

Thinking About Cloud Migration to Modernize your Apps



INDUSTRY ANALYST AGREE

By 2020, more than 50% of enterprises will run mission-critical, containerized cloud-native applications in production, up from less than 5% today.”

-- Gartner



TRANSFORMING BUSINESS THROUGH SOFTWARE

Gone are the days of private datacenters running off-the-shelf software and giant monolithic code bases that you updated once a year. Everything has changed. Whether it is moving to the cloud, migrating between clouds, modernizing legacy or building new apps and data structure, the desired results are always the same – speed. The faster you can move the more success you will have as a company.



YOUR ORGANIZATION'S CLOUD MIGRATION STRATEGY

It is important to consider the needs of your business and requirements of your apps.

- Which apps require a transformation or rearchitecting?
- Which apps need to be only partially modernized?
- Which apps can you “lift and shift” directly to the cloud?

There isn't a single, one-size-fits-all strategy for migrating applications to the cloud. The right migration strategy for you will depend on your organization's needs and priorities, and the kinds of applications you are migrating. For instance, not all applications warrant the investment of moving to a platform as a service (PaaS) model or developing a cloud native application model. In many cases, you can take a phased or incremental approach to invest in moving your assets to the cloud.

For modern applications with the best long-term agility and value for the organization, you might benefit from investing in cloud-native application architectures. However, for applications that are existing or legacy assets, the key is to spend minimal time and money (no rearchitecting or code changes) while moving them to the cloud, allowing you to realize significant benefits while reducing your upfront investment.

FOUR-STEP MIGRATION PROCESS

Migrating to the cloud doesn't have to be difficult. But many organizations struggle to get deep visibility into the environment and the tight interdependencies between applications, workloads, and data. Without that visibility, it can be difficult to plan the path forward.

To gain required visibility and map out an appropriate cloud migration strategy we suggest the following four-step process for migrating to Cloud:



DISCOVER

Catalog your software and workloads



ASSESS

Categorize applications & workloads



TARGET

Identify the destination(s) for each of your workloads



MIGRATE

Make the actual move

After cataloguing your applications be sure and categorize them in terms of the business operations they support as well as their current Life Span stage. Applications should be categorized as either “New”, in their “Vital Lifespan” or “End-of-Life”. These categories help you determine the best migration approach. For example, you are not going to derive as many benefits refactoring an application that is “End-of-Life” verses an application that is in its “Vital Lifespan”, i.e. in use and regularly enhanced.

Organizations typically choose to move to the cloud for the agility and speed they can get for their applications. You can set up thousands of servers (VMs) in the cloud in minutes, compared to the weeks it typically takes to set up on-premises servers. Each migration approach has different benefits and reasons for using it.



APPLICATION MIGRATION APPROACHES

For applications, there are three distinctly different cloud migration approaches you can take. Each approach requires varying levels of effort and delivers different levels of benefits.

LIFT & SHIFT

- migrate application as is to cloud servers

CLOUD-OPTIMIZED

- enhance your application and management infrastructure to run on the cloud, for example moving them to containers on the cloud

CLOUD-NATIVE

- re-organize your applications with micro-services so you can take full advantage of cloud scalability and inter-application integration



LIFT & SHIFT STRATEGIES

The simplest type of migration is typically known as a “Lift & Shift” migration. With this migration approach, you simply migrate or re-host your current on-premises applications to an Infrastructure as a Service (IaaS) platform. Your apps have almost the same composition as before, but now you deploy them to VMs in the cloud.

However, taking the quickest path to the cloud doesn’t mean that you will gain the most benefit from having your applications running in the cloud. You will gain the most benefits from Cloud-Optimized and Cloud-Native maturity levels where the applications are enhanced to run better and be more manageable in the cloud than they ever were on-premise.

You achieve these higher levels of cloud migration maturity by using technologies like Containers. Containers remove the friction that’s caused by application dependencies when you deploy in multiple stages.



USING CONTAINERS TO MAKE YOUR APPLICATION CLOUD-OPTIMIZED

“Docker is a software platform that allows you to build, test, and deploy applications quickly. Docker packages software into standardized units called containers that have everything the software needs to run including libraries, system tools, code, and runtime. Using Docker, you can quickly deploy and scale applications into any environment and know your code will run.”

Containers give you the ability to include application dependencies with the application itself. Containerization significantly reduces the number of issues you might encounter when you deploy to production environments or test in staging environments. Ultimately, containers improve the agility of application delivery.

Containers are a cloud agnostic solution that can be used on the cloud of your choice, on-premise or hybrid models. In short, containers offer the benefits of isolation, portability, agility, scalability, and control across the whole application lifecycle workflow. The most important benefit is the isolation provided between Development and Operations.

While using containers and other strategies to optimize your applications performance and manageability on the cloud, taking your applications a step further to be cloud-native can unlock even more business value.



MAKING YOUR APPLICATION CLOUD-NATIVE

Enterprise applications can be complex and are often composed of multiple services instead of a single service-based application. For those cases, you need to understand additional architectural approaches, such as microservices and certain Domain-Driven Design (DDD) patterns plus container orchestration concepts. Microservices offer great benefits but also raise huge new challenges. Cloud-native is an approach to building and running applications

that exploits the advantages of the cloud computing delivery model. Cloud-native is about how applications are created and deployed, not where. A cloud-native application architecture lets developers use a platform as a means for abstracting away from underlying infrastructure dependencies.



EVOLUTIONARY PROCESS

Cloud strategy development is an evolutionary process in most enterprises. Adopting a cloud strategy requires careful coordination among a variety of stakeholders, including IT and information security staff, legal teams, compliance experts, procurement specialists, and institutional leadership. Once an enterprise cloud strategy is adopted, the implementation of those strategies requires transformation in the IT organization in terms of how they develop, maintain and operation your application portfolio. But this investment pays off, often times in less than 2 years, and can greatly improve your organization's agility and security.



WOULD YOU LIKE TO LEARN MORE ABOUT HOW TO ACCELERATE YOUR MOVE TO CLOUD ?

Give us a call and our cloud experts will walk you through the process.

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