

# Oracle Cloud Infrastructure for Microsoft Azure professionals

Technologies

Database, Security, Storage

Service Categories

Analytics and BI, Big Data and Data Lake, Networking,  
Oracle Cloud Infrastructure (OCI)

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Compare Service Features

About Service Comparisons

## About Service Comparisons

To make more informed decisions regarding which cloud services to adopt, solution architects and CloudOps administrators considering popular cloud offerings need to compare our competitors' services with Oracle Cloud Infrastructure's (OCI) similar services.

This guide introduces Microsoft Azure professionals to the core capabilities of OCI. It is designed for Azure Solution Architects and SysOps Administrators familiar with Azure features and setup and want to gain experience configuring OCI products immediately. Like Azure, OCI is built around a core set of compute, storage, database, and networking services and over the top offer a broad and deep set of capabilities with global coverage. This article provides comparisons of these general concepts:

- Regions & Availability Domains
- Accounts, Tagging & Organizing
- Service Mapping

## Regions and Availability Domains

Azure and OCI products are both deployed in similar variations of regions and availability domains.

Nearly all Azure products are deployed within regions located around the world. Each region comprises a group of data centers that are in relatively close proximity to each other. Microsoft divides each region into two or more availability zones. By design, each Azure availability zone is isolated and independent from other Azure zones. This design helps ensure that the availability of one zone doesn't affect the availability of other zones, and that services within zones remain independent of each other.

Similarly, OCI is hosted in regions and availability domains. A region is a localized geographic area, and an availability domain is one or more data centers located within a region. A region is composed of one or more availability domains. OCI availability domains are isolated from each other, fault tolerant, and very unlikely to fail simultaneously or be impacted by the failure of another availability domain. When you configure your cloud services, use multiple availability domains to ensure high availability and to protect against resource failure.

For a full mapping of OCI 's global regions and availability domains, see OCI's [Cloud Regions—Infrastructure and Platform Services](#).

Each availability domain contains three fault domains. A fault domain is a grouping of hardware and infrastructure within an availability domain. This lets you distribute your instances so that they are not on the same physical hardware within a single availability domain. A hardware failure or compute hardware maintenance event that affects one fault domain does not affect instances in other fault domains.

The physical hardware in a fault domain has independent and redundant power supplies, which prevents a failure in the power supply hardware within one fault domain from affecting other fault domains.

Azure's location terms and concepts map to those of OCI as follows:

Concept	Microsoft Azure	Oracle Cloud Infrastructure
Cluster of data centers and services	Region	<a href="#">Region</a>
Abstracted data center	Availability Zone	<a href="#">Availability Domain</a>
Hardware Grouping	Fault domains	<a href="#">Fault domains</a>

## Accounts, Tagging, and Organizing

Here, we compare what happens when you sign up for an Azure account and an OCI account, and how these services organize those accounts.

To use an Azure service, you must sign up for an Azure account. After you have completed this process, you can launch any service under your account within Microsoft's stated limits, and these services are billed to your specific account. Now to manage these Azure resources, you can optionally assign your own metadata to each resource in the form of tags.

A tag is a label that you assign to an Azure resource. Each tag consists of a key and an optional value. Tags enable you to categorize your Azure resources in different ways, for example, by purpose, owner, or environment. You can further group together and organize your Azure resources with the help of Azure Subscriptions and Azure Resource Groups. If an organization has many subscriptions, those can be grouped into Management Groups.

Similarly, OCI requires you to sign up for the service. When your request is processed, you will be provisioned a tenancy in OCI. By default, any OCI tenancy has a default root compartment, named after the tenancy itself. The tenancy administrator (default root compartment administrator) is any user who is a member of the default Administrators group.

Compartments help to organize and isolate cloud resources in a way that they can be accessed only by certain groups that have been given permission by an administrator in your organization. Once compartments are created, they can be assigned their own administrators who can then create sub-compartments and assign delegated administrators to each of them. OCI supports up to a 6-level deep compartment hierarchy and the administrator of a parent compartment has full powers over its children compartments. Compartments are global, they stretch out to all OCI regions within a given tenancy.

OCI Tagging enables you to attach arbitrary, free-form metadata to cloud resources, like compute instances. The labels that tags provide can help you organize and control resources. For example, you can add tags to describe the business organizations that are responsible for a resource, or operational metadata needed to manage your resources effectively. While other public cloud tagging implementations support free-form tags, that approach provides no structure. OCI supports free-form tags, but our solution goes further. We recommend the use of our Defined Tags, which eliminate many of the drawbacks of free-form approaches. Defined Tags support a schema to help you control tagging, ensure consistency, and prevent tag spam. You can even use tags to script bulk actions on your resources, to automate and simplify tasks.

Azure and OCI both have default soft limits on their services for new accounts. The service limit is the allowance set on a resource. For example, your tenancy is allowed a maximum number of compute instances per availability domain. These soft limits are not tied to technical limitations for a given service—instead, they are in place to help prevent fraudulent accounts from using excessive resources, and to limit risk for new users, keeping them from spending more than intended as they explore the platform. If you find that your application has outgrown these limits, you can also [request a service limit increase](#). Sometimes these limits may be increased for you automatically based on your OCI resource usage and account standing.

Concept	Microsoft Azure	Oracle Cloud Infrastructure
Account	Account	<a href="#">Tenancy</a>
Organizing resources	Subscriptions Resource Groups	<a href="#">Compartments</a>
Metadata to resources	Tags	<a href="#">OCI Tagging (Free-form &amp; Defined Tags)</a>
Multiple accounts management	Azure management groups	<a href="#">Organization Management</a>

## Service Mapping

The following tables provide a side-by-side comparison of the various services available on Microsoft Azure and OCI.

### Compute Service Mapping

This table maps Azure compute services to comparable OCI compute services.

Services	Microsoft Azure	Oracle Cloud Infrastructure
Multi-tenant Virtual Machines	Azure Virtual Machines	<a href="#">OCI Virtual Machine Instances</a>
Single tenant Virtual Machines	Azure Dedicated Hosts	<a href="#">OCI Dedicated Virtual Machine Hosts</a>
Bare Metal hosts	Azure BareMetal Infrastructure	<a href="#">OCI Bare Metal Instances</a>
Managed Kubernetes Service and Registry	Azure Kubernetes Service (AKS) Azure Container Registry	<a href="#">Oracle Container Engine for Kubernetes</a> <a href="#">OCI Registry</a>
Serverless	Azure Functions	<a href="#">Oracle Functions</a>

### Storage Service Mapping

This table maps Microsoft Azure storage services to comparable OCI storage services.

Services	Microsoft Azure	Oracle Cloud Infrastructure
Object Storage	Blob Storage	<a href="#">Object Storage</a>
Archival Storage	Blob Storage (archive access tier)	<a href="#">Archive Storage</a>
Block Storage	Managed disks	<a href="#">Block Volumes</a>
Shared File System	Azure Files	<a href="#">File Storage</a>
Bulk Data Transfer	Import/Export Azure Data Box	<a href="#">Data Transfer Appliance</a>
Hybrid data migration	StorSimple	<a href="#">rclone</a> <a href="#">OCIFS Utility (Linux)</a>

### Networking and Edge Service Mapping

This table maps Microsoft Azure networking and edge services to comparable OCI networking and edge services.

Services	Microsoft Azure	Oracle Cloud Infrastructure
Virtual Network	Virtual Network	<a href="#">Virtual Cloud Network (VCN)</a>
Dedicated Private Connectivity	ExpressRoute	<a href="#">FastConnect</a>
Site-to-Site Connectivity	VPN Gateway	<a href="#">VPN Connect</a>
DNS and Query Management	Azure DNS Azure Traffic Manager	<a href="#">OCI Domain Name System (DNS)</a> <a href="#">OCI Traffic Management</a>
Load Balancer	Azure Load Balancer Azure Application Gateway	<a href="#">OCI Load Balancing</a>
Firewall	Web Application Firewall	<a href="#">Web Application Firewall</a>
DDoS Protection	DDoS Protection	<a href="#">DDoS Protection</a>

### Database Service Mapping

This table maps Microsoft Azure database services to comparable OCI database services.

Services	Microsoft Azure	Oracle Cloud Infrastructure
Managed Relational Database systems	SQL Database Oracle Database services Database for MySQL Database for PostgreSQL	<a href="#">Oracle Autonomous Transaction Processing (ATP)</a> <a href="#">Oracle Database@Azure</a> <a href="#">Oracle MySQL Database Service</a>
NoSQL	Table Storage Cosmos DB	<a href="#">Oracle NoSQL Database</a> <a href="#">Oracle Autonomous JSON Database (AJD)</a>
Data warehousing	Synapse Analytics	<a href="#">Oracle Autonomous Data Warehouse (ADW)</a> <a href="#">Oracle MySQL HeatWave</a>

### Big Data, Analytics and AI/ML Service Mapping

This table maps Microsoft Azure Big Data, analytics, and AI/ML services to comparable OCI services.

Services	Microsoft Azure	Oracle Cloud Infrastructure
Batch Data Processing	Batch	<a href="#">OCI Data Flow</a> <a href="#">Oracle Big Data Service</a>
Streaming Data Ingest	Streaming Analytics	<a href="#">OCI Streaming</a>
Data Analytics and Visualization	Power BI	<a href="#">Oracle Analytics Cloud</a>
Managed Machine Learning Platform	Machine Learning	<a href="#">OCI Data Science</a>
Metadata Management	Data Catalog	<a href="#">OCI Data Catalog</a>

### Messaging and Notifications Service Mapping

This table maps Microsoft Azure messaging and notifications services to comparable OCI services.

Services	Microsoft Azure	Oracle Cloud Infrastructure
Tracking changes to resources	Event Grid	<a href="#">OCI Events</a>
Messaging Queue	Queue Storage	<a href="#">OCI Streaming</a>
Publish/Subscribe	Service Bus	<a href="#">OCI Notifications</a>

### Monitoring Service Mapping

This table maps Microsoft Azure monitoring services to comparable OCI services.

Services	Microsoft Azure	Oracle Cloud Infrastructure
Monitoring	Azure Monitor	<a href="#">OCI Monitoring</a>
Logging	Azure Monitor Logs	<a href="#">OCI Logging</a>
Deployment	Azure Resource Manager	<a href="#">OCI Resource Manager</a>

### Security and Identity Service Mapping

This table maps Microsoft Azure Identity and Security services to comparable OCI services.

Services	Microsoft Azure	Oracle Cloud Infrastructure
Identity and Access Management	Entra ID (formerly Azure Active Directory)	<a href="#">OCI IAM</a>
Key Management	Key Vault	<a href="#">OCI Vault</a>
Audit	Activity Log	<a href="#">OCI Audit</a>
Security Monitoring	Defender for Cloud	<a href="#">OCI Cloud Guard</a>

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