Safe Harbor Statement

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle’s products remains at the sole discretion of Oracle.
Data Management on Oracle Cloud

1. Oracle Data Management Cloud
2. Oracle Database Cloud Service
3. Live Demo
Oracle Data Management Cloud Platform
Strategy – Oracle Data Management Platform
Integrated and Hybrid Cloud database management solutions

On Premises

NoSQL
ORACLE
BIG DATA
Hybrid Cloud
Same Software
Same Skills

Oracle Cloud
Strategy – Complete Data Management Platform
Support any data, any scale, on-premises and in the Cloud

NoSQL Database
- Key-value
- Graph
- Document
- IoT Analytics

Oracle Database
- Relational
- Spatial
- Graph
- Document
- Real-time Analytics

Hadoop & Spark
- Logs
- Streaming
- Archive
- Spatial
- Web Analytics
Strategy – Unified Data Management Platform

Special purpose and standards based access

- NoSQL Database
- Oracle Database
- Hadoop & Spark

SQL

- Norway
- Java
- C++

{JSON, XML}

OLTP, DW and Document Service

Big Data Service

Key Value Service

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Strategy – Integrated Data Management Platform

Cloud services integrated

Events & Observations
- IoT Service

HTAP
- NoSQL

OLTP
- Oracle

Distributed Variable Data
- BIG DATA

BI/DW
- Big Data Discovery & Preparation

Cloud Data Management Platform
Oracle Database Cloud Service
Database Cloud Service
Integrated and Hybrid Cloud database solution

On Premises

Hybrid Cloud
Same Software
Same Skills

Oracle Cloud
Database Cloud Service
Automated database and infrastructure provisioning and administration

Request for Service

Allocate Compute → Allocate Storage → Provision OS → Set Keys & Privileges → Install & Configure Database → Configure Backups → Configure Tools → Configure Access → Database Ready for Use

Benefits

- Reduced time and complexity to provision database services
- Increased standardization of the “fleet”
- Also use to deploy Maximum Availability Architectures
Database Cloud Service - Automation
Oracle Cloud – Security By Default

Simple Provisioning
Any Language

Automated DBA and Patching

Maximum Security

Backup/Recovery plus HA & DR
Local and Remote Management

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Database Cloud Service - Security
Oracle Cloud – Security By Default

• Oracle delivers data security
  – Data encrypted by default in the Cloud
  – In transit, and at rest

• Customer maintains control of
  – Access keys using Oracle Key Vault
  – Audit trails using Oracle Audit Vault
Database Cloud Service - High Availability
One click provisioning of higher levels of SLA and online maintenance operations

- Local fast failover
- Online rolling patches
- Scale-out OLTP

- Availability domain failover
- Rolling patches
- Active sites for reporting

- Active-Active replicas
- Online upgrades
- Data migration
- Heterogeneous
Oracle Maximum Availability Architecture (MAA)
On-Prem, Cloud, Hybrid Cloud

Production Site
- RAC
  - Scalability
  - Server HA
- ASM
  - Local storage protection
- Flashback
  - Human error correction
- RMAN, Oracle Secure Backup,
  Zero Data Loss Recovery Appliance
  - Backup to disk, tape, or to cloud

Enterprise Manager Cloud Control
- Site Guard, Coordinated Site Failover
- Application Continuity
- Application HA
- Global Data Services
  - Service Failover / Load Balancing

Active Replica
- Active Data Guard
  - Data Protection, DR
  - Query Offload
- GoldenGate
  - Active-active replication
  - Heterogeneous
- Oracle Database Backup Service
  - Backup to cloud

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Database Cloud Service – Hybrid Management

On-premises and cloud to cloud operations

- Single view of resources
- Monitoring and alerting
- DevOps capabilities
- Scheduling
Database Cloud Service – Backup Service

Cloud storage for Oracle Database backups

- Instant Offsite Storage
- Cost Effective
- On-demand Scalability
- End-to-End Security
- Encryption
- Compression
- 3-Way Protection
- 24x7 Data Availability

On-Premises Databases
Oracle 10.2 and above

Oracle Database Backup Service

Database Cloud Service – Backup Service

Cloud storage for Oracle Database backups

- Instant Offsite Storage
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- Encryption
- Compression
- 3-Way Protection
- 24x7 Data Availability

On-Premises Databases
Oracle 10.2 and above

Oracle Database Backup Service
Database Cloud Service – DevOps capabilities
Test master creation, cloning, instantiation from backup

Quick development iterations enabled by two new features
Oracle Database Cloud for Application Development

- Choice of application development frameworks
- Same application tools as used in-house
- Suitable for new and existing applications
- Reduces capital and operational expenses
Web Development Anywhere Using Oracle Database

Rapid web development using Oracle Application Express (APEX)

Develop web-based apps, deliver via desktop or mobile

Developing web applications for any business requirement

Visualize and maintain database data

Extending enterprise application solutions

Leverage common SQL skills, industry-leading database

Modernizing legacy applications

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Oracle Database Cloud - Typical Use Cases...

Real World Use Cases

• Database Backup to the Cloud
• Disaster Recovery to the Cloud
• Business Critical Workloads in the Cloud
• Web Application Development Anywhere
• Testing Database Applications
• Testing Database Upgrades
• Analytic Sandboxes
• Production Database Deployments
Database Cloud Service – Exadata Cloud Service
Engineered for extreme performance on dedicated Exadata infrastructure

- Engineered integration of software and Hardware
- RAC clusters for scale-out OLTP and DW
- Millions of IOPS
- 100’s of terabytes of data
- Storage cell technology with smart scan
- All database options in a single bundle
Database Cloud Services for Enterprise

- **Database Development and Test**: Schema Service, Enterprise, Exadata
- **SMB & Departmental Apps**: Schema Service, Enterprise, Exadata
- **Enterprise Apps**: Schema Service, Exadata
- **Highest availability, scalability and performance**: Exadata
Oracle Database Cloud – Enterprise Editions

**Standard Edition 2**
- Full database instance
- Up to 16 cores

**Enterprise Edition**
- Transparent Data Encryption
- All standard EE features

**EE High Performance**

- Multitenant
- Partitioning
- Advanced Compression
- Real Application Testing
- OLAP, Analytics, Spatial and Graph
- Management Packs

**EE Extreme Performance**
- RAC
- RAC One Node
- In Memory
- Active Data Guard

Oracle Database 12c Release 2

Next Generation Data Management

• Best in class enterprise database for the cloud
  – With RAC, Active Data Guard, Multitenant and In-Memory

• Only cloud offering with infrastructure optimized for data management
  – General Purpose and Engineered Systems
  – Extreme performance, availability, and security

• Full support for hybrid cloud
  – Graceful migration between on-premises and cloud
  – Single management console
### Some Enterprises cannot move Workloads to Public Cloud

**Genuine constraints prevent the consumption of public cloud**

<table>
<thead>
<tr>
<th>Latency</th>
<th>Data Sovereignty</th>
<th>Control</th>
<th>Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connect with back-end mainframes, databases, ERPs, etc. with near zero latency</td>
<td>Comply with regulatory, legal and privacy requirements</td>
<td>Keep 100% control over business-critical systems</td>
<td>Run all of cloud on premises</td>
</tr>
<tr>
<td>Dedicated infrastructure offers lower latency</td>
<td>Sensitive data on premises</td>
<td>Use your own firewalls, load balancers, hardware VPNs, etc.</td>
<td>Use both public and on-premises cloud as your business needs</td>
</tr>
<tr>
<td></td>
<td>Custom security standards</td>
<td>Extremely high SLAs</td>
<td>Same experience across public and on-premises clouds</td>
</tr>
</tbody>
</table>
Cloud @ Customer Enhances Oracle’s Hybrid Cloud Offering

Oracle Public Cloud Delivered on Customers Premise

Delivers the best of both cloud models
Oracle Cloud Machine Provides Choice for Oracle Cloud IaaS & PaaS

- **Same** PaaS and IaaS software, same updates as Oracle Cloud
- Oracle Cloud operated and **delivered as a service** behind your firewall
- Same cost-effective **subscription** pricing model as Oracle Cloud
- Helps conform to regulatory, privacy, and business requirements
Wrap Up
Summary
Oracle Database Cloud

Key Points to Remember

• Take Advantage of Cloud Computing
  – Oracle Database 12c - Designed for the Cloud
  – Full range of SLAs via general purpose and engineered infrastructure
  – Choice of management levels; automated and fully managed

• Extend Enterprise Data Center to the Cloud
  – Same database software and unified management on-premises and cloud
  – Freedom of choice to deploy on premises, on Oracle Cloud, and 3rd party clouds
  – Gracefully move workloads between on-premises and public cloud, and back
  – Oracle Public Cloud Machine – for the cloud features on-premises
Oracle Database Cloud – Summary of Services

- 100% compatibility with on-premises
- Fully automated or managed backups, patching and tooling
- Simple to move locations or create a hybrid cloud
- Simple provisioning in a few clicks

Oracle Database Enterprise Cloud Service

- Full-featured dedicated single-node/RAC database
- **Primary Use Case:** Dev, test and deployment of existing apps

Oracle Exadata Cloud Service

Oracle Database Schema Service

Oracle Database Backup Service

- Highest-performing and most-available database platform
- **Primary Use Case:** Mission-critical applications and high density database consolidation

- Fully managed Database Schema as a service for app dev with APEX, SQL Developer, Java Cloud and RESTful Web Services
- **Primary Use Case:** Development and deployment of departmental applications

- Capacity on demand eliminates storage hardware planning
- Transparent management, redundancy and highly available
- **Primary Use Case:** Enterprise data security protection and privacy
For More Information

About Oracle Database Cloud Service
https://cloud.oracle.com/database

Oracle Database Cloud 30-Day Free Trial
https://cloud.oracle.com/database

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Integrated Cloud
Applications & Platform Services