Build the Right Justification for Moving to the Cloud

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Initiatives: Cloud and Edge Infrastructure **and 1 more**

I&O leaders looking to integrate cloud services into their organization's infrastructure must first demonstrate the impact on business and financial management processes. This research helps I&O leaders communicate the benefits of cloud to the business, and plan a successful cloud migration.

Overview

Key Challenges

- Compliance, cost optimization and performance limitations prevent infrastructure and operations (I&O) leaders from migrating all workloads to the public cloud — forcing them to evaluate each workload separately to determine which will benefit from public cloud capabilities.
- Cloud initiatives shift data center costs from a capital expenditure (capex) model to an operating expenditure (opex) model, challenging I&O leaders to produce cost comparisons for the two approaches. Most I&O leaders do not have a clear understanding of the opex costs of individual on-premises workloads.
- Many enterprises prefer to use private cloud for specific, limited use cases, making it difficult for I&O leaders to justify expanded use of private cloud.

Recommendations

Infrastructure and operations leaders focused on cloud and edge infrastructure must:

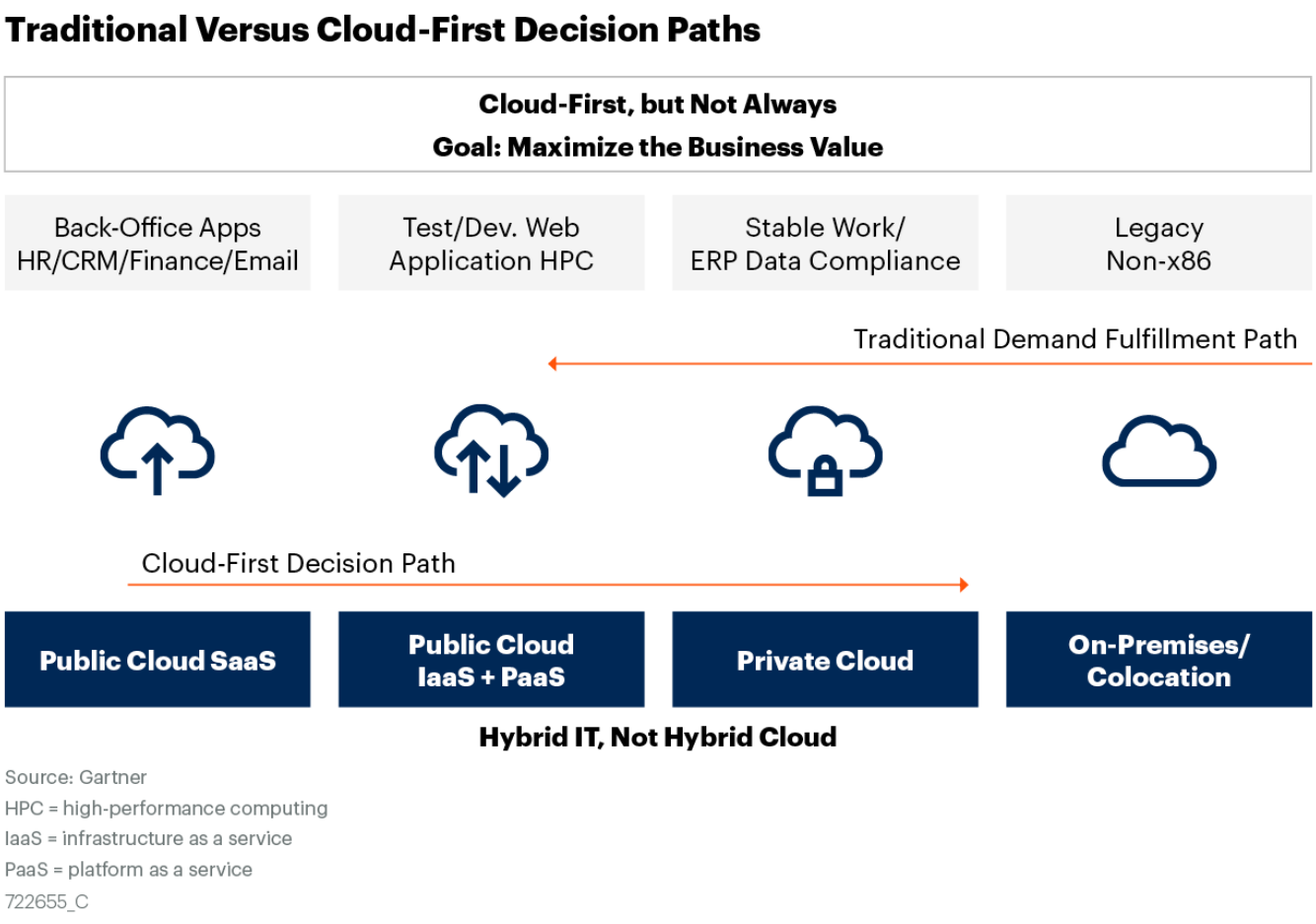
- Determine which workloads to migrate to cloud by identifying and prioritizing IT capabilities that are critical to business differentiation and deliver maximum benefits with minimal efforts and migration costs.
- Produce meaningful cost comparisons by aligning potential savings with the organization's business goals.
- Justify private cloud by combining it with other initiatives that reduce infrastructure complexity and increase agility, while fulfilling compliance requirements.

Introduction

Cloud computing plays a strategic role in enabling digital business by addressing common IT constraints, such as slower time to value, limited resources and maintenance, and incompatible systems. [1] Cloud computing (particularly in the form of SaaS) frees IT from running systems of record for the business, and enables IT staff to focus their time and energy on systems that support innovation and growth.

However, cloud migration is not a one-size-fits-all solution, due to the myriad, unique issues — both technical and nontechnical — that surround each organization's cloud adoption. Successful cloud initiatives require organizations to review and revise their existing sourcing processes in order to deal with different types of suppliers, as well as to adopt a "cloud-smart" mindset (see Figure 1).

Figure 1. Traditional Versus Cloud-First Decision Paths



Source: Gartner
HPC = high-performance computing
IaaS = infrastructure as a service
PaaS = platform as a service
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How can I&O leaders build a business case to justify the organization's cloud adoption initiative? This research offers tips to help I&O leaders promote the cost savings and business-enhancing benefits of cloud adoption.

Analysis

Prioritize IT Capabilities That Are Critical to Business Differentiation

In traditional IT organizations, most applications are hosted in on-premises environments. The public cloud is a form of outsourcing. I&O leaders who are building the justification for moving to cloud must focus on the criticality of each application.

In the enterprise, business architecture defines criticality. Critical applications support business revenue and profit. They differentiate a company's capabilities and core competencies from those of industry competitors. Not all applications are critical to support the business's core value chain. Applications such as email, HR and finance systems are important to maintaining daily business operations, but enterprises cannot achieve business differentiation by strengthening them. For this reason, moving these applications to public cloud infrastructure and platform services (CIPS) is not critical, but many companies migrate them to SaaS platforms for full outsourcing.

With critical applications, I&O leaders must determine whether the infrastructure platform is the differentiator. If an application is key to business value, enterprises use public infrastructure as a service (IaaS) and platform as a service (PaaS) to offload technical capabilities. I&O leaders must focus on platform operations to smooth this migration.

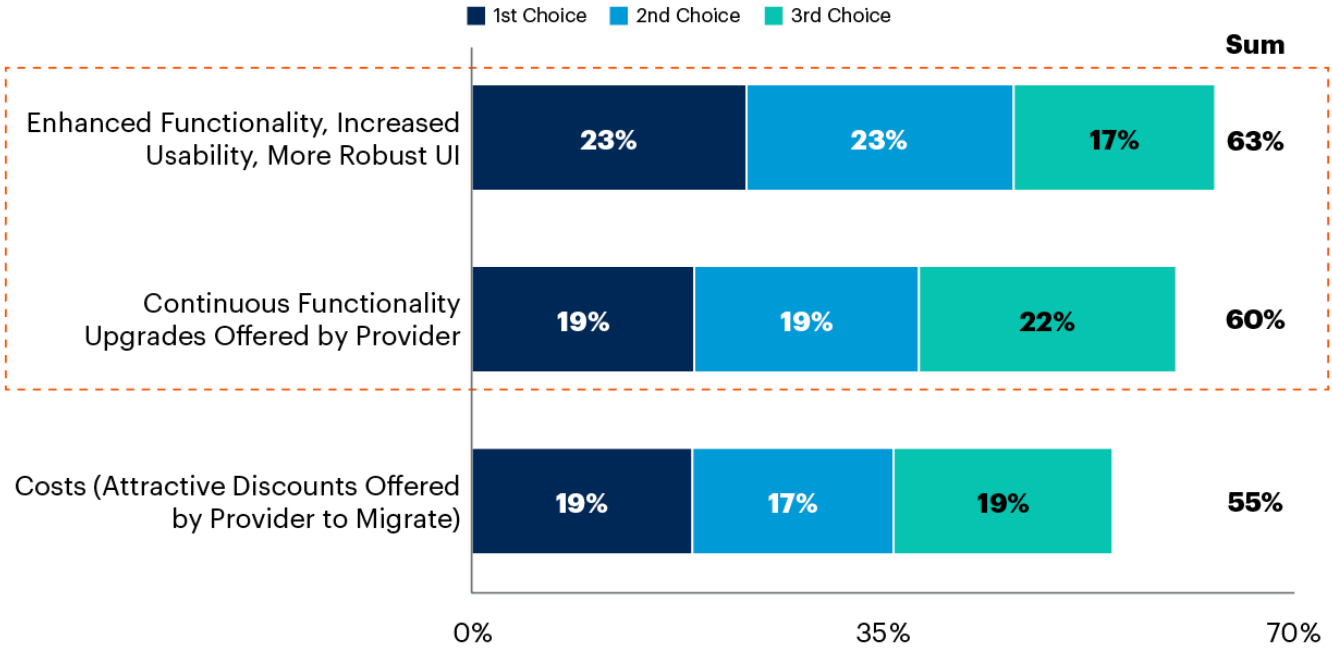
For important but noncritical workloads (and particularly for back-office workloads), migration to SaaS will continue. Customer relationship management (CRM) represents the largest of the SaaS markets, but other segments are following rapidly. Organizations are shifting other areas from on-premises to SaaS. The top functional areas already moved to SaaS includes:

- Human capital management (HCM) within enterprise resource planning (ERP)
- Email and collaboration
- Procurement and sourcing
- Customer relationship management (CRM)
- IT service management

Much of this shift can be attributed to the ability of providers to more rapidly deliver new functionality in a standardized SaaS offering, rather than an on-premises application that must deal with platform and operating system compatibility issues (see Forecast Analysis: Public Cloud Services, Worldwide). In a 2019 study, organizations that were shifting from on-premises to cloud with the same provider cited enhanced functionality, increased usability and a more robust user interface (UI) as the top drivers when migrating to a SaaS offering (see Figure 2). [1]

Figure 2. Top Three SaaS Migration Drivers

Top Three SaaS Migration Drivers
Percentage of Respondents; Top 3 Ranked



n = 412; Base: Organizations with one or more SaaS migration that has taken place over the last three to five years

Q: What were the top 3 drivers for migrating to a SaaS solution utilizing the same on-premises provider?

Source: Gartner's Study to Understand SaaS Migration

Note: Percentages may not add to totals due to rounding.

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SaaS adoption enables the organization to use industry standard practices. The one-size-fits-all model of SaaS institutes a form of discipline that is almost impossible to emulate within an IT department that supports multiple hardware, operating system and middleware versions. Such IT departments will typically be pressured into countless modifications and changes that escalate software costs. Therefore, I&O leaders must prepare the organization for changes in business processes.

SaaS does not require a capital investment in hardware and licenses, which reduces its initial costs. In subsequent years, however, SaaS may be more expensive than traditional software offerings because the operating expense remains consistent over time. If cost is the priority driving SaaS cloud migration, I&O leaders must build the SaaS cost forecast to align with business growth. They must work with the SaaS competency center to make group decisions regarding SaaS migration.

Align Cloud Initiative Outcomes With Business Goals

In on-premises data centers, system hardware and software are assets owned by the organization and are therefore capital expenditures. When engaging public cloud IaaS, the organization does not own the assets being used. This shifts the expense type from a capital expenditure to an

operational expenditure. In this model, costs are measured according to service usage, like a utility. This usage model may not be a fit for organizations that have investment and budgeting processes that are focused on capital rather than operating expenses (such as manufacturing, energy and government organizations). I&O leaders must work with the CFO to evaluate the impact of cloud initiatives on the organization's finance model.

Making an effective case for a cloud-migration project depends heavily on citing the right justifications. Consider which of the following would resonate within your organization:

- **Agility and scalability** — The resource is pay-as-you-go. If an application is designed properly, it is easy to scale in a short period of time.
- **Business innovation** — Cloud enables lower barriers to entry for innovation and prototyping. It is expensive and time consuming to build testing and development infrastructure in-house. The cloud provider may offer more advanced functional capabilities in the areas of advanced data analysis and processing.
- **Broader geographic distribution** — The global distribution of cloud infrastructure and platform services (that is, IaaS and PaaS) enables applications to be deployed to other regions quickly and more cost-effectively.
- **Cost optimization** — Use functions based on business demand to build and compare the traditional IT cost model and a public cloud cost model (see Can You Save Money Migrating to Cloud IaaS?).

In addition, I&O leaders can align the cost benefits of cloud migration with the following business-optimization areas:

- **Increased application availability** — The major IaaS and PaaS providers have demonstrated high levels of security and reliability. If you have the right application design, you can increase application security and availability accordingly (see Clouds Are Secure: Are You Using Them Securely?).
- **Shorter project times** — Cloud IaaS is a good approach for Mode 2 trial and error, offering the speed required to test the business model's success.
- **Functions basis** — Build a cost or revenue forecast based on the ability to reduce the cost using new functions or to drive new sources of revenue using new data analytics capabilities.
- **The technical flexibility** — This offloads the responsibility for the configuration and operation of servers, storage, the network and data centers. I&O leaders can build the infrastructure-as-code delivery model and modernize applications and services.**Security improvement** — Use automation to build immutable infrastructure. This approach can improve the infrastructure security fundamentally in terms of automation, templates and elasticity.

For a summary of benefit metrics, see Using Enterprise Architecture to Maximize Cloud Strategy Business Outcomes.

I&O leaders can assess potential outcomes and the magnitude of impact to create a comprehensive justification for cloud adoption that aligns with the organization's business goals and objectives. This will serve as a guide for all architectural considerations (see Figure 3).

Figure 3. Use a Benefits Worksheet to Facilitate Cloud Ideation Activities

Use a Benefits Worksheet to Facilitate Cloud Ideation Activities

Benefit Groups	Example Benefits	Benefit Impact Level
Cost Benefits	Increase ROI by Decreasing Labor and Infrastructure Costs	Medium
	Lower Capital Expenditures	High
	Lessen Budget Risk	Low
Increased Operational and Organizational Agility	Eliminate the Lag Between Business and IT	Medium
	Ensure Organizational Agility	Low
	Instantaneously Scale Up or Down in Line With Consumption	High
	Avoid Costly Upgrades, Wait Times and Capacity Constraints	Medium
Innovation	Outsource Non-Key Areas	Low
	Focus on Core Competencies to Maximize Competitive Advantage	Medium

Source: Gartner
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Anticipating and controlling spending levels on public cloud IaaS is not a straightforward process. Organizations new to public cloud IaaS may not understand the fundamental issues that contribute to unnecessary spend. The justification must include the cost model. A comparison of public cloud and on-premises costs is shown in Table 1.

Table 1: Public Cloud Versus Traditional IT

Traditional IT ↓	*Public Cloud* ↓

Traditional IT ↓	*Public Cloud* ↓
Asset costs include those related to server hardware, storage hardware, network hardware and software licenses	Infrastructure costs include those related to server capability, storage capability, network hardware and software licenses
Labor cost of hardware maintenance	Professional service costs
Network bandwidth	Network bandwidth
Outsourcing costs	Managed service costs
Physical data center cost	

Source: Gartner (September 2020)

I&O leaders can use Gartner's template to build the framework for justification (see How to Create a Data Center Cost Model Suitable for Public Cloud Comparison).

Launch Private Cloud With Initiatives That Reduce Complexity, Increase Agility and Ensure Compliance

Private cloud is one choice for traditional infrastructure modernization. Business demand for private cloud is focused primarily on accelerating the application deployment cycle, thus improving reliability and availability (especially in highly regulated industries). Cost savings are not always the first priority of businesses, and business and IT may not want to change the funding and operation models at the first stage of cloud adoption.

In this case, reduce the complexity of the private cloud project by avoiding advanced features such as metering by hour and serverless computing. Virtualization automation (VA) is the ideal first step for organizations that need to keep some workloads internal and are looking for a low-cost quick win.

VA solutions allow the IT organization to offer virtual machines (VMs), container hosts and associated network and storage resources as an automated service for administrators or end users. VA solutions typically include a self-service user interface, automated provisioning and approval workflows, and basic metering and reporting features (see The Many Faces of Private Cloud).

In a mature market, many enterprises prefer to use a hosted private cloud (through outsourced providers) to address an isolated requirement with a justified business case. However, in emerging

markets, many Gartner clients have expressed interest in building an internal private cloud with reasons ranging from security concerns and network latency to regulatory requirements.

Compared with traditional IT, the major value of a private cloud project is to improve resource utilization and reduce the network latency. In traditional IT, x86 servers run at performance levels of between 7% and 15%. This poor utilization, and the desire to increase productive performance for servers, are the driving forces behind many private cloud projects.

A typical server at low utilization levels operates at between 60% and 70% of its potential power consumption. Therefore, one way to reduce costs (in floor space, equipment, power and cooling requirements) would be to drive these servers to higher utilization levels or to create virtualized images whenever possible. This reduces the number of physical servers and saves data center resources.

Private cloud construction is a large capital investment. I&O leaders should combine private cloud with other initiatives, such as colocation, a legacy application modernization program or a hardware refresh program, to make justification easier:

- **Colocation migration** — Before a data center migration, the organization should evaluate the new site space. Private cloud can reduce the total number of racks. This is a good opportunity to make a one-time investment in private cloud for hardware consolidation.
- **Colocation future expansion** — When data center space is limited, a private cloud can improve the server CPU utilization rate through virtualization, which reduces the number of physical servers. I&O leaders should also consider a disaster recovery investment at the same time.
- **A hardware refresh program** — If the data center uses large-scale hardware refreshes rather than continual, gradual replacement, a hardware refresh is the proper time to plan a cloud-first strategy and conduct cloud migration.
- **Legacy application rebuilds** — Few businesses have the appetite to “waste” new hardware by migrating workloads to public cloud IaaS. However, workloads can be migrated gradually, whenever servers are due to be refreshed. This means that new hardware does not need to be purchased in the future.

Justifications for private cloud deployments include the abilities to:

- **Fulfill compliance requirements in highly regulated industries** — Use private cloud to fulfill regulation requirements on critical data and workloads.
- **Reduce data center space and hosting cost** — Promote physical server reuse.
- **Increase server provision agility** — Reduce the server provision time on delivery.
- **Increase reliability and availability** — Reduce the entire system’s downtime.

- **Security demand fulfillment** — Meet security needs compared with public cloud.
- **Reduce operational complexity** — Reduce complexity through standardization.

Evidence

[1] A Gartner study to understand SaaS migration was conducted online from December 2018 through March 2019 among 441 respondents in the U.S. and Canada, the U.K. and Europe, and Asia/Pacific. Companies were screened for SaaS migration (on-premises to SaaS, or SaaS to SaaS). Respondents were required to have knowledge of the organization's technology budget and to be decision makers in the overall SaaS strategy (for example, their role included evaluating SaaS-related decisions, negotiating contracts, influencing the technology budget, or influencing or setting procurement policies).

Recommended by the Authors

The Many Faces of Private Cloud

Using Enterprise Architecture to Maximize Cloud Strategy Business Outcomes

Toolkit: Estimating the Cost of Cloud Infrastructure

How to Create a Data Center Cost Model Suitable for Public Cloud Comparison

Can You Save Money Migrating to Cloud IaaS?

Clouds Are Secure: Are You Using Them Securely?

Forecast Analysis: Public Cloud Services, Worldwide

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