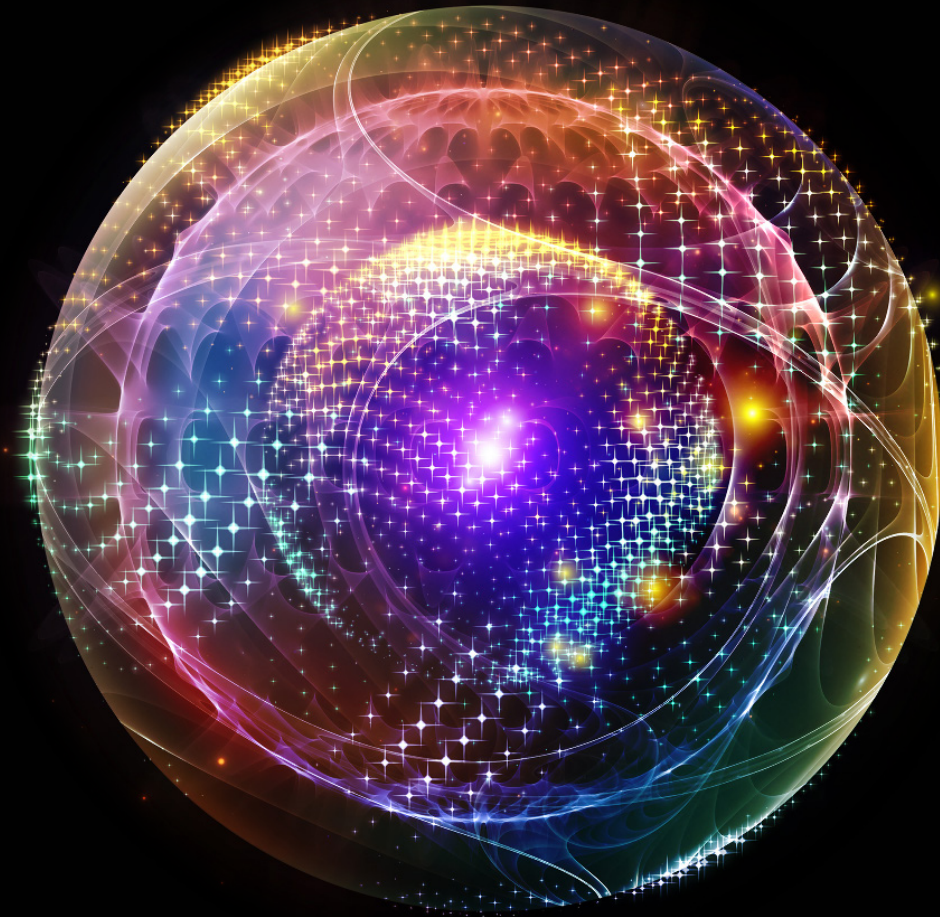


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Shooting for the cloud:  
Understanding how the  
structure of arrangements  
may impact accounting

# Shooting for the cloud:

## Understanding how the structure of arrangements may impact accounting



### Introduction

Driven by a combination of new technology capabilities as well as a push for the flexibility to work from anywhere and to be agile, organizations around the globe are exploring and moving to cloud-based technologies. Simultaneously, information technology (IT) groups and Finance functions are exposed to economic challenges and budget constraints. Decision makers within IT are often tasked with reducing operating expenses or being limited in how much expense can be incurred in a given year.

Financial constraints and budget limitations drive the need for increased collaboration between IT professionals and accounting to identify contracting structures that can allow investment in technology solutions while achieving a specific accounting treatment. The ultimate accounting recognition objectives may vary by organization, but are likely aligned with one of two goals. That is, a goal for costs to be recognized as a period operating expense or alternatively for costs to be capitalized on the balance sheet with interest and amortization recognized over time in the income statement.

The accounting treatment related to cloud computing can be even more complicated as arrangements may take many forms or have multiple components with different accounting treatments such as internal use software, service agreements, or leases. However, with this complexity comes opportunity as different arrangements may drive different expense recognition patterns and balance sheet presentation that may be in line with an organization's budget and financial reporting objectives.

# What's happening in the marketplace

As many organizations transition from on-premise technology-related hardware to cloud computing, the potential benefits are pretty well known - increased scalability, higher system availability, disaster recovery optionality, and more. Overall, these benefits coupled with taking the burden of hardware ownership and management away have been the primary drivers for continued cloud adoption.

With costs often front of mind, organizations are consistently looking for potential cost savings to offset investment. Organizations have found cost benefits through effective use of discounts, designing deferred payment plans (financing), and various tax incentives; however, apart from the growing need for driving down spend on cloud, executives of organizations, including CIOs, are commonly evaluated and compensated according to earnings before interest, taxes, depreciation, and amortization ("EBITDA"). This is where structuring cloud computing arrangements to meet certain accounting objectives can be beneficial.

Any kind of operating expense ("OpEx") like cloud expenses or related labor costs may impact financial performance metrics or impact current department budgets. On the other hand, capital expenditure ("CapEx"), like on-premise asset purchases of hardware and software, which can be depreciated or amortized, lessens the impact on EBITDA, but may pose operational or technological limitations and result in higher overall expense in the periods the assets are depreciated or amortized.

## The structure of the arrangement drives the accounting

### *Accounting for costs of implementing a cloud computing arrangement*

- The transition to cloud computing arrangements are becoming more and more prevalent
- Cloud computing can provide organizations with a number of operational and technological benefits, but may also provide organizations with cost savings and/or positive financial statement impacts
- Accounting for cloud computing arrangements can be complex with contracting and operational nuances driving the ultimate accounting treatment
- Differences in accounting and financial results can be the result of the capitalization of certain implementation costs as well as the result of the need to classify on-going costs based on specific rules which may result in service costs (operating expense), finance lease expense (interest and amortization expense), or operating lease expense (operating expense)
- Opportunities may exist for organizations to structure contractual terms of service to align with specific financial objectives.



## Accounting for costs of implementing a cloud computing arrangement

When exploring different options for migrating to a cloud-based technology, organizations should consider the complexity and nuances of accounting for these arrangements. Thanks to recently issued cloud computing accounting requirements, the types of implementation costs that are eligible to be capitalized as an asset are generally consistent regardless of the structure of the cloud-based technology. Although the timing of the recognition of implementation costs is generally unaffected by the nature of the transformation, differences exist in the presentation of such costs on a company's balance sheet and income statement. These differences hinge on whether the company can take possession of the underlying software (from an accounting perspective) without a penalty and whether it is feasible to run the software on its or a third party's hardware that is unrelated to the software vendor. Said differently, the main question that needs to be addressed is whether the company can run the software on its own servers (or a third party's servers) or whether it is restricted to only accessing the technology through the cloud?

The following table summarizes the differences in the presentation of implementation costs based on the structure of the cloud-based technology:

Structure of Arrangement	Balance Sheet Presentation	Income Statement Classification	Why It Matters
Company can run the underlying software on its own or a third party's hardware ("internal-use software")	Intangible asset	Amortization expense	Internal-use software is viewed as a capital expenditure that results in subsequent recognition of amortization expense (impacting EBITDA)
Company can only access the software through the cloud ("service arrangement")	Prepaid expense	Operating expense	Service arrangement is viewed as an operating expenditure, similar to other executory service contracts, and does not impact EBITDA

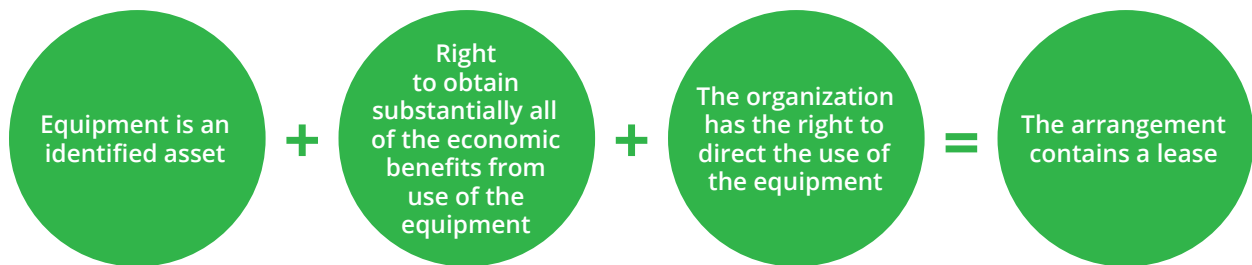
Many implementations of cloud-based technologies will involve multiple applications and can result in a combination of internal use software (run on the cloud) and software as a service arrangement. This determination can even be impacted by how the technology is developed in the cloud. It is important to understand on an application by application basis whether or not the software qualifies as internal use software as this can significantly affect the accounting presentation, and to some extent, the costs that can be capitalized.



## Determining whether a cloud computing arrangement contains a lease

All cloud computing arrangements require the use of certain equipment (e.g., servers). While a benefit of cloud-based technologies is that an organization does not need to own and maintain servers in its facility, saving valuable space and minimizing certain costs, the equipment being used to provide the cloud-based technology could represent a lease to the organization if certain criteria are met. Under the leasing guidance in ASC 842,<sup>1</sup> if a cloud computing arrangement contains a lease of the equipment used to provide the related service, then the organization would be required to recognize on its balance sheet an asset (related to the right-to-use the equipment) and a liability (related to the payments owed by the organization).

ASC 842 defines a lease as “a contract, or part of a contract, that conveys the right to control the use of identified property, plant, or equipment (an identified asset) for a period of time in exchange for consideration.” Identifying whether an arrangement contains a lease requires judgment and often requires an organization to understand the nuances of the contractual provisions and delivery. The following illustration and table summarize the three criteria that must be met in order for a contract to contain a lease:



<sup>1</sup> FASB ASC Topic 842, *Leases*. Note that if a private company has not yet adopted ASC 842, it should consider the requirements in ASC 840 to determine whether the cloud computing arrangement contains a lease.

Criteria	Indicators that the cloud computing arrangement contains a lease	Indicators that the cloud computing arrangement does not contain a lease
Equipment is an identified asset	<ul style="list-style-type: none"> <li>• Due to specific security and encryption requirements only certain servers or locations can be utilized by the organization.</li> <li>• The server is explicitly specified (e.g., through a serial number) in the contract.</li> <li>• The server is dedicated to the organization.</li> <li>• The supplier does not have the contractual right to substitute the server being used by the customer (other than for maintenance or upgrade purposes).</li> </ul>	<ul style="list-style-type: none"> <li>• The customer shares the server with other customers (i.e. only a portion of server space provided).</li> <li>• The contract states that the customer will receive access to applications in the cloud but does not specify server used, and the server is not dedicated to the customer.</li> <li>• The supplier has the practical ability and contractual right to substitute the server being used without the organization's permission, and the supplier would not incur significant costs to switch the organization to a different server.</li> </ul>
The organization has the right to obtain substantially all of the economic benefits from use of the equipment	<ul style="list-style-type: none"> <li>• The server is dedicated to the organization.</li> <li>• Even if the organization does not fully utilize the server, the supplier does not have the right to store another customer's data on the server.</li> </ul>	<ul style="list-style-type: none"> <li>• The supplier has the right to sell unused server capacity to other customers.</li> <li>• The organization is limited from using all of the server's capacity.</li> </ul>
The organization has the right to direct the use of the equipment	<ul style="list-style-type: none"> <li>• The organization determines what type of data and how much data will be stored on the server as well as when the data will be transferred to and from the server.</li> <li>• The organization is not limited to when it can utilize the cloud-based technology.</li> </ul>	<ul style="list-style-type: none"> <li>• The supplier specifies what type of data and how much data will be stored on the server (excluding protective rights).</li> <li>• The supplier specifies when the organization can access the cloud-based technology.</li> </ul>

The determination of whether a cloud computing arrangement contains a lease and the resulting accounting can significantly impact an organization's balance sheet and target metrics through the recognition of an additional asset and liability. In addition, certain policy elections related to lease costs (e.g. expedient to treat lease and non-lease components as a single component) may cause the nature and extent of the costs to be capitalized as part of the lease asset to vary. Further, the presentation and subsequent accounting and expense profile for the arrangement will vary depending on whether the lease is classified as a finance or operating lease. With these factors in mind, organizations should carefully evaluate their cloud computing arrangements to determine whether the equipment being used in the arrangements represents a lease.

## Illustration of impacts of certain potential cloud computing contract structures

Minor differences in how a contract is structured can result in differing expense recognition patterns including:

- Operating expense being recognized immediately as incurred
- Expenses being deferred over the life of the contract (e.g. cloud computing service arrangement or operating lease)
- Expenses being capitalized and recognized as interest and amortization (e.g. finance lease or internal use software development)

Due to the size of many cloud implementation projects, an organization's move to the cloud may have impacts on key performance indicators (KPIs) and overall financial statements; for example, EBITDA, working capital, debt to equity ratio, return on assets may be impacted by the structure of these arrangements.

The new cloud computing accounting requirements provide for an opportunity to defer certain costs incurred in cloud computing arrangements that are service agreements. While this can be beneficial to an organization, allowing for the deferral and recognition of certain costs incurred in the development phase over the life of the contract, it may not have the desired impact an organization is looking for when factoring in all financial measures and budget objectives.

To illustrate some of the considerations to meet the expense recognition objectives of an organization as they invest in the cloud, let's follow Company X's cloud adoption efforts and illustrate a couple of paths to the cloud resulting in significantly different financial statement and budgetary outcomes while obtaining effectively the same operational end state.



## Background

Company X is a large multi-location organization that reports using US GAAP and has adopted the new cloud computing accounting requirements. It is a fast-growing business that relies heavily on its on-premise technology and has recently identified the necessity to move to the cloud to provide more flexibility to support its decentralized employee base as well as scalability to deal with its growth. Company X is planning on entering into a 3-year cloud contract with CloudProvider under which all of its data and applications will be migrated to the cloud.

For the purposes of the analysis, Company X will be looking to acquire access equivalent to 1,000 terabytes of space on CloudProvider's servers. Upfront configuration costs, data migration, and application development costs are the same under each scenario as these costs are not the focus of this example. Service level agreements (SLAs) and all technical aspects are considered to be comparable for the illustration. Company X cannot take possession of the software arrangement. CloudProvider and Company X's Information Security and Legal departments have agreed that the technology options explored provide the necessary level of security, and operational benefits, challenges, and risks are consistent between the technology options such that the deciding factor in the structure of the arrangement will be accounting treatment.





For contracts that contain leases (i.e., Scenarios 2 and 3), Company X would generally be required to account for non-lease components (e.g., maintenance and other ongoing service costs) separately from the lease component. However, ASC 842 provides lessees with the option to elect, as a practical expedient, to combine lease and non-lease components, and account for the combined component as a lease. Companies should carefully consider the impacts of electing this practical expedient based on their desired accounting outcomes.

Scenario 1 – Operating expense treatment (Service)	Scenario 2 – Capitalization (Finance Lease)	Scenario 3 – Capitalization (Operating Lease)
<ul style="list-style-type: none"> <li>• Contract provides Company X with 1,000 terabytes of space</li> <li>• Space in the cloud is within domestically located server farm</li> <li>• Space provided is part of a larger server and while Company X's data and applications are segregated from other organizations' data and application through logical partitioning, Company X is unable to specifically identify which server its information resides on as the license does not specifically identify the server(s) that hold Company X's information</li> <li>• CloudProvider has ability to move data to another server and perform upgrades without Company X's expressed request</li> <li>• Autoscaling is included with the contract</li> <li>• Annual cloud hosting fee is: \$720,000 (paid annually in advance)</li> </ul>	<ul style="list-style-type: none"> <li>• Contract provides Company X with 1,000 terabytes of space</li> <li>• Space in the cloud is within domestically located server farm</li> <li>• Company X's data and applications are segregated from other organizations' data and application by being part of dedicated servers which are specifically configured for Company X's requirements and can be identified by serial number</li> <li>• Company X's has direct say in any upgrades to its servers and CloudProvider is not able to make changes without the direct request of Company X</li> <li>• Autoscaling is included with the contract</li> <li>• Annual cloud hosting fee is: \$790,000 (paid annually in advance)</li> <li>• Fair Market Value (FMV) of servers are \$825,000</li> <li>• Economic life of servers is four years</li> </ul>	<ul style="list-style-type: none"> <li>• Contract provides Company X with 1,000 terabytes of space</li> <li>• Space in the cloud is within domestically located server farm</li> <li>• Company X's data and applications are segregated from other organizations' data and application by being part of dedicated servers which are specifically configured for Company X's requirements and can be identified by serial number</li> <li>• Company X's has direct say in any upgrades to its servers and CloudProvider is not able to make changes without the direct request of Company X</li> <li>• Autoscaling is included with the contract</li> <li>• Annual cloud hosting fee is: \$790,000 (paid annually in advance)</li> <li>• Fair Market Value (FMV) of servers are \$880,000</li> <li>• Economic life of servers is five years</li> </ul>

Based on analysis, Company X's determines that Scenario 1 falls under the guidance provided by the new cloud computing accounting requirements – computing arrangement that is a service contract.

Scenario 2 is a lease (specified asset) which should be accounted for under the guidance of ASC 842, Leases. Further, as the contract under Scenario 2 is for 3 years and the estimated economic life of a server is 4 years and FMV is \$825,000 meaning Company X will be utilizing 75% of the useful life of the asset (major part of remaining economic life) and the net present value of payments is more than 90% of the fair value (substantially all of the fair value) and therefore should be classified as a finance lease.

Scenario 3 is a lease (specified asset) which should be accounted for under the guidance of ASC 842, Leases. However, unlike Scenario 2, neither the test for major part of remaining economic life nor the test for substantially all of the fair value are tripped due to a higher FMV estimate and longer estimate of the economic life of the servers. Therefore, the lease is an operating lease for accounting purposes.

The results of these differences in the structure of the contract result in significantly different accounting treatment illustrated as:

<b>Overview and Financial Metric Impact</b>			
	<b>Scenario 1</b>	<b>Scenario 2</b>	<b>Scenario 3</b>
Type of Arrangement	Service contract	Finance lease	Operating lease
Balance Sheet Impact	No impact	ROU asset and liability	ROU asset and liability
Type of Expense	Operating expense	Amortization expense and interest expense	Operating expense
Impact to EBITDA	EBITDA = Net income	EBITDA > Net income	EBITDA = Net income

<b>Fiscal Year End 1</b>			
	<b>Scenario 1</b>	<b>Scenario 2</b>	<b>Scenario 3</b>
Cash Paid	\$720,000	\$790,000	\$790,000
ROU Asset	\$0	\$1,527,172	\$1,553,285
Liability	\$0	\$1,500,758	\$1,500,758
Operating Expense	\$720,000	\$0	\$790,000
Interest Expense	\$0	\$52,527	\$0
Amortization Expense	\$0	\$763,586	\$0

<b>Fiscal Year End 2</b>			
	<b>Scenario 1</b>	<b>Scenario 2</b>	<b>Scenario 3</b>
Cash Paid	\$720,000	\$790,000	\$790,000
ROU Asset	\$0	\$763,586	\$790,000
Liability	\$0	\$763,285	\$763,285
Operating Expense	\$720,000	\$0	\$790,000
Interest Expense	\$0	\$26,715	\$0
Amortization Expense	\$0	\$763,586	\$0

<b>Fiscal Year End 3</b>			
	<b>Scenario 1</b>	<b>Scenario 2</b>	<b>Scenario 3</b>
Cash Paid	\$720,000	\$790,000	\$790,000
ROU Asset	\$0	\$0	\$0
Liability	\$0	\$0	\$0
Operating Expense	\$720,000	\$0	\$790,000
Interest Expense	\$0	\$0	\$0
Amortization Expense	\$0	\$763,586	\$0

## What do we do about it and next steps

A transition to the cloud is not out of the question for any company. Early collaboration between the CIO and CFO teams is an important step in optimizing the balance between the right technology solution and the company's financial objectives. Cloud computing contracts can be structured in different ways to achieve the organization's business objectives, but careful attention is necessary to contemplate the nuances and continuing evolution of accounting guidance in this area.

Company's should not rule out a migration to the cloud simply because of perceived cost and instead should consider holistically the impact to the overall organization. CIOs can take action to work closely with their CFO and controllership organizations to support the structure of their cloud computing contracts to meet certain accounting treatments.

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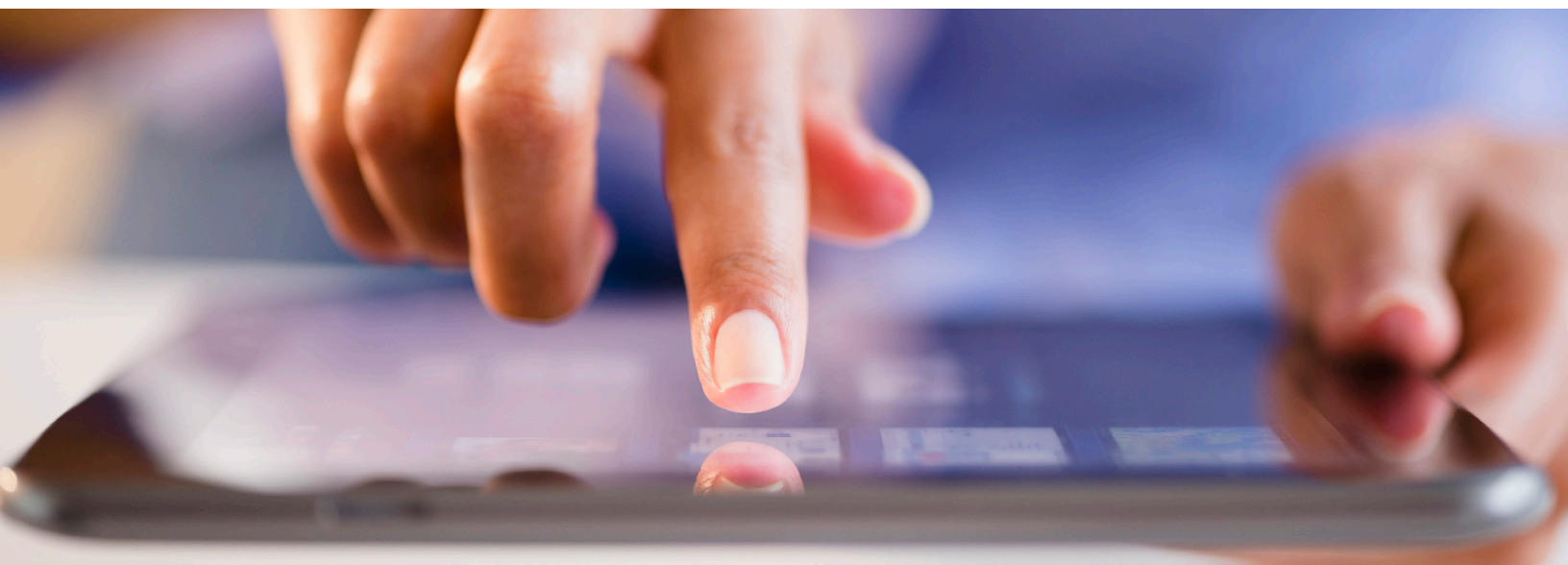
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