SPOTLIGHT

Sponsored by: Oracle in Partnership with TCS

Although cloud is the preferred platform for innovation, many organizations struggle with the complexity of cloud migration. Consulting partners can simplify the cloud migration journey with advisory services, implementation assistance, and ongoing support.

Accelerating Enterprise Cloud Migration with a Consulting Partner

August 2024

Written by: Dave McCarthy, Research Vice President, Cloud and Edge Services, Worldwide Infrastructure Research

Introduction

IT organizations have struggled with workload and data migrations for as long as they have had to manage infrastructure in datacenters. Applications and the infrastructure they reside on are the lifeblood of a modern business organization. The more digitized the business, the more imperative it is that the currency of the application-data-infrastructure stack be maintained.

Running a digital business requires next-generation applications, which, in turn, need highly agile and elastic infrastructure. Thus enterprises are migrating their application stacks to the cloud to gain elasticity, agility, and other advantages that are ordinarily unachievable in a legacy datacenter.

Cloud is playing a central role in the adoption of generative AI (GenAI). According to IDC survey data, 90% of organizations are in the process of acquiring, testing, and implementing a GenAI application or service. IDC predicts that by 2025, 70% of enterprises will form strategic ties to cloud providers for GenAI platforms, developer tools, and infrastructure, requiring new corporate controls for data and cost governance.

AT A GLANCE

KEY STATS

- 90% of organizations are in the process of acquiring, testing, and implementing a GenAI application or service.
- By 2025, 70% of enterprises will form strategic ties to cloud providers for GenAI platforms, developer tools, and infrastructure, requiring new corporate controls for data and cost governance.

WHAT'S IMPORTANT

Cloud has emerged as the de facto technology platform for innovation. To reduce risk and maximize business outcomes, organizations are leveraging consulting partners for cloud migrations.

On the surface, migrating workloads to the cloud — and specifically to the public cloud — should be no different from a traditional migration. Similarly, migrating workloads by refactoring, replatforming, or repackaging them or simply doing a "lift and shift" to the cloud should be a straightforward exercise.

But this is often not the case. Often, cloud initiatives fail because organizations underestimate the effort to migrate workloads to the cloud. Many others approach it in an ad hoc manner, with little consideration for the nuances of the target environment, which can vary from cloud to cloud, even though fundamental attributes such as the operating system of instances are the same.

A common theme among challenges faced during cloud migrations is the limited availability of resources to assess the organization, the workload being migrated, and the overall cloud migration road map. For these reasons, businesses are turning to consulting partners for help to reduce risk and accelerate their journey to the cloud. These partners are aiding with initial planning, migration execution, and long-term support services.

Paths to Public Cloud

Four broad migration paths that organizations take to migrate workloads from an on-premises infrastructure to a public cloud infrastructure are:

- **Rehost or lift and shift.** The workload architecture and code base are not heavily modified before migration into public cloud. This does not mean that no changes are made to the workload as there may still be a set of changes needed to execute correctly in the new environment. The key point is that the application is not re-architected in any way as it is moved to the public cloud destination.
- **Refactor or component-level upgrade.** The workload continues to function in the same manner as before, but internal changes are made in the underlying components to better leverage services available in the cloud. Examples include the adoption of a database as a service, a broader platform as a service, and native cloud–based management tools. Here, the migration integrates the higher-level services offered by the cloud service provider.
- **Re-architect or change the application architecture.** The application continues to serve the same business functionality but is now architected to operate under a cloud-native framework (i.e., migrating to containerized/serverless architectures), and architecture changes are external to the cloud service itself but internal to the application. These changes may result in the application leveraging specific cloud-native services on the public cloud.
- **Replace or move to a public cloud SaaS.** The application is replaced with an equivalent SaaS offering similar capability. In all other migration paths, aside from replacement, the user is responsible for managing the application after migration. In the case of replacing a workload with a SaaS-based offering, the end user is relieved from the responsibility of managing both the application and the supporting infrastructure.

The choice of the workload migration path is a function of two key dimensions: cloud skill set availability and workload characteristics.

The Five Phases of the Cloud Migration Journey

While selecting the right migration path for a specific workload is heavily dependent on the nature of the workload and internal skill sets, the overall cloud migration journey can be broken into five stages:

- **Experiment:** Organizations in the first phase of the cloud journey are in the exploratory phase, figuring out which cloud platform best serves their needs. It is recommended that they assess multiple cloud platforms based on technical capabilities, the inventory of services, any existing relationships with a cloud service provider, the proximity to regions and availability zones, the price index, and so forth.
- **Evaluate:** In this next phase, teams are beginning to standardize metrics and benchmarks, formalize best practices, and develop frameworks to implement an enterprise-scale cloud infrastructure adoption over time. Customers can

start assessing workloads from their IT inventory and determine the best migration path for the workload. Organizations should create a migration road map, start exploring options to automate the rehosting of workloads, and start prototyping more automated workload and data set migrations.

- **Automate:** The automate phase involves establishing standardized and automated processes for predictable and repeatable migration exercises. For rehosting workloads, migration can be automated through migration tools provided by the cloud service provider, custom-built scripts, or tools provided by third-party vendors. For re-architecting workloads, users can consider building prototypes that leverage cloud-native services or microservices. For refactoring workloads to leverage higher-order services, it is beneficial for users to prototype and establish sandboxes to leverage and build familiarity with higher-layer services (e.g., a sandbox for database experimentation).
- **Expand:** Organizations at the expand phase have established automated processes for consistent availability of cloud resources and are considering moving a broader portfolio of their workloads to cloud-based infrastructure. Enterprises must validate the migrated workloads against established business metrics (availability, performance, scale, etc.) to evaluate the success of cloud migration. For all workloads and associated automation scripts, establish application life-cycle management best practices at this stage through a CI/CD pipeline.
- **Optimize:** The optimize phase includes plans to actively manage infrastructure to provide a cost-effective and highly available infrastructure and allow all workloads to run in an optimal manner. Organizations may review initial placement decisions for migrated workloads and determine a different provider or an on-premises alternative over time. These allow continuous optimization in the usage of infrastructure and the development of an organization-specific set of best practices and policies regarding migrations and workload placements.

Considering Oracle Cloud Infrastructure and TCS Oracle Cloud Services

TCS' Oracle Cloud Services on Oracle Cloud Infrastructure (OCI) helps companies accelerate their cloud adoption journey with end-to-end capabilities across advisory services, migration and implementation, ongoing support, and managed services. As a trusted transformation partner, Oracle Cloud systems integrator and application support provider, TCS offers a single-window solution for mitigating the challenges faced with cloud migrations, from business case and ROI development to cloud capacity planning, provisioning, migrating, monitoring, and support.

OCI is a deep and broad platform of cloud infrastructure services that enables customers to build and run a wide range of applications in a scalable, secure, highly available, and high-performance environment. OCI offers a full suite of over 100+ cloud services, from application development and business analytics to integration, security, data management, and infrastructure services, including Kubernetes, VMware, Autonomous Database, and HeatWave MySQL.

Oracle offers comprehensive AI capabilities, including state-of-the-art generative AI, across its applications, data platform, and cloud services, all running on best-in-class AI infrastructure. OCI also offers Oracle's Fusion enterprise applications including enterprise resource planning (ERP), supply chain and manufacturing (SCM), customer experience (CX), and human capital management (HCM).

OCI can deliver AI and this full suite of 100+ cloud services across its distributed cloud of dedicated, public cloud, and hybrid cloud environments, anywhere in the world. Customers can work across multiple clouds to build data-driven and AI apps and run Oracle Database workloads using OCI's services running within Microsoft Azure and Google Cloud that

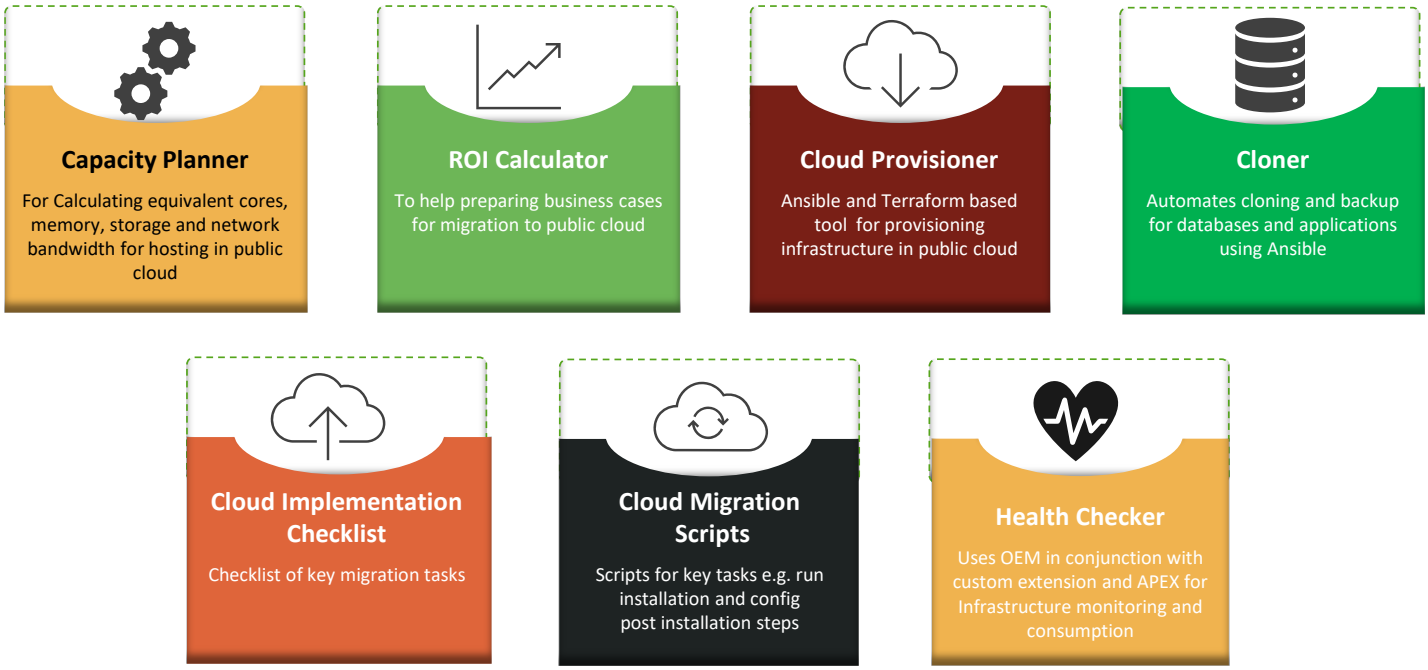
offer OCI-level performance, security, and availability. OCI offers customers the benefits of cloud with greater control over data residency, locality, and authority to address their strictest regulatory requirements.

OCI delivers these services with consistent global pricing backed by end-to-end SLAs covering performance, availability, and manageability of services. As a result, customers can bring enterprise workloads to the cloud quickly, efficiently, and cost effectively.

TCS's application modernization and an API-first experience for enterprise customers on OCI now extend to Oracle's AI offering built across its full stack, including Oracle Autonomous Database 23ai that delivers data-driven insights and curated actions using Oracle AI Vector Search capabilities. TCS has over eight years of experience helping customers migrate to OCI. The firm is also the recipient of the Partner Award for Customer Success by Oracle.

To reduce risk and accelerate cloud migration, TCS has developed seven cloud implementation accelerators (see Figure 1).

FIGURE 1: ***TCS Cloud Implementation Accelerators***



Source: TCS, 2024

TCS offers a broad range of services:

- Consultancy and advisory:
  - Capacity planning
  - Architecting and solutioning
  - ROI calculation and business case preparation

- Migration strategy and methodology

» Migration and implementation:

- Provisioning, networking, security, and deployment
- Rehost — lift and shift
- Replatform — migration from one cloud provider to another
- Re-architect — new application development

» Ongoing support:

- Database, middleware, and infrastructure maintenance
- Process and procedure documentation
- Monitoring

Challenges

Cloud infrastructure is a highly competitive market historically dominated by a few hyperscalers. As a newer entrant, Oracle has needed to prove it can provide a portfolio of cloud services that go beyond a sole focus on Oracle databases and enterprise applications.

Knowing that it would be difficult to compete head-to-head with more entrenched providers, Oracle decided to take a different approach to designing the underlying infrastructure of OCI and its go-to-market strategy. These differences have allowed the company to solve customer needs in a distinctive way.

In addition, while many organizations are successful using external consulting partners and solutions integrators to accelerate digital transformation with cloud technologies, there can be situations where projects take longer than originally expected, which impacts overall ROI. This is often the result of unclear objectives at the start.

It is important to align technology decisions with long-term business strategy and decide what level of outside help is needed. Some organizations choose to perform a knowledge transfer to internal resources after project completion, while others prefer an ongoing managed services relationship.

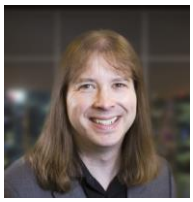
Conclusion

As leaders look to transform their businesses, cloud has emerged as the de facto technology platform for innovation. It provides the agility needed to quickly react to changing business requirements. IDC views cloud as essential to the adoption of GenAI infrastructure and the next generation of business applications.

However, many organizations lack the needed skills and expertise to be successful in the cloud. Working with a consulting partner can simplify the cloud migration journey with advisory services, implementation assistance, and ongoing support.

IDC views cloud as essential to the adoption of GenAI infrastructure and the next generation of business applications.

About the Analyst



Dave McCarthy, *Research Vice President, Cloud and Edge Services, Worldwide Infrastructure Research*

Dave McCarthy is research vice president within IDC's Worldwide Infrastructure Research organization and global research lead for the Cloud and Edge Services practice. Dave leads a team of analysts covering research on cloud and edge deployments, services, adoption trends, vendor strategies, and market dynamics.

MESSAGE FROM THE SPONSOR

Oracle offers integrated suites of applications plus secure, autonomous infrastructure in the Oracle Cloud, serving more than 430,000 customers in 175 countries. Oracle is a technology innovator, investing over $63 billion in R&D over the last 10 years. Oracle Cloud Infrastructure (OCI) provides cloud services that enable customers to build and run a wide range of applications in a scalable, secure, highly available, and high-performance environment.

Oracle's partners offer unparalleled global industry expertise that is critical to our customers' success. With more than three decades of relationships built on a powerful framework for joint innovation, TCS and Oracle have been helping clients with intelligent solutions to anticipate and prepare for the next wave of technology transformation.

TCS is an IT services, consulting and business solutions organization that has been partnering with many of the world's largest businesses in their transformation journeys for over 56 years. TCS has over 601,000 of the world's best-trained consultants in 55 countries & generated revenues of US $29 billion (FY 2024).

TCS' Oracle Cloud Services on Oracle Cloud Infrastructure (OCI) helps companies accelerate their cloud adoption journey with end-to-end capabilities across advisory services, migration and implementation, ongoing support, and managed services. We provide a one-stop solution to address organizations' challenges with flexible cloud adoption, migration, and management strategies. Being an Oracle Cloud system integrator and application support provider, TCS offers a single-window solution for mitigating the challenges faced with cloud migrations, from business case and ROI development to cloud capacity planning, provisioning, migrating, monitoring, and support.

IDC Custom Solutions

The content in this paper was adapted from existing IDC research published on www.idc.com.

IDC Research, Inc.
140 Kendrick Street
Building B
Needham, MA 02494, USA
T 508.872.8200
F 508.935.4015
Twitter @IDC
blogs.idc.com
www.idc.com

This publication was produced by IDC Custom Solutions. The opinion, analysis, and research results presented herein are drawn from more detailed research and analysis independently conducted and published by IDC, unless specific vendor sponsorship is noted. IDC Custom Solutions makes IDC content available in a wide range of formats for distribution by various companies. A license to distribute IDC content does not imply endorsement of or opinion about the licensee.

External Publication of IDC Information and Data — Any IDC information that is to be used in advertising, press releases, or promotional materials requires prior written approval from the appropriate IDC Vice President or Country Manager. A draft of the proposed document should accompany any such request. IDC reserves the right to deny approval of external usage for any reason.

Copyright 2024 IDC. Reproduction without written permission is completely forbidden.