

# Manage the Impact of Cloud Applications on Opex and Capex Budgets

**Published:** 6 August 2019    **ID:** G00405699

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With the increasing adoption of cloud-based software solutions, it is important to manage the financial implications of this trend. CIOs must work with CFOs to determine and communicate how the shift to the cloud affects their IT operating budgets.

## Key Findings

- Enterprise applications are increasingly cloud-based, creating an escalating shift away from more traditional capital-based models to operational funding.
- There are unanticipated or overlooked operating budget increases as a result of SaaS contracts. The resultant shift from capital expenditure (capex) to operating expenditure (opex) causes budgetary and cost management pressures in many organizations.
- The possibility for errors in accounting treatments based on misunderstandings and lack of clarity is increasing.

## Recommendations

To plan for ERP and other enterprise software changes:

- Work closely with your CFO, auditors and external financial and tax advisors to correctly determine your options, and establish the appropriate accounting treatment of all of your enterprise SaaS costs. Ensure your approach complies with standards and maximizes your ability to secure funding for your budget.
- Analyze your current vendor application supply agreements and related spend to fully budget for the true impact of application SaaS on your total operating costs.
- Investigate your vendor's product roadmap for enterprise solutions and determine the impact for your current and future cost position. Prepare an opex/capex impact assessment to communicate to the CFO.

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## Analysis

In the current age, the cloud presents a new financial model with new financial considerations and challenges for all organizations. The world of capitalizing and then depreciating application software is changing. The SaaS model is increasingly becoming the norm. It represents an inherently different model where, unlike the old and more familiar purchase-based model, an organization will rarely own the underlying assets.

This evolving model is new and challenging to many. CIOs are struggling to comprehend and determine the implications on their operations, projects and budgets. CFOs, possibly wedded to more traditional capitalization-oriented models of purchase/lease and depreciate, are challenged by the changes. They are being forced to update their policies, processes and procedures, as well as anticipate and plan for changes in their budgets.

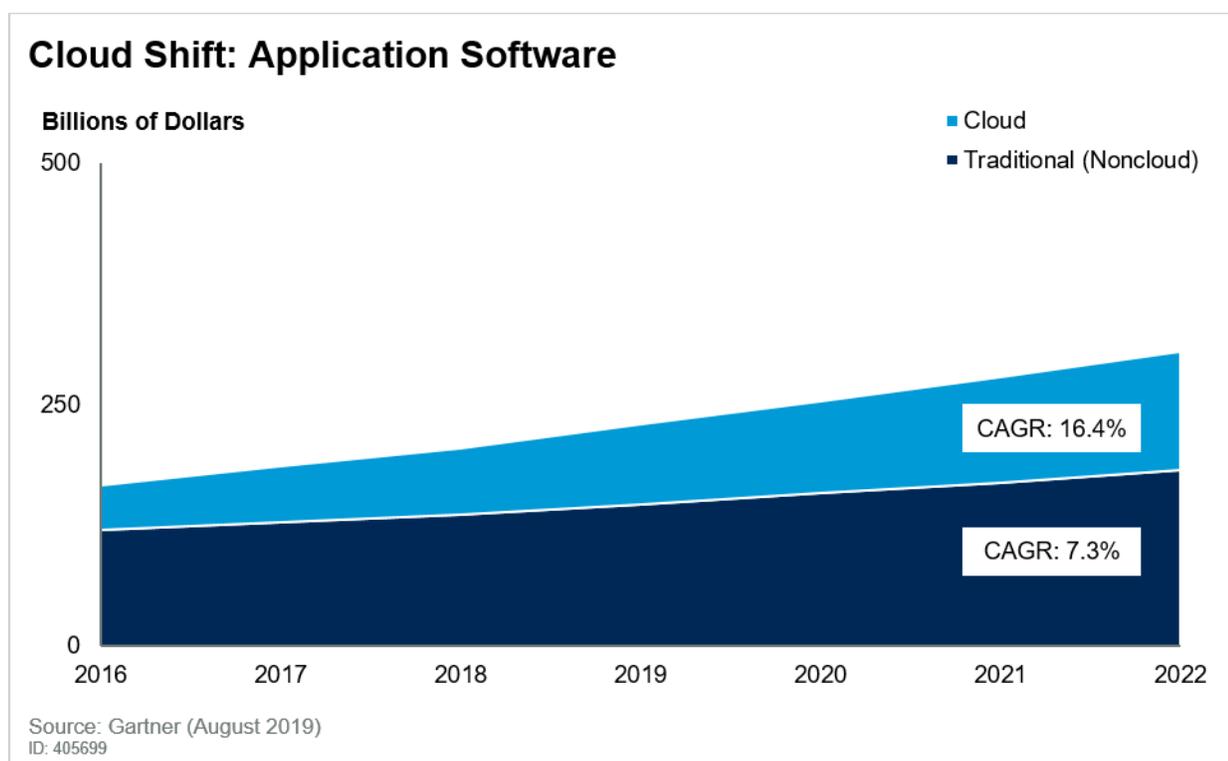
While Gartner does not provide accounting or tax advice, we present here what we see the industry doing to address this shift in line with accounting standards.

## The Shifting Applications Landscape

It's difficult to ascertain whether organizations are moving their portfolios to the cloud because they want the perceived benefits it brings or because fewer vendors are offering on-premises alternatives. Likewise, it's difficult to ascertain whether vendors are shifting their development efforts to the cloud because they believe it is a more viable delivery mechanism or if they are responding to perceived user demand. Whatever the cause may be, it is clear a shift is taking place.

From an enterprise IT spending perspective, application software has seen the greatest move to the cloud of all major areas. Forty percent of organizations' applications spend will be in the cloud by 2022 (see "Market Insight: Cloud Shift — 2018 to 2022"). This is up from 34% in 2018 and reflected in worldwide application revenue forecasts, as shown in Figure 1.

Figure 1. Market Forecast for Enterprise Applications — On-Premises Versus Cloud



Most organizations have adopted or stumbled into a hybrid architecture — a loosely coupled mix of cloud and on-premises applications. While some functionality remains on-premises, the balance is increasingly shifting toward deployment of cloud services across a range of functional domains. This shift is picking up speed as traditional on-premises vendors such as Infor, Microsoft, Oracle, and SAP have released newly architected cloud applications that are beginning to replace their on-premises flagship products.

However, several factors may delay organizations from moving to the cloud, including:

- Lack of mature solutions, use cases, industry templates and regional availability
- Difficulty in creating a meaningful business case
- Process security concerns and connectivity robustness for mission-critical processes
- Delays in some industry regulations and government restrictions adapting to the cloud reality
- “Sweating” existing assets to maximize return on investments

As such, some complex processes will remain on-premises for the foreseeable future. Cloud-based SaaS services will, however, continue their rapid adoption in service-centric organizations and in mature domain areas such as CRM, human capital management and finance.

This mixed portfolio means you will need to determine what will remain on-premises and what is moving to the cloud and understand the impact from a cost perspective. It also means you will need to keep a watching brief on your vendors’ roadmaps as they mature their cloud-based applications.

A move to the cloud is almost inevitable, as vendors are actively reducing the development of their on-premises products. The reality is that new functionality and innovation is being developed for their cloud products first. It may trickle down to their on-premises offerings at some point, but there will be a lag. Eventually, your on-premises applications will reach end of life and be superseded by cloud offerings. You must, therefore, predict when that move is likely to happen and work with your CFO and finance team to map the impacts of such a move on application spend.

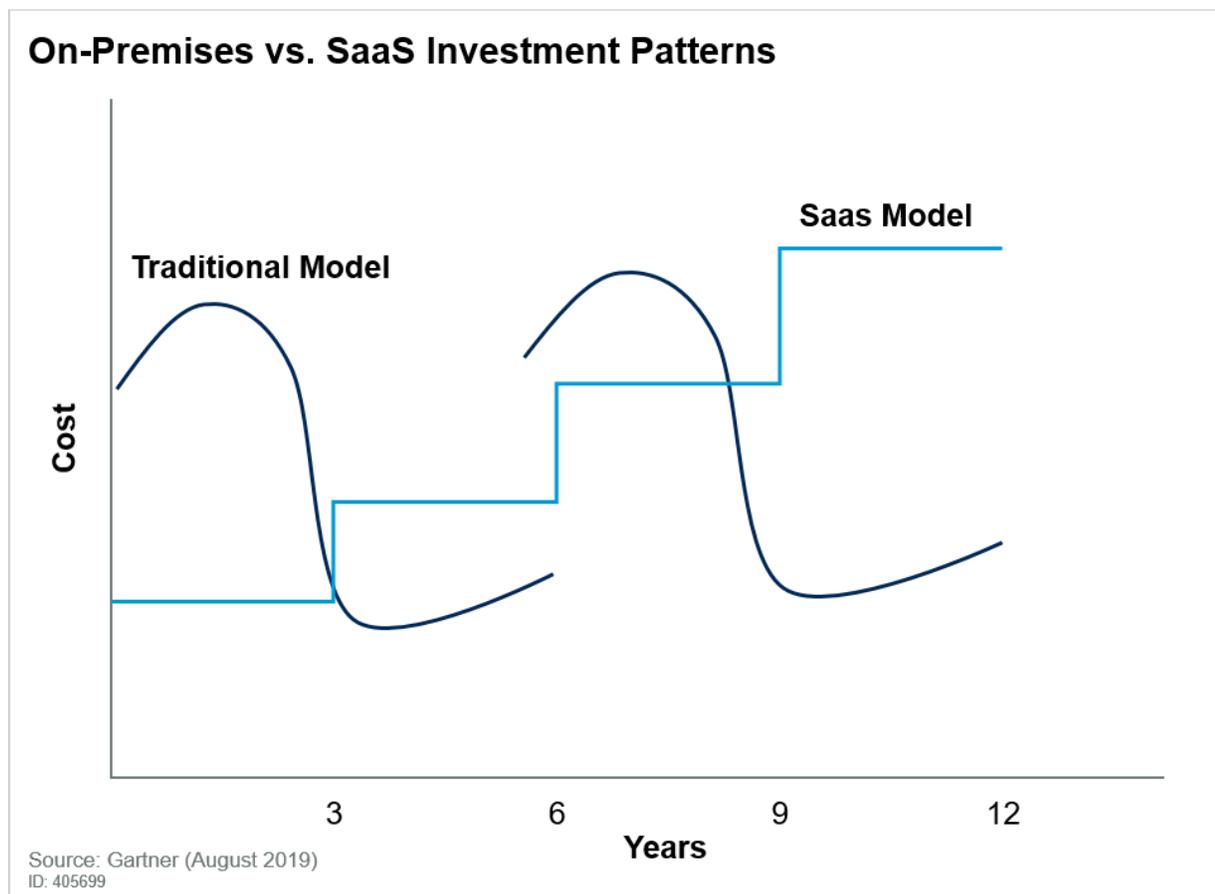
## How the Capex to Opex Shift Impacts Budgets

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Traditionally, organizations have purchased software from vendors, configured/customized it, deployed it and then supported it. From a financial standpoint, this meant the significant upfront costs were generally capitalized under applicable accounting standards and then amortized (expensed) over the life of the software. This approach meant the significant upfront costs were defrayed over the life of the software asset. This method was highly desirable for organizations where capital was preferred. This long-established model is typically embraced by most organizations and, in particular, their CFOs and finance functions.

In this model, an organization amortizes and “sweats” the asset over a period of time. This results in a repetitive cycle of reinvest, realize and sweat that requires upgrade or replacement investment at some point, as depicted in Figure 2.

Figure 2. On-Premises Versus SaaS Investment Patterns



In the new SaaS model, the customer contracts to pay a service fee in exchange for a right to access the supplier's application software for a specified term. Over time, SaaS usage tends to increase, leading to additional licensing costs for additional users, increases in data storage costs and the inevitable rise in licensing fees. This results in a plateauing pattern investment that moves ever upward (see Figure 2).

Depending on your reporting jurisdiction, different accounting frameworks and standards apply. Both International Financial Reporting Standards (IFRS) and U.S. generally accepted accounting principles (U.S. GAAP) provide specific guidance over what can be capitalized and what should be expensed (see Note 1).

Table 1 summarizes the different accounting treatments of key expenditure components in enterprise application software under the on-premises and cloud-based models. These changes will directly impact budgets of all organizations as they move to SaaS and the cloud.

Table 1. Typical Accounting Treatments of Key Expenditures for Enterprise Application Software

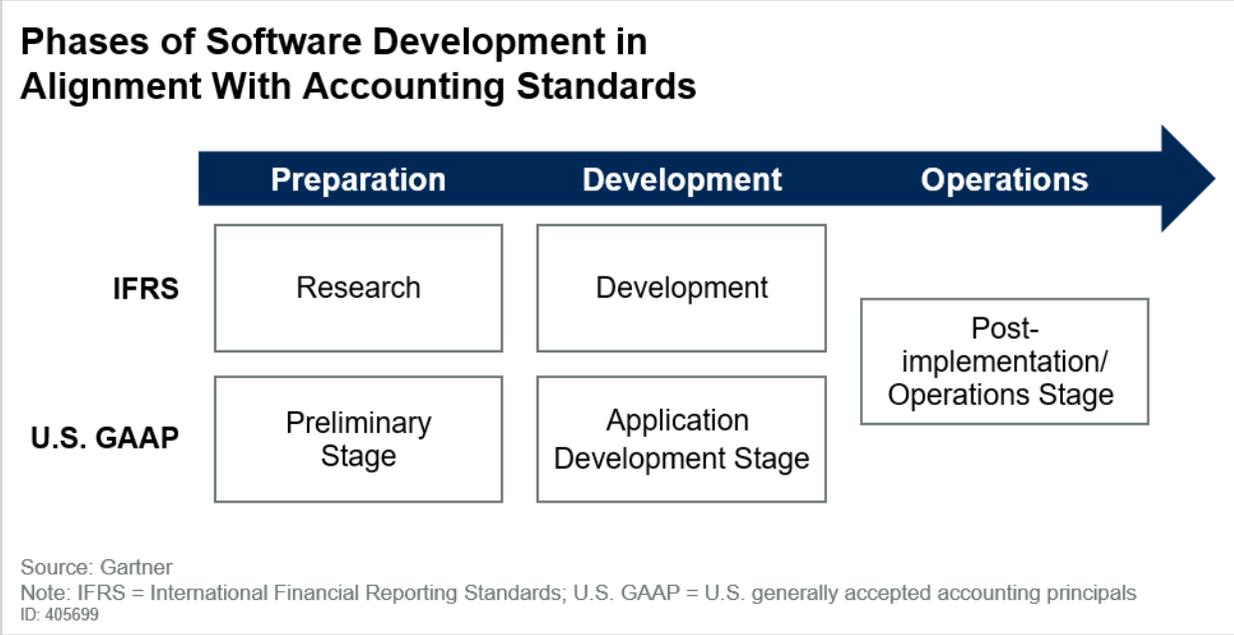
Component	On-Premises	SaaS
<b>Hardware</b>	Typically purchased or leased by customer Usually a capex item	Owned and supplied by the vendor Included under service contract
<b>Software</b>	Typically purchased or developed by organization Usually capex	Owned and supplied by the vendor. Included under service contract.
<b>Software Maintenance</b>	Provided by the vendor on an annual-fee basis Usually opex	Provided by the vendor Included under service contract
<b>End-User Support</b>	Self-provided or contracted by organization from vendor or independent party Opex	Self-provided or contracted by organization from vendor or independent party Opex
<b>Development/Implementation</b>	Elements of development/implementation usually capitalized in line with applicable standards Capex	Elements of development/implementation can be capitalized in line with applicable standards Capex

Source: Gartner (August 2019)

## What Development/Implementation Activities Can Be Capitalized?

Many organizations incorrectly presume that all development/configuration or implementation costs of SaaS must be expensed. While it is clear that the ongoing costs of accessing and using the software is typically an operating expense, some upfront development/implementation costs can be capitalized. Figure 3 shows the phases of software/application development under both IFRS and U.S. GAAP.

Figure 3. Phases of Software Development in Alignment With Accounting Standards



In looking at what costs can be capitalized and what must be expensed, the following guidance can be considered as a starting point (see Table 2). Judgment and analysis is always required at all levels in relation to the specific activities.

Table 2. Accounting Treatments for Preparation, Development and Operations Phases

Phase	Activity	Typical Treatment
<b>Preparation</b>	Preliminary activities (e.g., research, planning, investigation) <ul style="list-style-type: none"> <li>Costs incurred in preparation of the project and before selection of the product/provider</li> </ul>	Expense
	<b>Development</b>	Application/software development (internal or external costs) <ul style="list-style-type: none"> <li>Modifications to providers set offerings, developing new modules and interfaces to existing systems</li> </ul>
	Application configuration <ul style="list-style-type: none"> <li>Setup/configuration of existing provider offerings</li> </ul>	Expense (see footnote)
	Data conversion tools/software to execute conversion <ul style="list-style-type: none"> <li>Acquisition or development costs of tools to execute the data conversion process</li> </ul>	Capital
	Data conversion costs <ul style="list-style-type: none"> <li>Extraction, transformation and loading (ETL); purging, cleansing existing data; reconciliations between sources; creation of new or additional data; conversion of old data to the new system</li> </ul>	Expense
	Developing training materials to be retained and reused	Capital
	Delivery of training	Expense
<b>Operations</b>	Delivery of training	Expense
	Enhancements or additions of new capabilities/functionality	Capital
	Bug fixes, support or maintenance	Expense

Note: Judgment will be required here depending on the extent and substance of any modifications and incremental capability added through configuration.

Source: Gartner (August 2019)

### What Types of Implementation/Development Costs Can Be Capitalized?

CIOs should always check first with their CFO and external advisors, but generally speaking, the usual costs that can be capitalized during the development/implementation process include:

- External direct costs of materials and services
  - U.S. GAAP, if consumed in developing or obtaining internal-use computer software.
  - IFRS, if used or consumed in generating the intangible asset.
  - Examples include fees paid to third parties for services provided to develop the software during the application development stage and costs incurred to obtain computer software

from third parties. They also include travel expenses incurred by employees in their duties directly associated with developing software.

- Payroll and payroll-related costs (for example, costs of employee benefits)
  - U.S. GAAP, for employees who are directly associated with and who devote time to the internal-use computer software project, to the extent of the time spent directly on the project.
  - IFRS, for costs of employee benefits (as defined in IAS 19) arising from the generation of the intangible asset.
  - Examples of employee activities include, but are not limited to, coding and testing during the application development stage.
- Interest costs
  - U.S. GAAP, if incurred while developing internal-use computer software.
  - IFRS, IAS 23 specifies criteria for the recognition of interest as an element of the cost of an internally generated intangible asset.

Under both U.S. GAAP and IFRS, selling, general, administrative (SG&A) and overhead costs should not be capitalized as costs of internal-use software or in creating an intangible asset.

It is important to note that under both sets of accounting standards there is a degree of judgment and consistency required. Not all treatments of costs will be purely black or white in application.

### When Can Expenses Be Capitalized?

Beyond what activities and costs can be capitalized, another key consideration is the timing of capitalization. This differs under the two different accounting standards, which provide direct guidance on this.

#### **U.S. GAAP: ASU 350-40; SOP 98-1 (Paragraph .27)**

Capitalization of costs should begin when both of the following occur:

1. Preliminary project stage is completed.
2. Management, with the relevant authority, implicitly or explicitly authorizes and commits to funding a computer software project and it is probable that the project will be completed and the software will be used to perform the function intended. Examples of authorization include the execution of a contract with a third party to develop the software, approval of expenditures related to internal development or a commitment to obtain the software from a third party.

#### **IFRS: IAS 38 (Paragraphs 21 through 24)**

An intangible asset shall be recognized if, and only if:

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

An entity shall assess the probability of expected future economic benefits using reasonable and supportable assumptions that represent management's best estimate of the set of economic conditions that will exist over the useful life of the asset. An entity uses judgment to assess the degree of certainty attached to the flow of future economic benefits that are attributable to the use of the asset on the basis of the evidence available at the time of initial recognition, giving greater weight to external evidence. An intangible asset shall be measured initially at cost.

### Amortization Periods

The initial costs that have been capitalized should generally be amortized (expensed) over the life of the service arrangement on a straight-line basis. Under U.S. GAAP, this is qualified further as "unless another systematic and rational basis is more representative of the software's use."

It is permissible that the amortization period may be extended beyond the noncancellable period of the service, to include:

1. Periods covered by an option to extend if the user is reasonably certain it will exercise that option, and
2. Periods covered by an option to terminate if the entity is reasonably certain it will not exercise that option.

Reassess the amortization period assessment periodically and account for any change prospectively as a change in estimate.

### Budgetary Handling of Development Methodologies

Similar to uncertainty over what activities and costs can be capitalized in development projects, and when, the confusion and uncertainty is further compounded by the software/application development methodology chosen. If you use an agile development approach, rather than a more traditional waterfall one, it is still possible to capitalize costs (see "Recognizing Capex in Agile Projects").

In agile development environments, applying the rules of capitalization become more complex and so understanding and applying them becomes more critical than ever before.

CIOs moving to agile development must work with the CFO and finance to devise an approach to determine capitalized costs without resorting to wasteful detailed time tracking by individuals. For example, in SaaS implementations we have seen a contracting model where the system integrator (whether an external third party or the vendor itself) works according to approved work orders for delivering in two to three week sprints. This helps alleviate the time-tracking onus on the team and management.

No matter what approach or method you use in determining labor capitalization, obtaining buy-in from your finance and auditor colleagues will be crucial to your success. Finance and auditors are very comfortable with traditional waterfall development and using the phases of work and classifications to calculate capital expenditure at go-live. Agile breaks those rules by having more frequent “go lives” and intermixing capex and operating expenditure tasks in the same sprint.

Beyond the perceived cost advantages, most organizations are looking for SaaS type models to gain agility, speed to market or a competitive advantage. As vendors increasingly alter their software delivery mechanisms from on-premises deployment to SaaS models, the move toward SaaS will accelerate.

Now is the time for all CIOs to establish the impacts of SaaS on their application portfolios and plan for the financial challenges that will arise.

#### Acronym Key and Glossary Terms

<b>CAGR</b>	Compound annual growth rate
<b>Capex</b>	Capital expenditure
<b>Opex</b>	Operating expenditure

## Gartner Recommended Reading

*Some documents may not be available as part of your current Gartner subscription.*

“Agile Financial Governance: What Changes, What Doesn’t”

“Tell the CFO the Agile Team Isn’t Asking for a Blank Check”

“Opex vs. Capex: CIOs Should Partner With CFOs”

“Market Insight: Cloud Shift — 2018 to 2022”

“Stop Chasing Rainbows and Unicorns: Learn From ERP History to Maximize the Value of Postmodern ERP Strategies”

“Coping With Customization: Managing Changes to Cloud ERP”

“4 Things You Need to Know Before ‘Soaring to the Cloud’ With Oracle ERP Applications”

“What Customers Need to Know When Considering a Move to S/4HANA — 2018 Update”

## Note 1 Applicable Accounting Standards

### Generally Accepted Accounting Principles (U.S. GAAP)/Financial Accounting Standards Board (FASB)

For U.S. companies and those that report under U.S. GAAP, the applicable standards referenced in this note are:

- **FASB:** Accounting Standards Update (ASU) 2018-15, Intangibles — Goodwill and Other — Internal-Use Software (Subtopic 350-40), Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract.
- **AICPA Statement Of Position (SOP) 98-1:** Accounting for the costs of computer software developed or obtained for internal use.

### International Financial Reporting Standards (IFRS)/International Accounting Standards Board (IASB)

In most non-U.S. jurisdictions, [IFRS](#) global standards are increasingly being adopted — now required in more than 140 jurisdictions, with many others permitting their use.

Applicable standards referenced in this research are:

- IAS 16: Property, Plant and Equipment
- IAS 19: Employee Benefits
- IAS 23: Borrowing Costs
- IAS 38: Intangible Assets
- IFRS 16: Leases

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