A Three-Part Approach to Jump-Start Your Cloud Strategy

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Defining a cloud strategy can become a convoluted process, and many companies need advice on where to begin. IT leaders should consider these best practices to guide cloud adoption.

Key Challenges

- Organizations are struggling because they are attempting to define a comprehensive strategy that covers all cloud adoption.
- IT leaders do not have a good idea of what they actually want to do with the cloud on a service-by-service basis.

Recommendations

IT leaders:

- Adopt cloud computing services from an outcome perspective.
- Define your guiding principles for cloud adoption.
- Determine what matters to you in the cloud.

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Introduction

In essence, crafting a cloud strategy is an exercise in decision frameworks. Cloud adoption is not a data center migration or a technology adoption play. In deciding how to move to the cloud, the key issues are in outcomes, establishing service guidelines and establishing metrics to measure success.

The most effective way to craft a strategy for something as broad as cloud adoption is to apply a set of principles to each aspect. Cloud services (whether public or private) should be adopted one service at a time. Instead of trying to comprehensively define a strategy that covers all cloud adoption, IT leaders should focus on establishing a set of guiding principles, and then working through each to determine what you want to accomplish. With this approach, IT leaders will find more cloud success and less cloud frustration.

Outcomes are the key determinant of whether or not a cloud strategy is effective. If you are allowing cloud consumers to achieve the outcomes with cloud computing that they seek, the effort is showing good benefits.

Follow these best practices to help guide your cloud adoption strategy:

1. Adopt an outcome perspective
2. Define your guiding principles for cloud adoption
3. Determine what cloud means to you by defining your measures of success

Also, keep in mind that for some, the approach of a playbook may work better than that of a more formal, comprehensive strategy (see "Three Factors Will Continue to Impact Enterprise Cloud Playbooks" as well as Figure 1).
Figure 1. Developing a Strategic Cloud Playbook and Risk Assessment

Part 1: Resources
Cloud Readiness
- Technical readiness
- Organizational readiness
- Compliance readiness

Part 2: Principles
How We Cloud
- How we enter
- How we manage/run
- How we exit/recover

Part 1: Goals
Cloud Returns
- Exploit (↑ bottom line)
- Explore (↑ top line)
- Accelerate (↑ speed)

Evaluates existing applications, currently used and available cloud services, organizational maturity (beyond IT), regulatory maturity and roadblocks.

States simple (!) principles for how we roll regarding cloud.

Determine (use case by use case ➔ = tactic) what you aim to gain from a move to cloud versus alternatives (DIY, DN, etc.).

DIY = do it yourself; DN = do nothing

Source: Gartner (November 2015)
In the end, you must also review a risk assessment of each aspect in adopting cloud computing. For that we have a cloud risk framework — shown in Figure 2 below.

Figure 2. Cloud Risk Model — Help Guide Build, Buy or Broker Decisions

Analysis

Adopt Cloud Computing Services From an Outcome Perspective

Decide what you want to do with cloud services before adopting them. A cloud adoption strategy along the lines of “if you build it, they will come” usually falls short of success. Too often, organizations treat cloud adoption like installing a set of technologies — something to prepare for
without any guidance on what would constitute a valuable set of deployments. Instead, IT leaders should be adopting cloud computing services from an outcome perspective.

Consider cloud services one at a time. If a developer needs a development service, evaluate that service based on how well it supports the needs of the development team. If a business consumer requires a file sync and share mechanism, select it based on convenience and facility to the business consumer, not as a technology strategy implemented across the board.

This may seem like it would create a chaotic environment, but in reality, as they adopt each service, IT leaders can review how well it meets the need of the customer. Does it reduce cost? Is it used the right amount? Does it perform to expectations? The IT organization monitors these characteristics to learn what works and what does not. Then, it can apply the lessons learned when adopting the next service. Over time, IT leaders can establish a set of principles and best practices to make cloud adoption more consistent.

To support cloud outcomes, IT leaders must survey both their cloud usage then their applications for cloud readiness.

Survey Your Cloud Usage

Try to understand exactly which cloud services are already in use within your organization, and study this base of services. Build on your successful cloud adoptions. Where things are not working well, learn what to avoid in future cloud efforts.

The vast majority of customers we survey already have a significant cloud software as a service (SaaS) presence in their business units. Don’t assume that yours is any different. Creating a list of already used cloud services can go a long way to helping you see what customers want from the cloud and what they have experienced. Focus particularly on:

- Cost of service
- Contract flexibility, or lack thereof
- Contract-out clauses
- Number of subscribers
- The business unit acquiring the service
- Perceived level of satisfaction with the service
- How many different accounts your company has with a given cloud provider
- How many different services perform the same functions
- Data privacy and location requirements
Survey Your Applications for Cloud Readiness

What can and cannot be moved to the cloud? This question often comes up early in cloud adoption. As IT leaders focus on moving to infrastructure as a service (IaaS), they often focus on lifting and shifting workloads unchanged to the cloud. While this is a suboptimal use of cloud, it is important to look at certain characteristics that can suggest whether or not an application is ready for moving to the cloud. This refers to IaaS cloud services as the means of hosting applications.

In the note "2016 Planning Guide for Cloud Computing and Virtualization," we examine cloud-first strategies as the foundation for staying relevant in a fast-paced world. In 2016, IT must prioritize the progress toward transforming the organization to be "cloud-first" to enable the expansion of digital business initiatives that are agile, scalable and unpredictable.

At the SaaS level, the question is much simpler (that is, is there a cloud SaaS that will do the job?). But in IaaS, it is important to ask how well a given application workload will operate in a cloud model.

- **Data volume and volatility:** If the application uses a lot of data that changes frequently then it may need to be moved or updated frequently. This can lead to significant data load and unload costs. Some cloud providers use tapes to load while some have import/export facilities. We do not recommend moving large volumes of data that change frequently into the cloud without key planning and evaluation beforehand.

- **Data sensitivity and privacy:** The sensitivity of data can be a reason to avoid moving an application to the cloud. Pause if the contract does not guarantee location or ownership of data. Instead, make sure the contract clarifies when and how the provider might move the data from a geographical region. Ask whether or not the provider has a local data center option in your region so that you are following local data privacy regulations. Issues such as consideration of the Patriot Act might require you to avoid using a U.S. data center, for example, although this does not exclude a company from being affected by the Patriot Act itself. Make sure you understand the regulations and policies you are trying to follow. Without these kinds of assurances, move only relatively nonsensitive data into cloud services.

- **Architecture:** Lifting and shifting an application to the cloud can be fraught with architectural limits. For example, a two-tiered client/server application with a fat client will not work well when shifted into cloud IaaS. The fat client needs to remain on a local device while you access the data remotely in the cloud, potentially creating data latency issues. Instead, rewrite the client to be a Web-based thin client or to use a remote client mechanism such as Citrix. In all cases, take into account the architecture of the application before deciding if it will work well in the cloud. Look for issues with bandwidth, access and authentication, identity management, disaster recovery, data caching mechanisms, and even whether or not the IaaS provider supports the right kind of underlying subsystems. For example, there are no truly viable cloud options for lifting and shifting mainframe applications generically. So, we will always need to evaluate whether it’s worth moving this app to the cloud. What cloud benefit am I looking for? Will a simple lift and shift deliver that? (We recommend against it.) What is the alternative? (Do nothing.) How much benefit do I lose if I do nothing? Can I realize that benefit elsewhere — or even realize more by moving something else to the cloud?
Software license structure: Many organizations overlook the simple issue of licensing requirements. Often an application that is running on-premises will not have the license rights to run that same software in the cloud. Determine whether you will need to acquire new licenses or whether you can split some licenses into the cloud while continuing to use the on-premises licenses. License units can also become problematic. Some licenses are by application, some are by user and others still may be by CPU cores. Determine whether or not your provider supports your license structure in the cloud. Cores in IaaS, for example, may not even be an option from the provider. Likewise, in the cloud you may have users who aggregate application access.

Integration and backhaul connections to on-premises capabilities: Plan backhaul connections to on-premises to fit within the bandwidth needed to support the applications. In addition, there must be an established way of integrating your network with the cloud provider to maintain security of connections. Avoid applications that are deeply integrated with other on-premises applications as cloud choices until you can redesign them to maintain those connections in a native cloud mode.

Bandwidth costs: Establish how much increased bandwidth will be required to support use of applications in the cloud. This can be a significant cost increase given all users must now have full-time access to the services. Offline access to cloud applications is normally not an option, and certainly not unless you redesign for that function.

Unique critical core systems: Moving these to the cloud is problematic since no cloud providers will support deployment of one unique critical system for a client. The IT organization would make the movement into IaaS on its own. These are not great options for cloud migration.

Replacement: The easiest choices to move to the cloud are applications that work independently of others or are discrete workloads with limited scope of use. These are often good candidates to replace with cloud SaaS options as you go. There may be hundreds of these relatively stand-alone apps, which we call the peripheral systems (in a postmodern ERP strategy). Moving each to the cloud individually may be more expensive than simply leaving them on a shared and simple virtualized internal system.

Define Your Guiding Principles for Cloud Adoption

After establishing an outcome perspective, IT leaders will need to define a set of guiding principles for cloud adoption. These principles are high-level statements of how you would prefer the adoption to occur, and cover your expectations for how your associates will behave in regards to considering, adopting and using cloud services.

Guiding principles are specific to a given organization and its goals for cloud computing. However, there are some common principles to jump-start considerations.
How You Acquire Cloud Services

This principle defines how you approach buying cloud services. How deeply does your organization want to have visibility into who is acquiring which cloud services? Each adoption scenario becomes a teaching situation and allows for a more consistent view of how adoption should occur.

- **Scenario 1: Decentralized/independent service acquisition.** In this model, organizations allow different business consumers to pay for cloud services directly to the service provider, often characterized as buying by swiping a credit card. This is the most frequent mode of cloud acquisition. The challenge is that it does not generate a lot of visibility across business units, or allow for the development of exit plans, which might be vital if many small vendors are being used. You may miss synergies in contract management or service efficiency. On the other hand, business units allowed to buy this way are generally more satisfied with the results. Regardless, if you use this model, request that any unit acquiring a cloud service pay for one extra subscription for the IT department. Then, IT can be a customer of the cloud provider and perhaps intercede on behalf of the business unit when needed. Without this, the IT department is completely detached from the outcomes of the cloud consumers.

  This acquisition model also distributes the budget impact, since each unit pays for its own subscriptions. Of course, this may lead to account proliferation and little account price pressure leverage.

- **Scenario 2: Central review, distributed cloud service acquisition.** This model uses the principle of centralized review. When someone wants to acquire a cloud service, they submit a proposal or a statement of intent to a central organization. It may slow things down, hurting agility and alienating clients, but it will prevent proliferation of similar type of applications, which potentially create integration problems. The best advantage of this approach is that it allows the central authority more visibility into where business consumers' interests lie with cloud services. This can be beneficial when planning to negotiate contracts or trying to prepare for supporting help desk operations around use of the services.

- **Scenario 3: Centralized cloud service acquisition.** This principle puts in place a central cloud service procurement function, and is often the approach taken by IT departments. While it can unify cloud efforts, it usually leads to relatively dissatisfied business consumers. The effort, therefore, must be in establishing a lightweight procurement mechanism that has a very quick turnaround time. Also, decide which budgets will cover the adoption of services and how you will handle payments. Showback of charges is often used when a central budget is being mined. However, establishing how much of a cloud service to buy in this model can become an issue. Should the central authority buy too much of a cloud service or too little, it runs the risk of suboptimal cloud use. This raises a key question as to how proper sizing should be done. The first rule of thumb is to try a little and grow over time. Most cloud contracts are set up to allow easy expansion of the services but are less friendly toward contraction. Over time, you can fit this to the organization by monitoring use and growing with need.

You may have different principles for different types of system: for system of innovation maybe scenario 1 is fine, for systems of record (that typically will last decades) you may want more governance (scenario 3), while for mode 2 you may want something like scenario 2. Simple principles such as "no customer-owned data in the cloud," "no systems from our regulated list" or
“no systems from our official mission-critical list can go to cloud (but for all others we have a cloud-first policy)” can help a lot when starting with cloud strategy (you will make mistakes at first, just don’t make them with your most critical systems). This means you must acknowledge that these guiding principles must change (both as you gain maturity and as cloud offerings become even more accepted/robust).

**Account Management and Negotiation**

This principle supports the notion that a central group may negotiate on behalf of the company to get set pricing for services from a provider. This often happens with providers such as Microsoft Azure, wherein a customer organization has negotiated prices for virtual machines (VMs), compute services, data services and so on. This is valuable since the IT organization is often more familiar with the requirements of IaaS consumers and can tailor the contract to fit a number of service consumption scenarios. The success depends on how well the IT organization predicts usage patterns and the services that will be required. The downside is the possibility of winding up locked into a longer contract term, which may make exiting the service more onerous.

**Data Restrictions**

How will your organization handle data in the cloud? Regional privacy regulations may require handling data, and these requirements must be clear for all potential cloud consumers. Your guidelines should cover location and movement of data, policies for recovery of data from a cloud provider, and statements of consequences should data privacy policies be violated.

**Exit Strategies**

Do not acquire a cloud service without an established strategy for how to exit the service. In some cases this can be a simple cancellation of subscriptions, but in others it can become more complicated. How do you get data out of a cloud service after using it for a time? Where will the data be copied to? Are there penalties for cancelling the contract early? What happens to data if the company goes out of business or another company acquires it? What policies exist that define the disposition of the services in unforeseen circumstances?

**Disaster Recovery Options**

Disaster recovery should be a principle established early. It goes hand in hand with an exit strategy principle by defining what to look out for should things go wrong. Disaster recovery options should include:

- Backup service providers. Where feasible, an organization should not use only one provider for most of its cloud work. Providers that duplicate some cloud services can be helpful. This allows you to establish primary and secondary providers and to switch them periodically, to ensure you have a contingency should things go wrong. Be aware that large cloud providers offer multiple zones of operation for this kind of protection, positioning themselves to never fail completely; therefore, having a backup provider is a waste of money. As time goes on, their position may
become the norm, but today it is useful to have a second option. This is a decision for each organization to make for itself.

- Data movement services.
- Application portability.
- Multivendor operation management.
- Rapid cloud orchestration and expansion.

Other principles to consider include:

- Public versus private versus hybrid services
- Partnering with cloud intermediaries (brokers)
- Cloud integration options

Determine What Matters to You in the Cloud

With principles defined, you must then decide on a case-by-case basis what matters to your organization. While you may have a set of outcomes established, determine how you will measure success of cloud adoption. Several options for metrics are available, and each organization will need to decide which goals are achievable and what they mean.

- **Cost savings:** This is often the first stated goal of cloud computing, but is not always as successful as many would like it to be. If it is a concern for your organization, determine what constitutes reduced costs. There must be a model for establishing what current costs are in order to have a basis for comparison. Without this, cost-saving efforts usually do not pay off. In addition, track the effect of cloud use.

- **Efficiency/agility:** Establish metrics for measuring these. Some organizations use number of servers, number of VMs or turnaround time on service changes. No matter which metrics you choose, track them regularly to see if they are effective.

- **Responding to demands:** Many organizations are moving to cloud computing because senior leaders have made the decision for them. Although this is not the best reason to adopt cloud computing, it remains fairly common. Identify some specific use cases where you can successfully apply the cloud by determining what the sponsor of your cloud move sees as valuable. If there is nothing, establish a scenario of your own. After making a successful cloud adoption, the argument that certain other scenarios are not good for cloud deployment is much simpler. Without such a two-part approach, a reactionary cloud movement will generally lead to dissatisfaction.

Consider other goals of cloud adoption:

- Data center modernization
- Server refresh cycles
- Innovation
Shifting capex to opex

Gartner Recommended Reading

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

"Use SaaS Applications in a Postmodern ERP Strategy to Drive User Acceptance and Process Improvement"

"Postmodern ERP Strategy Is Key to Success With ERP Initiatives"

"How to Develop a Postmodern ERP Strategy"

"What Can Gartner’s Pace-Layered Application Strategy Do for an Enterprise’s Business?"
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