



WHITE PAPER

////// CLOUD MIGRATION AS A STRATEGY FOR THE ENTERPRISE

Enterprise computing is undergoing a seismic change right now, bringing with it new opportunities. Companies are realizing cost savings and organizational simplicity by moving their data, services, and applications to internal and external clouds. The rapid pace of change and major shifts in technology can be hard to keep up with, unless you plan accordingly.

Read what changes are taking place and how organizations can use cloud migration as a strategy for the enterprise.

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Defining the Cloud

Narrowing down the precise definition of the cloud can be difficult. For one, due to the rapid advancement of technology, it's in a constant state of evolution. Additionally, the definition of a cloud can vary depending on an organization's specific needs and capacities. Regardless of how the cloud is specifically described, the following benefits are universal:

- Limitless capacity
- Extreme fault tolerance and self-healing
- Unified monitoring and management

With obvious benefits identified, knowing which cloud options are out there is the next step for creating a useful migration strategy. There are three primary cloud options – public, hosted, and private – each with differing attributes.

Public clouds are platforms that are available for anyone to use or purchase depending on the price and scale required. The primary public clouds are:

- Microsoft Azure
- Amazon Web Services
- Google Cloud Platform

Third party hosting providers expand the data center and often offer cloud features.

These include:

- Verizon
- Rackspace

Private clouds are strictly dedicated to an organization privately. They include:

- OpenStack
- VMware vSphere

There are also container orchestrators that run on any of the above cloud options. These would include:

- Kubernetes / Docker
- Pivotal Cloud Foundry

Transition from the Utility Computing Model to the Cloud-Operating Model

For many years, applications and systems ran directly on hardware before moving to virtual machines and the utility computing model. This ushered in cloud-like capabilities, such as enhanced resource utilization, the advent of enterprise architecture, and improved project management, but it still wasn't entirely the cloud as we know it today.



Then came the cloud itself. Moving resources to the cloud requires more than just taking advantage of containers, Platform-as-a-Service (PaaS), and hosting. It requires a mindset change for all parts of the organization and has the potential to accelerate all aspects of how software is ideated, planned, delivered, and operated yielding more scalable, stable, and secure systems.

Reasons and Benefits for Migrating to the Cloud

This mindset change starts by addressing these three primary incentives for shifting to a cloud-operating model:

- Desire to shut down data centers and refocus resources on the core business
- Need to free up IT teams from resource-intensive utility-based computing functions
- Wish to pursue new business opportunities that a cloud-operating model can bring

Accomplishing those goals can be a difficult one but the benefits cannot be overstated. These include:

- Significant cost savings
- Re-Focusing IT resources from routine functions to helping the business innovate
- Increased business agility as cloud capabilities and adopting modern practices allow for shipping software more often and at higher quality

Considerations

To justify the effort to move from utility computing to a cloud-operating model, an organization's portfolio should be analyzed and outcomes assessed. The following are likely classifications and what should be done with each:

- Deprecated – remove
- Tolerated – continue to operate in place until a reasonable replacement is implemented
- Migrated – move to the cloud
- Modernized – move to the cloud and modernize
- Replaced – create new systems subsume the old ones

As the first real step in determining the viability of a cloud migration, assessing a portfolio of applications is critical. It requires significant expertise and experience in order to diagnose the state of an application.

There Will Always Be Some Modernization

For the applications/components that will be migrated, some level of modernization will be required to make them ready for the cloud. Determining the amount of modernization needed is a function of two factors: the cost/benefit to the organization and the degree of an organization's cloud accessibility.



One important stipulation the business should apply to migrating to the cloud is that the system operates as well or better than it did before it was moved. This requirement will often drive the amount of modernization required.

In some cases, it may be discovered that to meet the goal of equivalency before and after the move that modernizing the old software is not a practical use of time or money and that re-writing the application/component makes the most sense.

DevSecOps Adoption is Key to Success

True adoption of the cloud-operating model requires changes across an organization, from IT to business departments. The largest barriers to an organization realizing benefits are lack of communication or waterfall methodologies. DevSecOps is the solution. DevSecOps is a set of processes and attitudes that contains tools and technologies designed to prevent conflicts in all phases of the product delivery.

DevSecOps mirrors and incorporates the “agile” movement whose practitioners were frustrated with the pace of software development and quality. They decided to try and make the process more concise and, at the same time, more accountable. Before DevSecOps, the perceived problems were:

- Silos within the organization – development, quality assurance, compliance, networking, servers, security, etc. – would keep the business from shipping new versions often (to fix bugs and add customer-pleasing features), or be accompanied by outages or poor quality (which diminishes customer trust)
- There would be too many “snowflakes” in the infrastructure (e.g. one-off deployments to match the immediate needs without considering or taking time to implement a viable longer-term pattern)
- Disaster recovery would not survive an actual disaster or even a significant event, which left the business vulnerable
- Development teams would be unable to innovate or take advantage of new technologies because the IT departments could not support them in a timely way

With DevSecOps, these concerns are alleviated. Additionally, it made people realize that infrastructure should be considered “cattle not pets” (e.g. that any situation that forced the organization to know or care about individual pieces of infrastructure was probably ill-considered), leading to a desire to be able to completely destroy and re-recreate infrastructure any time on demand (re-paving) without affecting the applications at all.

Magenic has helped many organizations grow in maturity of their DevSecOps practices and has seen firsthand the benefits that both the business and IT get in return.



Portfolio Analysis Yields Insights and Opportunities

As previously noted, the first step in determining if a cloud migration is appropriate for your organization is to execute a portfolio analysis. Magenic's cloud readiness assessment takes a deep dive into your organization's application portfolio to see what is required to make them ready for the cloud.

The process focuses on three areas:

- Development, security, and operations maturity and capability
- A portfolio review that aims to inventory the software systems and categorize each for disposition
- Determining what the needs of the business are in the near, medium, and long term

Understanding these three drivers, with the expertise of Magenic's cloud migration professionals, yields:

- A roadmap and set of guidance for the organization
- Cost and benefit analysis to guide decision making
- A set of migrated applications that fulfil the business requirements

This is done in three circular activities, our AAA process:

- **Assess** – Where are we now? What's next?
- **Act** – Implement solutions
- **Adjust** – Learn from experience and feed the next cycle with improvements

Get Started

The move to a cloud-operating model is no small decision for companies. It requires significant planning and a vast amount of expertise to execute the migration successfully. Magenic has helped many customers make this journey. We can help any organization, no matter its level of cloud-readiness. Reach out today to see how our cloud-readiness assessment can enable your organization to use cloud migration as a strategy for the enterprise.



About Magenic

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