Abstract

In today’s high-speed digital world, cloud computing is no longer merely a nice-to-have technology. Enterprises must move their IT infrastructure to the cloud to leverage the power of cloud computing. In the scenario of acquisition or demerger the quickest way to integrate the IT infrastructure of both companies is by moving to the cloud. This paves the way for future productivity and growth.

This paper discusses the cloud migration model formulated by Infosys which is part of Infosys Cobalt portfolio. This model helps customers to adopt phase wise migration approach from their infrastructure to the Oracle Cloud Infrastructure (OCI) without any business disruption and grow the consumption while reducing overall infrastructure costs and providing high performance.
Introduction

As a leader in the cloud technology space, Infosys has perfected a cloud migration model that helps customers lift and shift their existing technology to Oracle Cloud in 14-16 weeks. By driving accelerated cloud migration, Infosys provides customers with an enhanced user experience, high performance, and a competitive edge.

The intention is to identify more workloads from the landscape for migration thereby increasing the consumption.

Phases of Infosys cloud migration model

Infosys cloud migration model comprises four major phases. Clear activities and deliverables have been identified in each phase. Having such a model in place helps quickly initiate the cloud migration activity by asking the right questions and gathering all the required information.

<table>
<thead>
<tr>
<th>Phases</th>
<th>Assess/Discover</th>
<th>Design and Prototype</th>
<th>Migrate</th>
<th>Manage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities</td>
<td>• Understand current operations</td>
<td>• Shortlist tools/method for migration based on assessment</td>
<td>• List down preparatory tasks for existing infrastructure before lift/shift</td>
<td>• Transition to business and IT teams</td>
</tr>
<tr>
<td></td>
<td>• Analyze as-is IT landscape – HW/SW/OS</td>
<td>• Finalize the detailed server/storage bill of material</td>
<td>• Perform DEV/QA/UA migration</td>
<td>• Plan for further app/database patches</td>
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<td></td>
<td>• Discover and document infra/App/DB inventory</td>
<td>• Design for RPO/RTO needs</td>
<td>• Resolve and document migration issues</td>
<td>• Initiate capacity planning</td>
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<td></td>
<td>• Analyze options/tools for migration</td>
<td>• cloud account setup and network connectivity</td>
<td>• Assess readiness for final cutover</td>
<td>• Ongoing optimizing resource/support costs</td>
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<tr>
<td></td>
<td>• Assess LBR, DMZ and other critical setups</td>
<td>• Design for cloud architecture, network, identity and security</td>
<td>• Create final cutover plan and decide on phased approach</td>
<td>• Ensure Oracle-managed quarterly regulatory/security updates</td>
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<td></td>
<td>• Validate target system/OS/network needs</td>
<td>• Create automation scripts to reduce human effort</td>
<td>• Final cutover, DR build, sanity and validation</td>
<td>• Set up SLA monitoring</td>
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<td></td>
<td>• Assess existing issues, risks, and challenges</td>
<td>• Produce a proof of concept (POC)</td>
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<td>• Plan for further upgrades (as needed)</td>
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</table>

| Deliverables | • Inventory of Apps/DB/OS in scope | • Detailed documentation for all applications/databases | • Detailed documentation for all applications/databases | • Create transition documents including process/administration guides |
| | • High level migration strategy | • Produce network topology documents | • Produce network topology documents | • Create application cookbooks |
| | | • Create instance strategy documents | • Create instance strategy documents | |
| | | • Build automation scripts/solutions | • Build automation scripts/solutions | |
| | | • Configure Test/POC instance | • Configure Test/POC instance | |
Ready tools to accelerate migration

Infosys has multiple pre-built tools, accelerators, and templates that can be used during all phases to provide accelerated consumption, cost savings, and increased collaboration.

<table>
<thead>
<tr>
<th><strong>Tools</strong></th>
<th><strong>Accelerators</strong></th>
<th><strong>Templates</strong></th>
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<tr>
<td>Provisioning</td>
<td>Migration workbench</td>
<td>Compatibility</td>
</tr>
<tr>
<td>Terraform Based OCI Provisioning</td>
<td>Cloud Application Migration Workbench</td>
<td>Analysis</td>
</tr>
<tr>
<td>WorkLoad Migration</td>
<td>Planning</td>
<td>Infrastructure Reference Architecture</td>
</tr>
<tr>
<td>Infosys Workload Migration Tool</td>
<td>Analytical Wave Planning framework</td>
<td>Risk Analysis</td>
</tr>
<tr>
<td></td>
<td>Estimation</td>
<td>Best Practices</td>
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<td></td>
<td></td>
<td>OCI Migration Cookbook Templates</td>
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</tbody>
</table>

**Info:**

- **Provisioning**
  - Terraform Based OCI Provisioning
- **Monitoring**
  - Infosys Intelligent Ops Center
- **WorkLoad Migration**
  - Infosys Workload Migration Tool
- **Infosys Database Migration Tool**
  - Ansible/Jenkins Based Script
- **Migration workbench**
  - Cloud Application Migration Workbench
- **Planning**
  - Analytical Wave Planning framework
- **Suitability**
  - Cloud Suitability Framework
- **Estimation**
  - Migration Point Estimation Framework
Infosys wave-driven approach for OCI migration

Moving the existing technology stack of an enterprise to a cloud-based infrastructure may seem like a complicated exercise. But if executed well with the right tools and processes, it yields considerable year-on-year savings in addition to providing a competitive technological edge.

Infosys has developed a wave-based approach to move Oracle and non-Oracle workloads to the OCI platform. The entire exercise is carried out in three waves of activities:

Wave 1 – The business case for the OCI migration is established. Licenses are optimized across the organization and selected applications are migrated to ExaCS/Bare Metal server.

Wave 2 – Key business applications across divisions are migrated to OCI.

Wave 3 – Non-Oracle workloads such as Windows-based/Docker/Kubernetes applications are moved to OCI. Any other applications on third party servers are also migrated.

A wave-driven approach ensures that business-critical applications are migrated first and all other peripheral applications are taken care of in the next wave. Applications across various divisions of the enterprise are covered in one of the waves ensuring completeness of migration.

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**Wave 1**
- Create a business case and value proposition from on premise to OCI migration
- License optimization
- Predictive YOY license and overall TCO
- Migrate/upgrade selected applications and peripheral

**Wave 2**
- Migration and upgrade of other key business applications from client/3rd party datacenter to OCI for different divisions
- Migration of peripheral application related to the major applications

**Wave 3**
- Migration of non-Oracle workloads like Windows based/Docker/ Kubernetes apps to OCI
- Remaining applications residing on 3rd party datacenter to OCI
Case Study

Business situation
In 2017, a leading manufacturer of electric motors acquired the motors, drives, and electric power generation businesses of another target company. As with any acquisition, the move triggered the need for several huge infrastructure and IT landscape decisions. The client wanted to migrate the target company’s IT Infrastructure to their own co-located data center.

Solution proposed by Infosys
Infosys studied the IT infrastructure landscape of the client and the target company and proposed a complete migration to OCI. For the client, the migration would be cost-effective, scalable, and efficient in the long run.

Infosys crafted a roadmap with the wave-based approach to migrate the client’s workload to the OCI platform.

Wave 1
- Migrate Oracle EBS and related peripheral apps to OCI. Migrate all apps with Oracle DB to ExaCS for ERP application
- Migrate non-Oracle workloads such as SharePoint, iPoint, SQL Server and others to OCI

Wave 2
- Migrate and upgrade E-Business Suite 11i to 12.2.7 from 3rd party datacenter to OCI for different divisions
- Migrate peripheral ERP applications

Wave 3
- Migrate non-Oracle workloads like Windows-based/Docker/Kubernetes apps to OCI
- Migrate applications on third party datacenter to OCI
Advantages of wave-based approach for OCI migration

- Growing the consumption by identifying oracle and non-oracle workloads for migration
- Cost savings by using Infosys assets, and synergies between the infrastructure and DBA teams
- Faster cloud technology adoption using proprietary tools and accelerators developed by Infosys
- Minimal disruption of day-to-day working of the enterprise due to the phased approach

The Infosys approach to OCI migration resulted in several other optimization benefits for the client as shown in the table below:

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Improvement in provisioning time</td>
<td>60-70%</td>
</tr>
<tr>
<td>Improvement in CPU utilization</td>
<td>25-30%</td>
</tr>
<tr>
<td>Improvement in running batch jobs</td>
<td>20-25%</td>
</tr>
<tr>
<td>Effort reduction in managed services</td>
<td>15-30%</td>
</tr>
<tr>
<td>Reduction in response time</td>
<td>25-30%</td>
</tr>
<tr>
<td>Reduction in backup time</td>
<td>20-25%</td>
</tr>
</tbody>
</table>

YoY cloud-consumption trend

As the charts indicate, the client’s move to OCI using Infosys’ proven wave approach resulted in considerable cost savings and accelerated growth for the organization. Between 2017 and 2020, the client’s cloud consumption increased exponentially and corresponded to a similar growth in the user base.
Conclusion

Today, regardless of the stage of maturity, it is imperative for enterprises to leverage cloud-based technologies for greater productivity and accelerated growth. Moving to cloud platforms does not have to be a risky or high-cost activity. By leveraging the experience and expertise that Infosys brings to the table, it can be a fast, cost-efficient, and highly productive move. Infosys’ tried and tested wave-driven approach to grow consumption by analyzing the existing IT landscape, a clear roadmap, and speedy implementation of the OCI migration in phases. Enterprises will immediately begin to see tangible benefits with this approach.

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Syed has over 20 years of extensive experience in Oracle technology, analysis, design implementation and upgrade. His current responsibility in Infosys is to provide the OCI Solution to different customer for oracle and non-oracle workloads.

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