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Oracle Database Migration to Cloud



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Agenda

- Why migrate the database to the cloud?
- Oracle database in the cloud
- Database Migration Lifecycle
- Migration Strategies (7R's)
- Deep Dive with lift & Shift
- Q&A









Why migrate the database to the cloud?









Why Migrate Database to the Cloud?

Database Migrate means to move database/data from one platform to another platform.

There are possible reasons:

- Lack of Hardware/Compute Resources
- Database Features
- Move to cloud to reduce the current cost
- Move away from Datacenter

We all know that moving data from one place to another place is not very easy and this could be a big problem when we are not follow any strategy/planning







Oracle Database in cloud











Oracle Database in Cloud

Oracle database is RDBMS developed by Oracle company. This is a very popular database and is commonly used for running OLTP, OLAP, and mixed database workload.

Major options are available to support the Oracle database in cloud:

- IAAS (Infrastructure as a Service)
- DBaaS (Database as a service)
- Bare Metal Solutions

	AWS	Azure	Google	Oracle
laaS	EC2	VM	VM	VM
DBaaS	Oracle RDS	Not yet	Not yet	Oracle Autonomous
Bare Metal	Yes	Yes	Yes	Yes











Database Migration Lifecycle



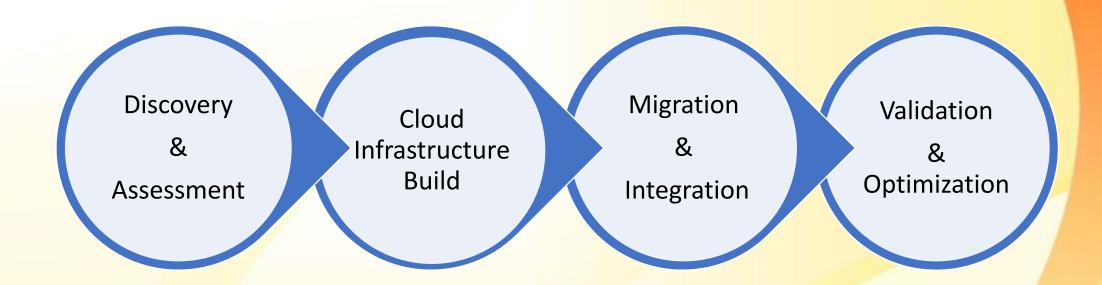








Database Migration Lifecycle













Discovery & Assessment :

Focus on cloud readiness, understand current database landscape using input provided by customers during the workshop, analyze AWR report, blockers, application dependency, etc.

• Cloud Infrastructure Build:

Provision and configure cloud landing zone as cloud services that support workloads

Migration & Integration:

Once the Landing zone is ready, migrate the database workload and integrate it with the application

Validation & Optimization:

After Migration is done, monitor the resources and ensure that everything is working as per requirement.







Migration Strategy (7R's)



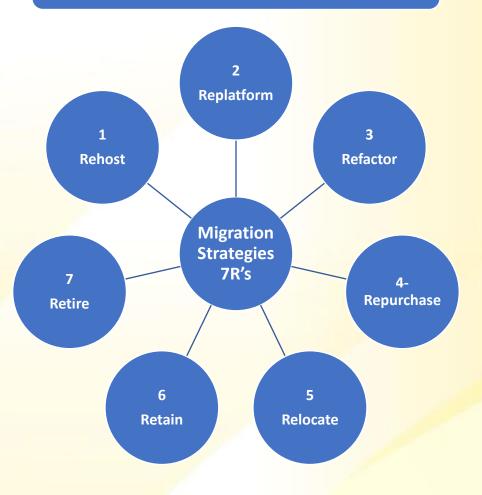








Migration Strategies – 7R's











Rehost:

Lift & Shift as a migrating database without any change in respect of database and Operating System (OS).

Example: Oracle to Oracle

Replatform:

Lift & Reshape as migration database with change version or OS version or platform.

Migrate to DBaaS as Oracle RDS, Oracle Autonomous

Example: Oracle 12 to Oracle 19c, Oracle to AWS Oracle RDS

Refactor:

Re-architect as migration database to one database engine to another engine

Example: Oracle to Postgres



Repurchase:

Replace as leverage cloud-native solutions/services SAAS Model

Relocate:

Database services running on VMware and migrate to the cloud without purchasing new hardware and leveraging existing licenses.

Retain:

Re-visit as stay with on-premise because not able to migrate due to the legacy application or compatibility issues

Retire:

Decommission the database as No longer in use or End of Life





Deep Dive with Lift & Shift











Deep Dive with Lift & Shift: Oracle Database

Lift & Shift migration approach is about migrating the database to the cloud without any change in the database or OS with minimal change.

- Database Native Tools
 - Data pump
 - RMAN
 - Data guard
 - Goldengate
- Cloud Native Tools
 - Cloud Endure, AWS MGN (Application Migration Service)
 - Azure Migrate











Summary

- Why migrate the database to the cloud?
- Oracle database in the cloud
- Database Migration Lifecycle
- Migration Strategies (7R's)
- Deep Dive with lift & Shift







Additional Resources

- Accelerate your cloud adoption with Microsoft and Oracle: https://azure.microsoft.com/en-us/solutions/oracle/
- Oracle and Amazon Web Services: https://aws.amazon.com/oracle/
- Oracle workloads to Google Cloud: https://cloud.google.com/solutions/migrate-oracle-workloads
- Cloud adoption with Oracle Cloud: https://docs.oracle.com/en- us/iaas/Content/GSG/Concepts/baremetalintro.htm













