7 KEY ELEMENTS TO ACCELERATE CLOUD ENABLEMENT FOR YOUR PRODUCTS

BEST PRACTICES FOR ENGINEERING & PRODUCT LEADERS

Because developing cloud-ready applications is the key to success in the Digital Age

An explosion in technical and digital innovations is raising expectations for faster delivery of SaaS-ready, cloud-friendly products that delight your customers and their omnichannel end users. At the same time, these enterprises are running multi-cloud and hybrid cloud platforms to leverage the latest in cloud services, cloud-native development, analytics capabilities, and more.

By 2021, more than **90% of enterprises will rely on **multi-cloud platforms.***

Does this mean that you must go cloud native or refactor all your existing products? The good news is that you can implement "incremental" cloudification so you can deliver each phase to match your customers' evolving requirements.

Whether you need to migrate, refactor or build cloud-native applications, certain considerations are essential to success.

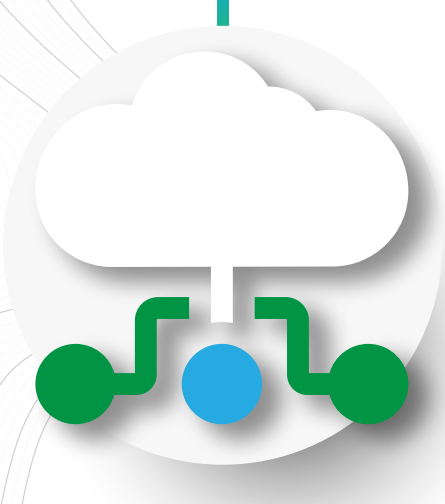
1 IDENTIFY THE TARGET CLOUD PLATFORM

- Develop a multi-cloud or cloud agnostic strategy, unless committed to a single cloud vendor.
- Determine which cloud services to apply, with minimal disruption and supported by ROI.
- Compare and contrast those services and ascertain how to map to application architecture.
- Evaluate and select the right platform(s) (AWS/AZURE/GCP) – Private Cloud > Public Cloud > Cloud to Cloud for attributes including:
  - Check managed services availability – Are the services you need available natively or you need to purchase them, which can lead to support, release and interoperability issues you cannot control.
  - Ensure compliance – Check regulatory, industry compliance, disaster recovery capabilities.
  - Establish and compare service SLAs. For example, do the provider's SLAs meet your HA and DR requirements (ex: 99.999 or 99.99999)?

2 ASSESS YOUR PRODUCTS FOR CLOUD READINESS

- Assess each app for cloud readiness considering the target cloud platform, current utility and age.
- Prioritize applications based on customer/business needs; segment by PaaS, IaaS, etc.
- Develop recommendations on how to migrate each application to a cloud/multiple clouds.
- Consider Partitioning, i.e. one application (or parts of) on one cloud, one app (or parts of) on another cloud to leverage unique services of competing platforms.
- Ensure that the app is compatible with the platform and able to integrate with the storage, messaging, management, etc. modules.
- Perform a high-level review of all of your data assets – from small, stand-alone databases to large-scale data warehouses – to determine what can be moved to the cloud.

3 REDEFINE THE PRODUCT ARCHITECTURE

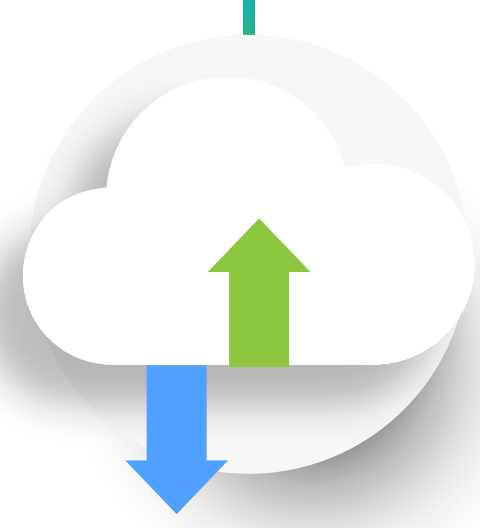


- Identify application hardware, OS or infrastructure requirements.
- Identify known dependencies (vendor affinity) and components having platform affinity.
- Determine any requirements to rewrite code and which components to re-architect first.
- Consider all regulatory, HA, BC/DR requirements for data processing, consumption and storage.
- Configure for ease of integration with on premise and other cloud platforms.
- Perform any necessary refactoring to increase agility, support containerization and portability, and reduce costs based on choice of cloud platform(s).

4 SELECT THE CONTAINER ORCHESTRATION PLATFORM

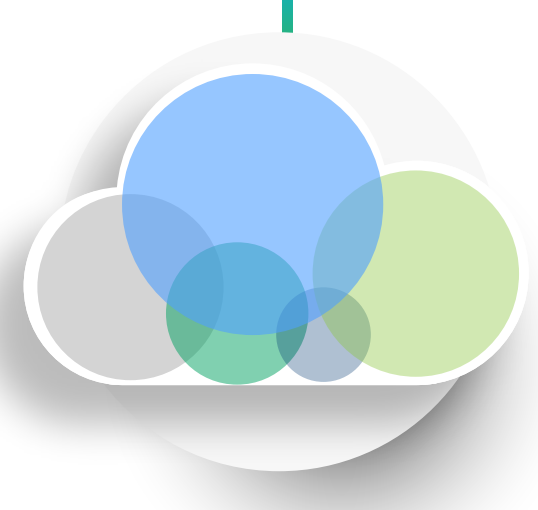
- Choose the right orchestration platform. It is critical if using microservices architecture and deploying using containers.
- Beware vendor lock-in. For example, Kubernetes provides a standard API to which all cloud providers must conform, giving you the flexibility to negotiate and switch providers.
- Assess your best options on public and private clouds. On private clouds, you may opt for the RedHat OpenShift container platform, Rancher or Platform9-based Kubernetes. On public clouds, it could be AWS-ECS, AWS-EKS or Azure-AKS.
- Consider using both to allow you to employ containerized cloud-native designs and services to build offerings that can be deployed to any orchestration platform and across multiple clouds.

5 DEFINE MIGRATION MODE & INTEGRATION LEVELS



- Employ a "hybrid" approach. Almost all cloud migrations use Site to Site, VPN, AWS Direct Connect, Azure ExpressRoute, etc. to connect with the cloud provider.
- Choose migration paths. Move the entire application at once, component by component, or service by service.
- Is Lift and Shift the right option? For a shallow cloud integration, you simply move the on-premises application to the cloud, with no or limited changes to the servers you instantiate in the cloud to run the app.
- Need deep cloud integration? Modify your application during migration to leverage key cloud capabilities – from basic auto scaling and dynamic load balancing, to serverless computing capabilities such as serverless architecture or managed services integration for portions of the application.

6 INITIATE CLOUD-NATIVE DEVELOPMENT



- Ensure that your roadmap covers all 4 tenets of cloud-native development:
  - A service-based architecture (miniservices, microservices, SOA services, etc.).
  - An API-driven approach for inter-service communication. Architect with a clean separation of stateless and stateful services.
  - An underlying infrastructure that is based on containers, and DevOps and DevSecOps.
- Let the basics be your guide:
  - Design the application as a collection of loosely coupled services.
  - Decouple all the data.
  - Facilitate communications between components.
  - Model and design for performance and scaling.
  - Make security systemic within the application (IAM).
    - Automate to reduce cost wherever applicable, ex: shut down dev servers when not in use to reduce number of running containers based on load.
    - Try to use open source version of database or software wherever applicable to reduce TCO.
- **Why choose Hybrid/Multi-Cloud?** Access multiple services and options for building and deploying cloud-native applications. For example, run development and test environments on one cloud and production on another.
  - Leverage business-critical cloud services. For example, gain more effective DR capabilities.

Go **Agile, go **DevOps**, get the **right skills**, and don't fret the ROI just yet.*

7 X·CELERATED CLOUD ENABLEMENT

- Maximize your success and reduce time to market. Partner with Xoriant and benefit from our experience in developing and securing products in the cloud, and our deep understanding of platform architecture and building for scalability and agility – the keys to realizing cloud benefits.
- Tech Stack

aws | Azure | Google Cloud Platform | docker | kubernetes

Partnership: AWS, AZURE

Sources *
TechTarget_MultiCloud
Xoriant_Blog
CTL.IO
New Relic Blog_Cloud Migration
Free Code Camp_ Containerization
ZDNET_Cloud Native

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