INTEGRATED IT

Key Decisions in Cloud Adoption

Questions to ask yourself when considering enterprise cloud computing for your business.

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INTRODUCTION

Over the last decade, cloud computing has proven to be a revolutionary development for enterprise computing and dramatically changed modern business practices. As computing, networking, and data storage technologies have evolved over the years, the concept of moving computing to the cloud has become increasingly common among businesses looking for a competitive advantage and improved return on investment (ROI) from the information technology (IT) environment.

As with any new technology, though, if done improperly, adopting cloud computing can be time-consuming, expensive, and difficult to execute properly. And even under the best circumstances, it needs to be executed carefully, especially given the many different types of cloud computing and strategies for implementation.

Fortunately, organizations like Integrated IT have developed deep experience in preparing for, executing, and supporting cloud computing deployments. We have taken our learnings from past projects and created this guide to help you think through the different cloud computing options and prepare for a successful cloud migration.

IS CLOUD RIGHT FOR YOUR ORGANIZATION?

Naturally, this is the first and foremost question to ask yourself when considering cloud: Is cloud really right for you?

For the overwhelming majority of organizations, the answer is yes, in some form. As of 2019, 94% of enterprise businesses use some degree of cloud services. Moving to a cloud infrastructure has unique benefits that nearly any type of organization can take advantage of. Cloud users can expect, with proper management of resources:

Control over your IT spend

Cloud lets you scale up and down dynamically, as required, to meet your needs. That means less time waiting for hardware acquisition, no slowing down your operations, and no hosting or system administration costs piling up to meet your demand.

Predictable ROI

Monitoring and measurement is far more in-depth and reliable than physical IT infrastructure deployments. This, paired with the aforementioned cost savings, allows you to know exactly what your costs should be and how to optimize them.

Protection from downtime and outages

With the cloud, you can be confident that hardware failures and system maintenance will not interrupt your critical workloads and business continuity. Cloud service providers (CSPs) like Microsoft Azure® -- the platform recommended by Integrated IT -- provide global architecture redundancy to eliminate risk of system failure.

Security and compliance is standard

Most CSPs, including Microsoft, make it their business to ensure your data is safe. These environments are built to meet compliance requirements such as GDPR, HIPAA PCI-DSS, and more. They also offer tools such as cloud-native backup, automated replication, integrated monitoring and policy management, vulnerability scanning, and more to help improve security.

A massive ecosystem of tools and services

Major cloud platforms have ready-to-run tools and applications pre-configured and tested. This makes the initial set-up and expansion of environments much easier and more powerful. Microsoft Azure, for instance, has over 6,000 native services pre-configured to run on their platform and support your business on day one.

IS CLOUD RIGHT FOR YOUR ORGANIZATION?

Still, cloud is not suitable for all uses. Some organizations whose business has unusually stringent security requirements may be unable to leverage the cloud in some parts of their organization. This may be the case for organizations in aerospace/defense and some types of healthcare. While the cloud can often be as secure or even more secure than a on-premises cluster, data must still move into the cloud and out of the cloud through public networks, which not be acceptable for some situations.

Another reason cloud may not be for you is unusual performance requirements. For most enterprise business applications and day-to-day workloads, the performance on cloud will never be a problem. However, if your team needs extreme performance for artificial intelligence (AI), high-performance data analytics, or similar workloads, you may need cutting-edge, on-premises high-performance computing (HPC) clusters.

Nevertheless, organizations with these unique requirements can still take advantage of the cloud to offload other, standard security, non-performance reliant applications s such as email and voice over Internet protocol (VoIP).

However, for most organizations, Integrated IT recommends using the cloud for the majority, if not all, of your core business workloads, which frees up internal resources for your other, more unique workloads.

PUBLIC, PRIVATE, OR HYBRID CLOUD?

Once you have decided that cloud is right for you, the next step is to define which type of cloud is best for your situation. In general terms, there are three types of cloud environment to choose from.

PUBLIC CLOUD

The public cloud is what most people think of when they say 'the cloud'. This category of cloud computing is made up of well known, publicly available platforms that are now the backbone of many web applications. Microsoft Azure, Amazon Web Services (AWS), Google Cloud are the three largest cloud platforms, with some smaller cloud services providers like IBM Cloud and Oracle also being popular choices.

These public clouds have played a huge role in the democratization of enterprise compute technology. These platforms offer what is commonly referred to as infrastructure-as-a-service (IaaS), meaning they provide compute and storage resources on a pay-as-you-go basis. Anyone can create an account with a public CSP and start running workflows, scaling from a few cores to thousands or more. This makes public cloud, without a doubt, the most affordable approach to cloud computing.

Quick Facts

- Public, multi-tenant cloud environments
- Largest clouds are Microsoft Azure, AWS, and Google Cloud
- Massively popular for day-to-day workflows and most business applications
- The most affordable type of cloud
- Generally considered to be the least secure type of cloud

PRIVATE CLOUD

A private cloud is a single-tenant cloud environment. Private clouds are either hosted on-premises or by a third party but require dedicated hardware resources to support. This is the core offering of companies like VMware and Citrix but is also offered by some large CSPs like Microsoft Azure.

Private cloud is a more expensive approach to cloud computing but is often preferred by teams with unique hardware or performance needs. Private cloud is also a good choice for organizations concerned with security, as their data is never in a shared ecosystem as with a public cloud.

For these use cases, a private cloud is a great option. However, there are some drawbacks to be aware of. Private cloud is more expensive to acquire and operate than public cloud. This option is also less feature-rich than public cloud and must be scaled up and down like a traditional on-premises environment. That means buying hardware and configuring systems, which opens you up to the capital expenses and downtime that many go to the cloud to avoid.

Quick Facts

- Single-tenant cloud environments
- Either on-premises or hosted in a third-party datacenter
- Ideal for organizations with unusual security concerns
- Allows for unique configurations and resources.
- Far more expensive than public cloud
- Less flexible and scalable than public cloud

HYBRID CLOUD

Hybrid cloud is a mix of public cloud, private cloud, and on-premises computing. This approach is more complex than either public or private clouds alone but offers unique benefits. Integrated IT recommends considering hybrid cloud if you know that multiple kinds of IT environment have critical benefits to your organization.

For instance, an engineering firm may use a hybrid cloud approach. They may have simulation workflows on a small high-performance, on-premises cluster their team shares for running simulations. To save on hardware costs and improve time-to-insight, they may run a simulation on-site, but then send that data to Azure to render and store. This saves the company time and resources by freeing up their cluster from rendering and saving on local data storage costs.

Hybrid cloud introduces complexity not found in standard cloud-only environments. Moving data from location to location requires administration expertise in-house, or an IT services partner like Integrated IT, to ensure smooth operation.

Quick Facts

- The most complex approach to cloud
- Ideal for teams that can benefit from a mixed environment
- Requires administration and expertise either in-house or through a partner
- May be a more affordable alternative to a complete private cloud

WHAT IS YOUR CLOUD MIGRATION STRATEGY?

Once you know what type of cloud you need, it is time to figure out how you are going to get there and what exactly it looks like. There are four primary types of cloud migrations. For this guide, we have listed them in order of complexity.

REHOSTING

A rehosting or 'lift and shift' cloud migration is the simplest type of cloud migration to execute. This approach means you lift applications, operating systems, and virtual machines from your current environment and push them to the cloud without changing them in any way. This is the path of least resistance and will get you up and running in the cloud faster than any other approach, while also presenting the least risk of disruption to core business activities during the migration.

Of course, there are downsides to this strategy. When you simply rehost your environment, you miss out on all the best features of cloud computing like distributed workloads and cloud-native data storage architectures. Similarly, on-premises applications and workflows may not be cloud-ready, leading to performance dips and opening the door to issues in the future.

Rehosting is the recommended approach for organizations whose purpose in moving to the cloud is to get out of managing hardware and owning or leasing data center space. If performance improvements are a primary concern for you, rehosting is likely not for you.

REPURCHASE

Also called 'drop-and-shop' or 'shift to software as a service (SaaS'), the repurchasing approach is based on replacing proprietary or legacy applications with a new, cloud-native platform or SaaS tool. This approach can often be the easiest way to better meet your teams needs when moving to the cloud.

For instance, you may find that your legacy customer relationship management (CRM) system from 10 years ago may be lacking some functionalities that your team could use. So, instead of lifting it to the cloud as is, or refactoring your application to leverage cloud feature, you can simply replace it with a more modern SaaS CRM that was built for the cloud.

Unfortunately, this is not always a possibility. Many applications do not have a SaaS counterpart, or the options available are not cost-effective. Likewise, for some core business functions, you may find that your proprietary applications provide a competitive edge and cannot be replaced.

Repurchase is often the right choice for teams with legacy applications and outdated infrastructures that need updates regardless of the cloud migration. Most teams that repurchase when moving to the cloud will need to use another migration strategy for applications they cannot shift to SaaS.

REPLATFORMING

Replatforming is the most time and effort-intensive approach to a cloud migration. When you decide to replatform, you are choosing to completely revolutionize your environment to embrace the cloud. That means every single aspect of

your application stack will be reviewed and either replaced, retired, or reconfigured to gain as much benefit from the new cloud environment as possible.

This approach brings with it the most performance and quality-of-life improvements of all the migration strategies but also requires the most significant investment. However, making this large investment of time and budget up-front can lead to the most long-term cost savings. If executed properly, replatforming can squeeze every bit of performance optimization from your environment. Of course, the more optimized your environment, the less you spend on unnecessary resources and longer workflow cycles.

The downside of replatforming is vendor lock in. The more you adapt your applications and workflows to the specifics of your chosen CSP or platform, the harder it becomes to change in the future. If you are unsure of the CSP you have chosen, or you are concerned that future technology advancements may leave you needing to change your IT infrastructure strategy, replatforming may not be for you.

If you are certain you will stay with your chosen cloud platform for the foreseeable future or know you have the time and resource to maximize the benefits or cloud, replatforming may be right for you.

APPLICATION REFACTORING

Application refactoring is the middle ground between rehosting and a complete replatforming. In this approach, organizations rehost some simpler or less performance-dependent applications, repurchasing some legacy applications, and reconfigure the remaining applications.

This approach focuses on hand-picking key applications that will be modified for specific cloud benefits you know you want before migrating them to the cloud. You are making the decision to focus your time and resources on the most critical aspects of your business and accepting that other areas are not as important. For instance, you may have a core business function that could have its ROI drastically improved by leveraging a cloud-native elastic database structure or distributing workloads across your cloud environment.

While not as affordable or easy as rehosting, this often has the best ROI of any migration approach when you compare short-term costs with long term benefits. Application refactoring also benefits from being a flexible approach to migration, as you can always optimize more applications as needed in the future.

CONCLUSION

Once you know which type of cloud you are looking to leverage and have a strategy for how to get there, you are well on your way to building a successful cloud environment. There are still many steps in the process, regardless of how you approach it, but, with an awareness of the issues and a strong partner to help you finalize planning and then execute implementation, you dramatically increase your chances of success.

That is why many organizations choose Integrated IT to manage their cloud migration. For the last ten years, the Integrated IT team of cloud experts has helped organizations of all types and sizes set up successful cloud environments. They have even been asked to help manage many of those clouds after go live.

If you are considering a move to the cloud, schedule a consultation with the Integrated IT cloud team to see how we can make moving to the cloud easy and impactful for your business.

ABOUT INTEGRATED IT

Founded in 1999, Integrated IT is an award-winning professional services provider focused on helping clients of all sizes achieve goals as diverse as making routine IT management a predictable cost or conducting a complete digital transformation.

Our technical staff, spread across the United States, support clients in a variety of vertical industries with project services, mergers, and acquisitions (M&A) transition services, and managed services.

Expertise in cyber security, business continuity/disaster recovery, cloud/hybrid cloud migration, telephony, and other areas as well as the ability to routinely bring projects to a successful conclusion on time and on budget is why many clients say that Integrated IT is “The Team You Turn To℠.”

Integrated IT® Headquarters
430 Fortune Boulevard
Milford, MA 01757

1-800-672-4968

info@integratedit.com

integratedit.com