset

2.1 Fees in the arrangement

Under IAS 38, an item that meets the definition of an intangible asset should only be recognised if, at the time of initial recognition of the expenditure:

- It is probable that the expected future economic benefits that are attributable to the asset will flow to the entity; and
- The cost of the asset can be measured reliably.

This test (that the item meets both the definition of an intangible asset and the criteria for recognition) is performed when an entity incurs potentially eligible expenditures, whether to acquire or internally generate an intangible asset or to add to, replace part of, or service it subsequent to initial recognition.

Separately acquired intangible rights (i.e., software licences in cloud computing arrangements) will normally be recognised as assets. IAS 38 assumes that the price paid to acquire an intangible asset usually reflects expectations about the probability that the future economic benefits embodied in it will flow to the entity. That is, the entity always expects there to be a flow of economic benefits, even if it is uncertain about the timing or amount. Therefore, the standard assumes that the cost of a separately acquired intangible asset can usually be measured reliably, especially where the purchase consideration is in the form of cash or other monetary assets.

In some cases, entities enter into a cloud computing arrangement that requires them to pay the cloud computing supplier or other third party to provide implementation activities and other services such as training employees to use the software, maintenance work to be performed by the third party, rights to future upgrades and enhancements, data conversion, and hardware.

An entity should allocate the fee in a cloud computing arrangement to these implementation activities and other services. One way an entity could allocate the fees in a cloud computing arrangement to each element in the contract (e.g., software licence, hosting, implementation activities) is based on the relative standalone price or relative fair value of each element in the contract. The statement of work for the implementation activities can often be complicated, so an entity will need to apply judgement to determine the components of implementation costs to which the purchase consideration should be allocated, which will determine the amounts that should be capitalised and the amounts that should be expensed as incurred.

Elements that meet both the definition of an intangible asset and the criteria for recognition should be accounted for in accordance with IAS 38. Elements outside the scope of IAS 38 (e.g., hosting) should be accounted for based on other IFRS standards. In addition, IAS 38 specifically states that certain expenditures should be expensed as incurred (i.e., training costs, start-up costs).

The asset recognised for the software licence should be the present value of the licence obligation if the cloud computing arrangement is to be paid for over time. An entity should record a liability to the extent that all or a portion of the amount allocated to the software licence is not paid on or before the recognition of the licence.

2.2 Implementation costs

Customers often incur implementation costs to get a cloud computing arrangement ready for use. Implementation costs can include the following:

- Research costs (e.g., needs assessment and software evaluation)
- Hardware costs
- Costs to configure or customise the underlying software
- Changes to other entity systems
- Training costs
- Data conversion
- Testing

Costs incurred by customers to implement a cloud computing arrangement that includes a software licence are accounted for based on the nature of the costs. The guidance in IAS 38 should be applied by customers that obtain software licences to evaluate whether to capitalise or expense certain costs. The cost of a separately acquired intangible asset includes its purchase price, as well as import duties and non-refundable purchase taxes after deducting trade discounts and rebates, and any directly attributable cost of preparing the asset for its intended use. Therefore, implementation costs may be part of the cost of a separately acquired intangible asset or they may qualify as a separate internally generated intangible asset.

Examples of directly attributable costs of preparing a separately acquired intangible asset for its intended use include the following:

- Costs of employee benefits arising directly from bringing the asset to its working condition
- Professional fees arising directly from bringing the asset to its working condition
- Costs of testing whether the asset is functioning properly

The following types of expenditures are not considered to be part of the cost of a separately acquired intangible asset:

- Costs of introducing a new product or service, including costs of advertising and promotional activities
- Costs of conducting business in a new location or with a new class of customer, including costs of staff training
- Administration and other general overhead costs
- Costs incurred in using or redeploying an intangible asset, such as:
  - Costs incurred while an asset capable of operating in the manner intended by management has yet to be brought into use
  - Initial operating losses, such as those incurred while demand for the asset's output builds up

The cost of an internally generated intangible asset comprises all directly attributable costs necessary to create, produce and prepare the asset to be capable of operating in the manner intended by management. Examples of directly attributable costs are:

- Costs of materials and services used or consumed in generating the intangible asset
- Costs of employee benefits arising from the generation of the intangible asset
- Fees to register a legal right
- Amortisation of patents and licences that are used to generate the intangible asset
- Borrowing costs that meet the criteria under IAS 23 (which requires that the asset takes a substantial period of time to get ready for its intended use) for recognition as an element of cost

For example, costs that are capitalisable for developing software or obtaining a software licence included in a cloud computing arrangement include external direct costs of materials and services incurred in developing or obtaining the software and payroll and payroll related costs (benefits) for employees who are directly involved with and who devote time to developing the cloud computing system, to the extent the time is spent directly on the project's development activities. External direct costs include, among others, fees paid to develop the software or supplemental software (e.g., to write program code), cost to purchase the cloud computing software licence from third parties and travel expenses incurred by employees in their duties directly associated with developing the cloud computing system. Examples of employee activities include program coding and testing during development.

How we see it

Appropriate records should be maintained to capture these development costs. In many cases, this will require segregating employee time for each project between those activities that are capitalisable and those that are not.

Indirect costs and general overheads, even if they can be allocated on a reasonable and consistent basis to the development project, cannot be recognised as part of the cost of any intangible asset. IAS 38 also specifically prohibits recognition of the following items as a component of cost:

- Selling, administrative and other general overhead expenditure unless this expenditure can be directly attributed to preparing the asset for use
- Identified inefficiencies and initial operating losses incurred before the asset achieves planned performance
- Expenditure on training staff to operate the asset

For these purposes it does not make any difference whether the costs are incurred directly by the entity or relate to services provided by third parties.

Capitalisation of costs to develop an intangible asset should cease no later than the point at which the project is substantially complete and ready for its intended use.

To avoid the inappropriate recognition of an asset, IAS 38 requires that internally generated intangible assets are not only tested against the general requirements for recognition and initial measurement, but also meet criteria which confirm that the related activity is at a sufficiently advanced stage of development, is both technically and commercially viable and includes only directly attributable costs. If the general recognition and initial measurement

requirements are met, the entity classifies the generation of the internally developed asset into a research phase and a development phase. Only expenditure arising from the development phase can be considered for capitalisation, with all expenditure on research being recognised as an expense when it is incurred. If the research phase cannot be distinguished from the development phase, all expenditure is treated as research.

IAS 38 gives the following examples of research activities:

- Activities aimed at obtaining new knowledge
- The search for, evaluation and final selection of, applications of research findings or other knowledge
- The search for alternatives for materials, devices, products, processes, systems or services
- The formulation, design, evaluation and final selection of possible alternatives for new or improved materials, devices, products, processes, systems or services

Only expenditure arising from the development phase can be considered for capitalisation, with all expenditure on research being recognised as an expense when it is incurred.

Development is the application of research findings or other knowledge to a plan or design for the production of new or substantially improved materials, devices, products, processes, systems or services before the start of commercial production or use. IAS 38 states the design, construction and testing of a chosen alternative for new or improved materials, devices, products, processes, systems or services is an example of a development activity.

The following sections provide considerations for applying the guidance in IAS 38 to various implementation costs of a cloud computing arrangement.

Research costs

Costs to perform research (e.g., conceptual formulation of alternatives, evaluation of alternatives, determination of existence of needed technology, final selection of alternatives) are generally considered research activities and, therefore, the costs for these activities are expensed as incurred. Examples of research activities that should be expensed include:

- Making strategic decisions to allocate resources between various projects. For example, should resources be focused on developing a new inventory management system or developing a new customer service and information system?
- Determining the performance requirements of the cloud computing system. For example, should the cloud computing system be limited to performing a certain number of functions or should the cloud computing system have broader functionality and be available to more users throughout the entity?
- Exploring alternative means of achieving the performance requirements. For example, should the information system be owned by the entity or obtained through a cloud computing arrangement?
- Determining the technology requirements necessary to achieve the performance requirements of the entity. Is existing hardware capable of achieving the performance requirements or is new hardware required?
- Inviting vendors to demonstrate their cloud computing system to management

- Selecting vendor(s) of the cloud computing system
- Selecting consultants to assist in the implementation of the cloud computing system

Hardware costs

Costs to obtain hardware as part of a cloud computing arrangement are generally capitalisable and should be accounted for under IAS 16.

Costs to configure or customise the underlying software

Costs incurred to code, configure or customise the underlying software of the cloud computing arrangement are generally directly attributable costs of preparing the asset for its intended use and should be capitalised. However, minor changes to a cloud computing arrangement's interface or similar types of changes (e.g., cosmetic changes) may be considered to be costs incurred while an asset capable of operating in the manner intended by management has yet to be brought into use, in which case, they should be expensed as incurred.

How we see it

Judgement will be required to determine whether the configuration or customisation costs are directly attributable costs of preparing the asset for its intended use or costs incurred while an asset is capable of operating in the manner intended by management (e.g., costs for cosmetic changes).

Changes to other entity systems

Customers also may incur costs to modify or enhance their existing software (e.g., enterprise resource planning (ERP) system) that will continue to be used in conjunction with software services they will receive under a cloud computing arrangement. Customers should follow the guidance in IAS 38 to determine whether to capitalise or expense costs related to internal-use software (i.e., software owned or licenced by the user). Upgrades and enhancements are modifications to existing software that result in additional functionality (i.e., modifications to enable the software to perform tasks that it previously was not capable of performing). Upgrades and enhancements normally require new software specifications or changes that augment all, or part, of existing software specifications. From the perspective of the user of the software, a modification that only extends the useful life without adding additional functionality is a maintenance activity, the costs of which should be expensed as incurred.

Therefore, qualifying costs of specified upgrades and enhancements should only be capitalised if the upgrade or enhancement will result in additional functionality. Entities generally should capitalise the portion of implementation costs associated with cloud computing arrangements that are incurred to integrate (bridge) the cloud computing arrangement with their existing internal-use software or make improvements to their current on-premise software for the cloud computing arrangements to work seamlessly because those costs generally enhance the functionality of the existing software.

Entities that cannot separate internal costs on a reasonably cost-effective basis between maintenance and relatively minor upgrades and enhancements should expense such costs as incurred. Entities that can distinguish between

maintenance and relatively minor upgrades and enhancements should expense these costs (e.g., maintenance) or capitalise them (e.g., upgrades) depending on their nature.

Training costs

Training costs (including costs to train employees to develop, configure, or implement software) are not related to software or cloud computing system development. Therefore, customers should expense training costs generally when the related training service is rendered, regardless of whether a cloud computing arrangement includes a software licence. Training costs are listed in IAS 38.69 as an example of expenditure that should be expensed as incurred.

Data conversion

Data conversion is the process of transferring data from the existing computer system to the new system. Entities should capitalise costs incurred to develop or obtain software that allows for access or conversion of existing data by a new system. Costs to obtain or develop data conversion software are not treated as part of the cost of the software licence included in the cloud computing arrangement but are a separate software component.

All other costs (outside of costs to obtain or develop data conversion software) incurred during the data conversion process should be expensed as incurred. Typical activities involved during the data conversion process that should be expensed as incurred include:

- Reconciling or balancing the new data with the data extracted from the old system
- Purging existing data
- Creating or inputting new data required by the new cloud computing system

Testing

Costs of testing whether an asset is functioning properly is an example listed in IAS 38 of a directly attributable cost of preparing the asset for its intended use. Therefore, costs to test the cloud computing arrangement should be capitalised.

3. Accounting for a cloud computing arrangement that does not include an intangible asset

3.1 Fees in the arrangement

If a cloud computing arrangement does not contain a lease in the scope of IFRS 16 and does not contain an intangible asset in the scope of IAS 38, then the right to access the underlying software in the cloud computing arrangement is generally a service contract. Therefore, an entity should expense the fees paid for the cloud computing arrangement as the service is provided.

Entities generally recognise an asset for costs they prepay that relate to a service they will receive over time, which may be the case for cloud computing arrangements. For example, a customer that makes payments to a supplier of cloud computing services in advance of the related service period may

determine that it is appropriate to recognise a prepaid asset (e.g., prepaid service contract) for those costs. Importantly, these costs are considered a prepaid asset that should be subsequently recognised as operating expense (and not presented as amortisation that is used to calculate EBITDA) as the services are provided.

Up-front payments the customer makes to the cloud computing supplier that relate to enhancing the functionality of the cloud computing service to be received over time should also generally be treated as a prepaid asset that is expensed over the term of the arrangement.

How we see it

- Careful consideration of the services provided under a long-term cloud computing service or other arrangement is required to determine the appropriate accounting for the related costs. This includes gaining an understanding of what the services are (e.g., the long-term service versus component implementation services rendered at the start of the arrangement) and when they are provided so that the costs of the service arrangement are recognised in the appropriate period.
- In situations where the cloud computing supplier provides component implementation services, it may be difficult to identify and allocate consideration to the component implementation services.

3.2 Internal and third-party implementation costs

In a cloud computing service arrangement (i.e., an arrangement without a software licence), a customer may incur implementation and other up-front costs to get the cloud computing arrangement ready for use and directly or indirectly relate to the software service received over time. These costs may relate to activities performed by the customer's internal personnel or third parties.

Implementation costs can include the following:

- Research costs (e.g., needs assessment and software evaluation)
- Hardware costs
- Costs to configure the underlying software
- Customisation of software
- Changes to other entity systems
- Training costs
- Data conversion
- Testing

The guidance in IAS 38 addresses how customers that obtain software licences evaluate whether to capitalise or expense certain costs, but it does not apply when software is accounted for as a service (i.e., service arrangements that do not include a software licence). Entities incur implementation and other up-front costs for a variety of service arrangements. As a result, entities will need to carefully review both the services they will receive and the implementation costs they will incur.

Careful consideration will be required if a customer contracts with a third-party supplier (unrelated to the software service supplier), or incurs internal costs to perform certain activities that are directly or indirectly related to a software service arrangement. Customers should carefully evaluate these types of costs to determine whether the costs should be expensed, recognised as a prepaid asset, or capitalised, depending on the specific services that are provided.

The following sections provide considerations for applying this guidance to various implementation costs of a cloud computing arrangement.

Research costs

Costs to perform research (e.g., conceptual formulation of alternatives, evaluation of alternatives, determination of the existence of needed technology, final selection of alternatives) are generally considered research activities. Therefore, the costs for these activities are expensed as incurred, regardless of whether a cloud computing arrangement includes a software licence. Examples of research activities that should be expensed include:

- Making strategic decisions to allocate resources between various projects. For example, should resources be focused on a new inventory management system or a new customer service and information system?
- Determining the performance requirements of the cloud computing system. For example, should the cloud computing system be limited to performing a certain number of functions and uses, or should the cloud computing system have broader functionality and be available to more users throughout the entity?
- Exploring alternative means of achieving the performance requirements. For example, should the information system be owned by the entity or obtained through a cloud computing arrangement?
- Determining the technology requirements necessary to achieve the performance requirements of the entity. Is existing hardware capable of achieving the performance requirements or is new hardware required?
- Inviting vendors to demonstrate their cloud computing system to management
- Selecting vendor(s) of the cloud computing system
- Selecting consultants to assist in the implementation of the cloud computing system

Hardware costs

Costs to obtain hardware as part of a cloud computing arrangement are generally capitalisable and should be accounted for under IAS 16.

Costs to configure the underlying cloud computing service arrangement

Costs incurred to configure the underlying cloud computing service arrangement generally should be expensed as incurred. That is because configuration activities affect a resource that is controlled by the cloud computing arrangement supplier and would not qualify as a separate intangible asset. These costs would not qualify as directly attributable costs of preparing the asset for its intended use under IAS 38 because the cloud computing arrangement does not include a software licence.

Customisation of software

An entity should evaluate whether customisation of the underlying hosted software creates an intangible asset that the customer controls. This evaluation will require significant judgement. For example, if a third party changes the cloud computing supplier's underlying software code for the customer, the software code likely would be controlled by the cloud computing supplier and not the customer. However, if a third party is writing the code and it could be used by the customer in another cloud computing arrangement, then the code would be considered an asset to the customer and an entity would conclude that a payment to the third party should be capitalised. In other situations, an entity may conclude that all payments made to a third party, in the context of an overall arrangement that is a service contract, should be expensed as incurred because the third party is preparing a service rather than an asset for its intended use.

Changes to other entity systems

Customers may incur costs to modify or enhance their existing software (e.g., ERP system) that will continue to be used in conjunction with software services they will receive under a cloud computing arrangement. Customers should follow the guidance in IAS 38 to determine whether to capitalise or expense costs related to internal-use software (i.e., software owned or licenced by the user). Upgrades and enhancements are modifications to existing software that result in additional functionality (i.e., modifications to enable the software to perform tasks that it previously was not capable of performing). Upgrades and enhancements normally require new software specifications or changes that augment all, or part, of existing software specifications. From the perspective of the user of the software, a modification that only extends the useful life without adding additional functionality is a maintenance activity, the costs of which should be expensed as incurred.

Customers should expense training costs, regardless of whether a cloud computing arrangement includes a software licence.

Therefore, qualifying costs of specified upgrades and enhancements should only be capitalised if it is probable that the upgrade or enhancement will result in additional functionality. Entities that cannot separate internal costs on a reasonably cost-effective basis between maintenance and relatively minor upgrades and enhancements should expense such costs as incurred. Entities that can distinguish between maintenance and relatively minor upgrades and enhancements should expense these costs (e.g., maintenance) or capitalise them (e.g., upgrades) depending on their nature.

Entities generally should capitalise the portion of implementation costs associated with cloud computing arrangements (that are considered service contracts) that are incurred to integrate (bridge) the cloud computing arrangement with their existing internal-use software or make improvements to their current on-premise software for the cloud computing arrangement to work seamlessly because those costs generally enhance the functionality of the existing software.

Training costs

Training costs (including costs to train employees to develop, configure, or implement the cloud computing arrangement) are not related to cloud computing development. Therefore, customers should expense training costs

generally when the related training service is rendered, regardless of whether a cloud computing arrangement includes a software licence. Training costs are listed in IAS 38.69 as an example of expenditure that should be expensed as incurred.

Data conversion

Data conversion is the process of transferring data from the existing computer system to the new cloud computing system. Entities should capitalise costs incurred to develop or obtain software that allows for access or conversion of existing data by the new cloud computing system. Costs to obtain or develop data conversion software is not treated as part of the cost of the cloud computing arrangement, but is a separate software component.

All other costs (outside costs to obtain or develop data conversion software) incurred during the data conversion process should be expensed as incurred. Typical activities involved during the data conversion process that should be expensed as incurred include:

- Reconciling or balancing the new data with the data extracted from the old system
- Purging existing data
- Creating or inputting new data required by the new cloud computing system

Testing

Costs of testing whether an asset is functioning properly is an example listed in IAS 38 of a directly attributable cost of preparing the asset for its intended use. However, in a cloud computing service arrangement, there is no underlying intangible asset that the customer controls. Therefore, costs to test the cloud computing arrangement as a whole should be expensed as incurred.

Endnotes:

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[1] See Agenda paper 5 from the September 2018 and November 2018 meetings.

[2] Paragraph B22 of IFRS 10, *Consolidated Financial Statements*, states that, in the context of a right held by an investee, the holder must have the practical ability to exercise the right for it to be considered substantive. Paragraphs B23-B25 of IFRS 10 provide factors to consider in evaluating whether a right is substantive, which may be helpful in evaluating whether a licence in a cloud computing arrangement is substantive.

[3] See paragraph 350-40-15-4A of FASB Accounting Standards Codification Subtopic 350-40, *Intangible Assets—Goodwill and Other—Internal-Use Software*.

[4] The Committee discussed whether a penalty exists to terminate (or not renew) a lease. In its agenda decision published in the November 2019 *IFRIC Update*, the Committee observed that an entity should consider the broader economics of the contract and not only contractual termination payments. See https://www.ifrs.org/news-and-events/updates/ifric-updates/november-2019/#3. Likewise, an entity should consider the broader economics of a cloud computing arrangement when determining whether there is a significant disincentive to the customer taking possession of the software.

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