Oracle Database Service for Microsoft Azure

July 2022
What if you could combine the best of Microsoft Azure,

- Stream Analytics
- Synapse Analytics
- Kubernetes Services
- App Services
- Insight clusters
- Data Lake Analytics
- Cognitive Services
- IoT Central
- Azure Databricks

...and so much more.
What if you could combine the best of Microsoft Azure, and the best of OCI and Oracle Databases in the cloud?

Stream Analytics
Synapse Analytics
Kubernetes Services
App Services
Insight clusters
Data Lake Analytics
Cognitive Services
IoT Central
Azure Databricks

...and so much more.
The OCI-Azure Interconnect created the network foundation

- 11 global regions to date
- < 2 millisecond latency private interconnection
- No egress or ingress charges for data
- End-to-end secure encrypted tunnel
OCI-Azure Interconnect customer successes

15% Cost Savings
- Achieving latency as low as 1.1ms
- Implementation took 1/3 of allotted time

600% Better Performance
- Use 50% fewer CPUs with Oracle Autonomous Database on OCI and Azure Interconnect
- Cut labor and infrastructure costs by half
- Faster, more reliable platform with zero downtime

100% Uptime
- Running Oracle Database using Real Application Clusters on OCI, and connecting to applications via Azure Interconnect
- Met performance demands; lowered costs
- Achieved <1.5ms latency

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Introducing the Oracle Database Service for Azure

An Oracle managed service that enables customers to easily provision and manage Oracle databases running on OCI using an Azure-native API and console experience.

1. Connect Azure and OCI
2. Provision OCI databases
3. Use your OCI database like an Azure resource
4. OCI manages Azure to OCI networking
OCI’s portfolio of multicloud and hybrid cloud services

**Public / Government Cloud Regions**
- Hyperscale cloud regions in 39 worldwide locations

**Dedicated Regions**
- All OCI services, running in customer data centers

**Exadata Cloud@Customer**
- Cloud Autonomous Databases, running in your data center

**Microsoft Azure Interconnect**
- Regional low-latency integration for multicloud architectures

**Oracle Database Service for Azure**
- Fully managed service for Azure customers to use Oracle databases on OCI
How does the Oracle Database Service for Azure work?

1. Guided cloud to cloud setup and configuration
   - Azure Account
   - OCI Account
   - Azure Network & Security
   - OCI Network & Security

2. Provision and operate OCI Database services
   - Configure
   - Deploy
   - Automated Backup
   - Restore from backup
   - User roles and permissions
   - Manual Backup
   - License Management
   - Real Application Clusters (RAC)

3. Database access and managed connectivity
   - Azure Account
   - OCI Account
   - Azure Network & Security
   - OCI Network & Security
   - Database queries and query results
   - Database Metrics & events
   - Private network auto-scaling

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Oracle Database Service for Azure benefits

Seamless and secure interoperability
• Familiar Azure-native user experience
• Automated identity, networking, and monitoring integration
• Private interconnect and networking
• Use Microsoft Azure services with OCI databases together
• Collaborative support

Enterprise-grade cloud services
• < 2 ms latency private interconnect – suitable for nearly any app
• Zero downtime high availability with native Oracle RAC
• Scales up to 31 PB data warehouses and 10 million+ SQL IOPS
• Completely hands-off, multi-modal Autonomous Database
Businesses achieve better results running databases on OCI

<table>
<thead>
<tr>
<th><strong>80%</strong></th>
<th><strong>Faster</strong> than other clouds</th>
</tr>
</thead>
<tbody>
<tr>
<td>80% Reduction in DBA admin tasks</td>
<td>25x better latency</td>
</tr>
<tr>
<td>No more</td>
<td>384x more SQL throughput</td>
</tr>
<tr>
<td>Cost of idle vCPU autoscaling to align usage with actual demand</td>
<td>22x more SQL read IOPS</td>
</tr>
<tr>
<td><strong>Always</strong></td>
<td><strong>20-30%</strong> Less vCPU needed for same workloads lowers cost</td>
</tr>
<tr>
<td>✓ Tuned</td>
<td>✓ 20-30% Less vCPU needed for same workloads lowers cost</td>
</tr>
<tr>
<td>✓ Patched</td>
<td>✓ 20-30% Less vCPU needed for same workloads lowers cost</td>
</tr>
<tr>
<td>✓ Secured</td>
<td>✓ 20-30% Less vCPU needed for same workloads lowers cost</td>
</tr>
<tr>
<td>✓ Encrypted</td>
<td>✓ 20-30% Less vCPU needed for same workloads lowers cost</td>
</tr>
<tr>
<td><strong>Zero</strong> Downtime maintenance and non-disruptive scaling</td>
<td>Run More applications in-memory with expanded capacity using, lower-cost, shared flash</td>
</tr>
<tr>
<td><strong>Linear</strong> Performance increase with server scale-out</td>
<td>Bring-your-own-license (BYOL) subscriptions include:</td>
</tr>
<tr>
<td></td>
<td>✓ Transparent Data Encryption (TDE)</td>
</tr>
<tr>
<td></td>
<td>✓ Data Masking and Subsetting pack</td>
</tr>
<tr>
<td></td>
<td>✓ Real Application Testing option</td>
</tr>
<tr>
<td></td>
<td>✓ Diagnostics &amp; Tuning Pack</td>
</tr>
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Run workloads where you choose

Build with the best of OCI and Azure services

Use fully managed Oracle Databases with Azure

Run exclusive OCI database services with Azure

Autonomous Database

Microsoft Azure

Any Azure Analytics

Power BI

Synapse

HDInsights

Event Clusters

Any Azure App

App Services

Kubernetes

Virtual Machines

Functions

Containers

Autonomous Database

Oracle

PeopleSoft

Customer-managed Oracle DB

On-Prem

Exadata Database Service

Exadata Database Machine

App Tier

App
<table>
<thead>
<tr>
<th>Corporation</th>
<th>Testimonial</th>
<th>Corporation</th>
<th>Testimonial</th>
<th>Corporation</th>
<th>Testimonial</th>
</tr>
</thead>
<tbody>
<tr>
<td>FedEx</td>
<td>“Having access to data in multiple clouds is something we’ve always wanted. Oracle Database Service for Azure would enable FedEx to use Oracle databases on OCI with big data and analytics capabilities of Azure.”</td>
<td>Marriott International</td>
<td>“Multicloud architectures enable us to choose the best cloud provider for each workload based on capabilities, performance, and price. The OCI and Azure partnership integrates the capabilities of two major cloud providers, including OCI’s Oracle Database services and Azure’s application development capabilities.”</td>
<td>Veritas</td>
<td>“Oracle Database Service for Azure has simplified use of a multicloud environment for data analytics. We were able to easily analyze large volumes of data hosted by Oracle Exadata Database Service on OCI, using Azure Synapse. We are pleased with the service’s throughput and performance.”</td>
</tr>
</tbody>
</table>

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Rob Carter, Executive Vice President

Naveen Manga, CTO

Jane Zhu, SVP & CIO, Corporate Operations
Next Steps

- Demo
- Deeper tech dive
Oracle Database Service for Azure

Familiar Azure user experience

• Automated identity, networking, and monitoring integration
• < 2 ms latency private interconnect – suitable for nearly any app
• No additional cost

Access OCI database services

• Zero downtime high availability with native Oracle RAC
• Scales= up to 31 PB data warehouses and 10 million+ SQL IOPS
• Completely hands-off, multi-modal Autonomous Database
FAQ
What’s the difference between the Oracle Database Service for Azure and the OCI-Azure Interconnect?

<table>
<thead>
<tr>
<th>Primary Use</th>
<th>Oracle Database Service for Azure</th>
<th>OCI and Microsoft Azure Interconnect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Azure customers who want to connect Azure resources to Oracle Databases on OCI.</td>
<td>Customized bi-directional scenarios. Usable with all OCI and Azure resources.</td>
</tr>
<tr>
<td>What is it?</td>
<td>A guided experience to automate and simplify account linkage, user entitlements, and provides a portal on Azure to manage OCI database services with a UX experience familiar to Azure users.</td>
<td>Direct connectivity between OCI and Azure built on Oracle FastConnect and Azure ExpressRoute to create low-latency, high throughput, and redundant connections in 11 regions with unified identity and access management between Azure and OCI.</td>
</tr>
<tr>
<td>Support</td>
<td><a href="#">Collaborative support model</a> (same as interconnect)</td>
<td><a href="#">Collaborative support model</a></td>
</tr>
<tr>
<td>Network Cost</td>
<td>No interconnection port or ingress/egress charges.</td>
<td>Interconnection ports (<a href="#">FastConnect</a> and <a href="#">ExpressRoute</a>)</td>
</tr>
<tr>
<td>Network scaling</td>
<td>Fully managed by OCI</td>
<td>Customer managed in the customer’s tenancy</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Consolidated metrics and events consumed in Azure App Insights and Azure Log Analytics</td>
<td>Customer managed</td>
</tr>
<tr>
<td>Pricing</td>
<td>No cost for Oracle Database Service for Azure. Pay only for Azure and OCI service consumption.</td>
<td>Interconnection ports (FastConnect and ExpressRoute), plus Azure and OCI service consumption</td>
</tr>
</tbody>
</table>
What database features are available in Oracle Database Service for Azure today?

<table>
<thead>
<tr>
<th>Key capabilities</th>
<th>Oracle Database Service for Azure Portal</th>
<th>OCI Console</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual Backup</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Automated Backup</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Restore to existing database</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>License Management</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>RAC</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Service Requests</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Data Guard</td>
<td>Coming soon</td>
<td>✓</td>
</tr>
<tr>
<td>Scaling Infrastructure</td>
<td>Coming soon</td>
<td>✓</td>
</tr>
<tr>
<td>Autoscaling</td>
<td>Coming soon</td>
<td>✓</td>
</tr>
</tbody>
</table>

Coming soon features can be managed via the OCI portal.
Collaborative support

1. Raise issues with Oracle or Microsoft
2. Joint resolution by both cloud vendors
3. Customer approves support organization engagement between Microsoft and Oracle

https://www.oracle.com/cloud/azure-interconnect/
Click on collaborative support