7 steps of Cloud application migration

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Contents

7 steps of cloud migration

Industry trend on application migration is seeing an upward swing; every enterprise is in the process of defining or has already defined its cloud adoption journey.

Recent reports suggest that “Cloud spending is expected to hit $530 billion by 2021”[1] and Cloud migration services market would grow at an estimated 23.9% CAGR[2]. Today, enterprises and government agencies are running applications in the cloud to optimize costs, scale business, and bring innovation faster; and even to go green.

Enterprises are developing internet facing applications, offering digitally enabled customer services which focus on better user experience and faster release of new business services. Cloud adoption is bringing significant business and technical benefits besides offering a platform for rapid innovations. However, most of the enterprises lag in cloud adoption and are not able to meet their set objectives as it requires a completely new way of building, deploying, and managing applications & their performance. Most of the tools & techniques used on premise may no longer work in Cloud.

The primary question which arises while you start your Cloud journey is whether to take a Big Bang approach or an incremental transformational approach to Cloud. Further sub questions can be; how can I mitigate the risks of this transformation, what operating model do I adopt, how do I fast track legacy transformation to Cloud etc. Cloud service providers like AWS, Azure & Google are providing out of the box offerings and partner tools/services for rapid data & application migration.

They are also incentivizing enterprises for mass application migration by partially/fully offsetting migration or platform costs or both. Thus there are significant benefits of mass cloud migration and enterprises are running mass application migration program to single cloud or multicloud (PolyCloud). Nonetheless, it is very important to follow a structural method for successful application migration/transformation program.

UST has defined a 7-step framework for rapid application migration to cloud, based on its Cloud migration learning & experience across industry verticals

1. Application discovery and assessment

This is a critical step in the successful application migration process which helps to determine application technology and infrastructure, application dependencies, and ascertain how easy or difficult is it to migrate. Most of the enterprises are spending effort & time for Cloud migration strategy, but are not able to get the desired outcome due to lack of details available around application architecture, environments, components, dependencies & configurations. These details can’t be collected solely through a data discovery tool or a workshop driven approach. UST Global uses top-down approach for application driven automated discovery & web survey to collect architecture & application non-functional details.

This approach increases data accuracy and improves migration confidence level with detailed migration plan which includes clear milestones and timelines.

2. Establishing the platform

Setting up foundational services i.e. landing zone on Cloud, starts with right account structure, network design & connectivity, organization specific security controls and operations management framework. Enterprises which do not foresee future requirements, and design & develop only based on current requirements might need to rebuild the foundational services again which will require significant time & effort.

UST has created a validation check list for assessing future requirements & right tools mapping to build a solid landing zone.

3. Implementing security controls

The next step is to understand an organization's current security requirements, analyze gaps and implement cloud security best practices. It not only includes leveraging native security controls offered by Cloud providers (such as security groups/NSG, encryption, etc.) but also augmenting the security posture based on application requirements, with industry leading 3rd party security tools. It is advised to align security controls with Cloud Controls Matrix (CCM) framework. It provides fundamental security principles to guide and assist in assessing the overall security risks on a Cloud platform and service model. UST Global' s elaborate CCM matrix aligns to CSP security service offerings to strengthen information security control , reduces and identifies consistent security threats and vulnerabilities in the cloud and provides standardized security and operational risk management.

4. Application migration

These strategies build upon the 5 R's that Gartner outlined in 2011. This is the most important step in the seven steps of migration. There are two school of thoughts for migration 1) Lift & shift migration with zero or minimal changes and rapid cloud adoption, 2) transform application while migrating to realize maximum cloud benefits, which takes longer time. UST Global developed platform addresses both these scenarios. This platform called UST Global Cloud Migration Platform is an accelerator to ensure enterprise application migration in a rapid, secure & efficient manner. It is an end to end migration tool which automates activities starting from discovering the applications to Cloud migration supporting different migration approaches like re-host, re-platform and refactor.

5. Assurance

The objective of migration assurance is to ensure equal or better user experience in terms of response time and coverage for 'functional', 'non-functional', 'data aspects' and 'operational readiness' on Cloud; thus improving overall efficiency and quality of Cloud migration. During pre-migration stage, it is important to assess and capture Cloud QA strategy, assurance risk and mitigations, understand dependencies with applications and data – build/identify critical functional test suite. It is crucial to validate that migration to cloud does not impact the application functionality and the non-functional attributes of the service, either at the same or better level of performance without compromising the security and compliance aspect of the application/service. UST Global's AssureNXT, a Next-Generation Managed Services Quality Assurance (QA) delivery platform covers both pre-migration & migration assurance activities.

6. Governance & PMO

Governance defines process, policy and criteria which is required for decision making and PMO is required to track measures of success, milestone planning & scope management. For successful mass application migration it is required to define governance model to cover security, financial, performance, collaboration & communication governance. UST Global has created a migration governance framework. It formulates acceptance criteria and success factors, to validate the scope and clearly define roles and responsibilities, related to all activities around various deliverables as part of migration to the Cloud.

Operations management Cloud operations define the process of managing and delivering cloud services and infrastructure to either an internal or an external user base. Post application migration it is important to manage Cloud environment (infrastructure/services) as well as the applications running on Cloud platform, in order to ensure optimum capacity, performance, compliance, proper backup, DR, defined service level objectives and cost optimization on Cloud. Additionally, Cloud operations management includes automated monitoring, service health check, alerting and remediation of Cloud environment. UST Global has developed BLDC (boundary less data center) platform to offer operational management services.

UST Cloud Velocity

An accelerated, integrated cloud transformation framework for a faster, more efficient cloud migration experience.

Cloud Optimization

- Consolidates under-utilized servers and right scales cloud compute instances.
- Reduces storage and migrates workloads to less expensive storage options.
- Vertically scales individual compute instances based on utilization.
- Identifies and eliminates servers not in use.
- Shuts down unused network appliances on public cloud.
- Re-tunes platform architecture.
- Controls cloud data traffic.

Cost Visibility

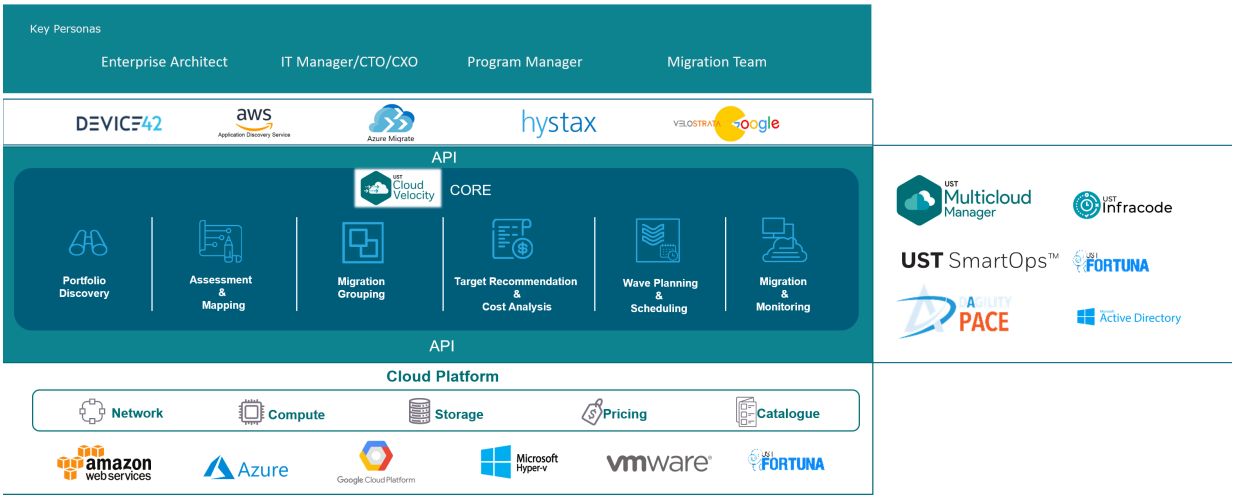
- Implements a continuous cost optimization framework that includes tools, processes, and skills.
- Establishes a process for maintaining accurate and up to date applications to infrastructure maps.
- Implements cost-management and reporting capabilities in a single pane of view.

Cloud Purchasing

- Replaces pay-as-you-go compute with reserved instances.
- Identifies potential for spot instances.
- Better use of cloud provider discounts.
- Billing analysis.
- Consolidates with cloud providers.

Cloud Governance

- Compute usage policy automated shut down, and auto allocation for pay-as-you-go instances.
- Improved alerting to identify potential cost increase events.
- Changes backup policies to reduce data backup costs.



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