



Cloud Migrations

Oracle Databases

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Agenda

- Overview
- Architecture
- Road to OCI
- Key Challenges
- Migration into Azure
- Q&A



Overview

Overview

Oracle DB Cloud Migrations

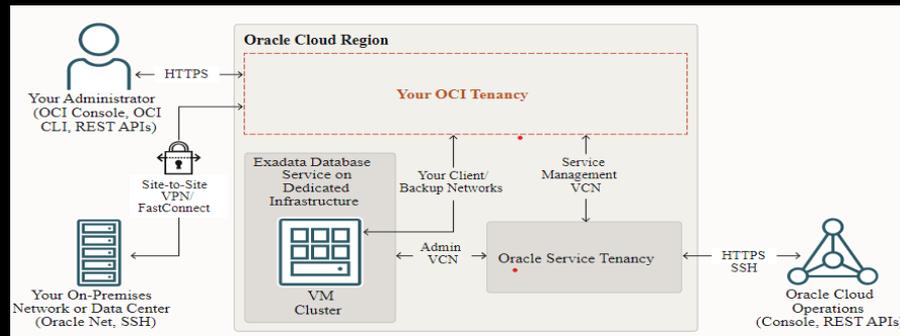
- Who is the Customer ?
 - Biggest Real Estate Company on the Planet
 - Operates Globally
 - Main Technology Suites:
 - Oracle Databases
 - Oracle Peoplesoft
 - Oracle JD Edwards
- What is the Ultimate GOAL ?
 - Migrate all PeopleSoft Applications + Databases into OCI
 - Reduce Costs
 - Improve Performance
 - Get the most out of OCI Architecture, Technologies and Features

Architecture

Architecture

Oracle DB Cloud Migrations

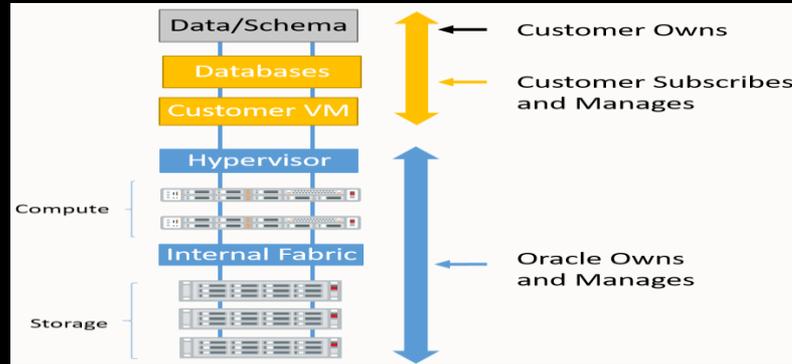
- Current Architecture
 - 2 EXADATA Servers On Premise
- Oracle Exadata Database Service on Dedicated Infrastructure
 - Virtual Machine Cluster on Exadata Racks in a OCI Region/Data Centre.
 - On Premise network connects to the customers OCI Tenancy using FastConnect.
 - Required networking setup between the Tenancy and VM Clusters for SSH connections to the VM's and for SQL Net connections to the databases.



Architecture

Oracle DB Cloud Migrations

- Oracle Exadata Database Service on Dedicated Infrastructure
 - Oracle responsible for the base OS and Hardware.
 - Customer manages the VM's, Grid Infrastructure & Databases Software.



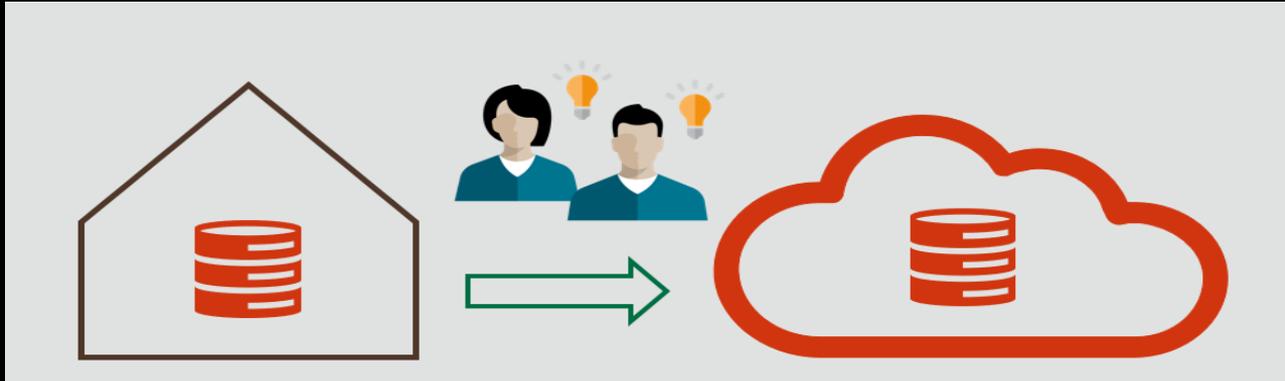
- 2 Exadata Services in 2 OCI Regions
 - PROD
 - NON PROD & DR

Road to OCI

Road to OCI

Oracle DB Cloud Migrations

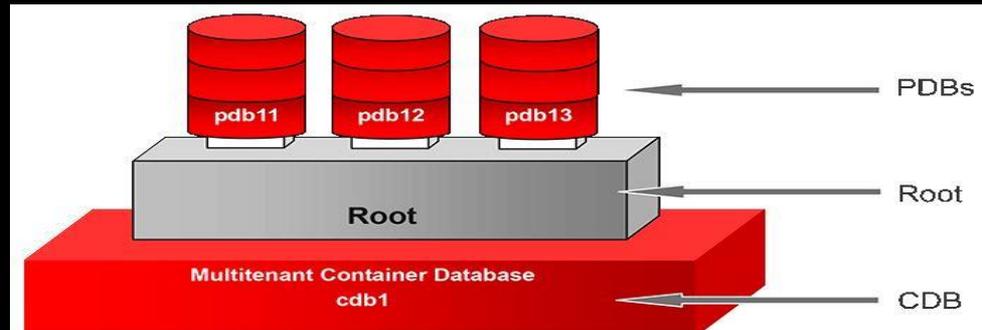
- The Brief:
 - Migrate All Oracle PeopleSoft Databases from On Premise into OCI
 - Perform all Required Pre-Work
 - Oracle DB Home Installations / Configurations
 - Migrations / Switchovers
 - Support



Road to OCI

Oracle DB Cloud Migrations

- Pre-Work (On Premise)
 - Upgrade Legacy 11g Databases to 19c
 - Compatibility + Optimiser Features set to 11.2.0.4
 - Enable Transparent Data Encryption
 - 256 Bit Encryption Key
 - All Tablespaces Encrypted
 - Migrate Databases into Container/Pluggable Databases



Road to OCI

Oracle DB Cloud Migrations

- OCI DB VM Configuration
 - Install Required Oracle Homes:
 - Separate Homes for Container Databases and Non-Container Databases
 - Provide a meaningful name
 - Ensure correct Patch Levels have been selected

Create database home [Help](#)

i If you want to use this Database Home for a new Data Guard standby database, make sure that the new Database Home uses the same Oracle Database version and updates as the source database. [Learn more.](#)

Database Home display name

Database image

Oracle Database 19c [Change database image](#)

[Hide advanced options](#)

Tags

Add tags to organize your resources. [What can I do with tagging?](#)

Tag namespace	Tag key	Tag value
None (add a free-form tag)	<input type="text"/>	<input type="text"/>

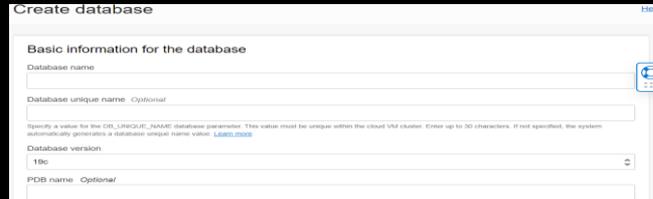
[Add tag](#)

[Create](#) [Cancel](#)

Road to OCI

Oracle DB Cloud Migrations

- OCI DB VM Configuration
 - Create Empty Oracle Databases:
 - Container Databases through OCI Console or CLI Commands
 - Select Correct Database Home
 - Check DB Character Set & National Character Set
 - Provide SYS Password



The screenshot shows the 'Create database' form in the OCI console. It includes fields for 'Database name', 'Database unique name' (with a note that it's optional and must be unique), 'Database version' (set to '11c'), and 'PDB name' (optional). There is a 'Help' icon in the top right corner.

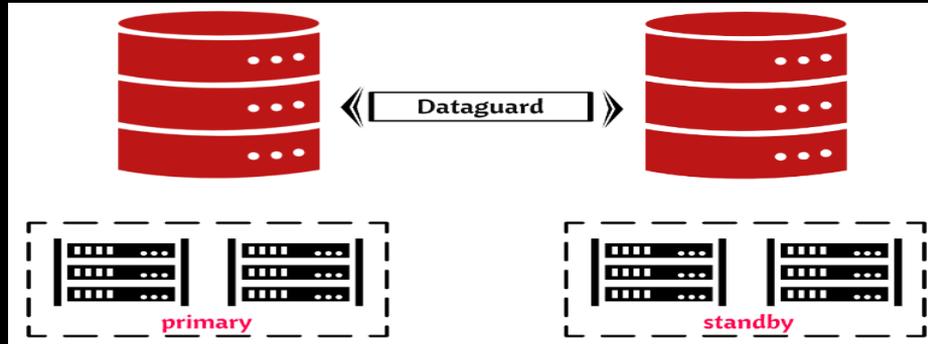
- Non-Container Databases using DBAASAPI

```
❯ cat createDEMO.json
{
  "object": "db",
  "action": "start",
  "operation": "createdb",
  "params": {
    "mode": "nonc",
    "pdb": "nonc",
    "db": "OCI1023",
    "dbname": "DEMO",
    "db_unique_name": "DEMO_TST",
    "edition": "BES_BF",
    "version": "11.0.0.0",
    "charset_name": "NON_CDB_OR",
    "admin_passwords": "PASSWORDS",
    "charset": "UTF8",
    "pcharset": "UTF8",
    "backupdestination": "NONE"
  },
  "outputfile": "createdDEMO.out",
  "flags": ""
}
❯ /var/opt/oracle/dbaasapi/dbaasapi -i createDEMO.json
```

Road to OCI

Oracle DB Cloud Migrations

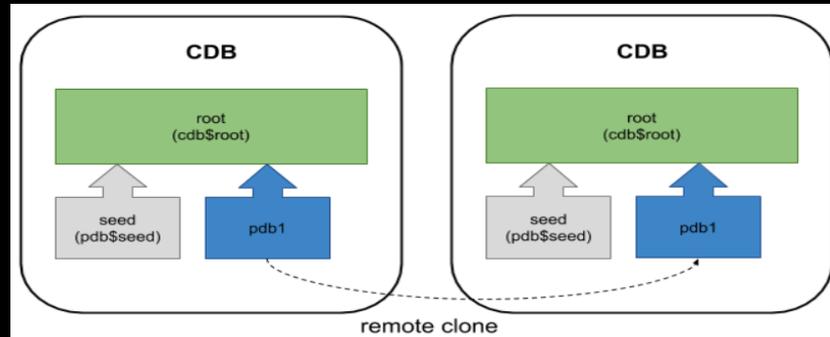
- Migration Strategies
 - Oracle Data Guard
 - Production Databases
 - Least Amount of Downtime
 - Standby Databases Setup Across Regions



Road to OCI

Oracle DB Cloud Migrations

- Migration Strategies
 - Remote Clones
 - Active PDB Clones
 - PDB Consolidation



- RMAN Backup / Recovery
 - OCI Object Storage

Key Challenges

Key Challenges

Oracle DB Cloud Migrations

- Migration:
 - Incorrect OCI Infrastructure Sizing
 - Duplicate/Clone Execution Time
- Post Migration:
 - Execution Time for On Prem Data Loads
 - Non-Prod Clone Execution Times
 - OCI DB VM Reboots
 - Infrastructure Maintenance
 - Backups

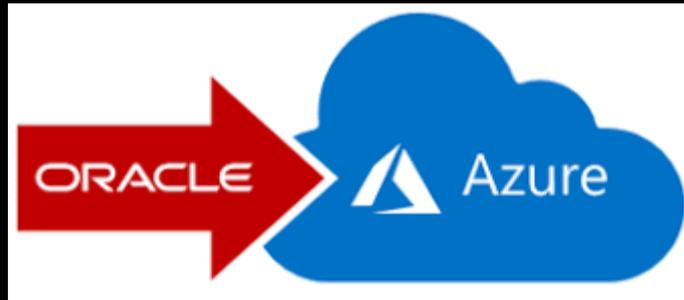


Mistakes are proof
that **you are trying**

Migration into Azure

Oracle DB Cloud Migrations

- Azure Migrations
 - Linux VM's in Azure
 - Setup & Configurations same as On-Premise Linux VM's
 - Clone/Duplicate Time is relatively slow
 - Sizing/Cost
 - Great for the smallest configuration
 - Pricing almost doubles thereafter



Q&A



Thought

Good
decisions
come from
experience,
and
**experience
comes from
bad
decisions.**

