**GLOSSARY**

**AD**   Availability domain. OCI represents a collection of resources, both virtualized and bare metal systems grouped in data centers known as availability domains (ADs).

**ADB**   Autonomous database systems offer a hosted and managed option with an underlying Exadata service and the capability to dynamically scale up and scale down both the CPUs and storage allocated to your VM. ADB is a pluggable database and is available on a shared or dedicated Exadata infrastructure. ADW and ATP are two types of ADBs.

**ADW, ADWC**   Autonomous data warehouse, or ADW cloud, is a type of ADB designed for analytic workloads, including data warehouses and marts, data lakes, and large machine learning databases with configuration parameters biased toward high-volume ordered data-scanning operations.

**API**   Application programming interface. A defined method for interacting with Oracle Cloud Infrastructure resources using REST web services. In the context of interacting with Oracle databases, APIs are a defined method for manipulating data, typically implemented as a set of PL/SQL procedures in a package.

**ASM**   Automatic Storage Management. An LVM provided with the Oracle database.

**ATP**   Autonomous Transaction Processing is a type of ADB designed for OLTP databases, and configuration parameters are biased toward high-volume random data access typical of OLTP systems. ATP databases are also suitable for mixed workloads, including some batch processing reporting, IoT, and machine learning as well as transaction processing. ATP on dedicated infrastructure is known as ATP-D while serverless ATP is known as ATP-S.

**auto scaling**   The auto scaling feature available for serverless autonomous databases enables dynamic CPU scaling as load demand fluctuates.

**autoscaling**   Autoscaling refers to the dynamic addition or removal of instances from an instance pool based on an autoscaling policy that defines scaling limits and scaling rules that determine the conditions that trigger the scale-out or scale-in of instances in an instance pool.

**backend set**   A backend set is a logical grouping of backend servers and a traffic distribution policy. Traffic from load balancers is sent to backend set instances.

**block volumes**   Block volumes are provided to your compute instances by the OCI block volume service, which manages and carves out block storage volumes per your requirements. A block volume is initially equivalent to an unformatted disk with no partitioning or file system. Block volumes may be created, attached, connected, or detached from compute instances. There are two types of block storage volumes. A boot volume is used as the image source for a compute instance while a block volume allows dynamic expansion of storage capacity of an instance

**BM**   Bare metal instances reside on physical equipment localized in a data center or AD. A BM instance executes on a dedicated x86 server providing strong isolation and highest performance.

**BMCS**   Bare Metal Cloud Services. Oracle Cloud Infrastructure was previously known as BMCS.

**boot volume**   A special type of block volume that contains a boot image.

**bucket**   A logical container for objects that reside in a compartment and may exist at one of two tiers: standard tier and archive tier storage.

**BYOH**   Bring Your Own Hypervisor. OCI provides support for installing several hypervisors on bare metal instances. Supported hypervisors include the following: kernel-based VM (KVM), Oracle VM (OVM), and Hyper-V.

**BYOI**   Bring Your Own Image allows custom images to be imported into OCI in one of three modes: native, paravirtualized, and emulated mode.

**BYOL**   Bring Your Own License. BYOL allows your pre-existing license to be reused on a DBCS system.

**CIDR**   A Classless Inter-Domain Routing (often pronounced cider) block specifies a range of IP addresses that may be allocated to a VCN or subnet. CIDR notation is based on an IPv4 or IPv6 network or routing prefix separated by a slash from a number indicating the prefix length.

**cluster**   A hardware environment where more than one computer shares access to storage.

**compartments**   OCI resources are grouped into compartments. When an OCI account is provisioned, several compartments are automatically created, including the root compartment of the tenancy. An OCI resource can only belong to one compartment. Because compartments are logical structures, resources that make up or reside on the same VCN can belong to different compartments.

**complete recovery**   Following a restore of damaged database files, a complete recovery applies all redo to bring the database up-to-date with no loss of data.

**compute shape**   A predefined bundle of computing resources, primarily differentiated by OCPUs, memory, network interfaces, network bandwidth, and support for block and NVMe local storage.

**connect identifier**   An Oracle Net service name.

**connect string**   The database connection details needed to establish a session: the address of the listener and the service or instance name.

**container database**   A database in a multitenant environment that hosts zero, one, or more pluggable databases (PDBs). It will always host the root container and the seed container.

**CPE**   Customer Premises Equipment refers to the network edge router on your on-premises network. You may set up a connection between your CPE and a dynamic routing gateway in your VCN to connect these networks.

**CPU**   Central processing unit. The chip that provides the processing capability of a computer, such as an Intel XEON 8260.

**Data Guard**   Data Guard mitigates against node, storage, and even AD failure in multi-AD regions. Data Guard replication configuration consists of a primary database and at least one standby database. Each system is a fully operational Oracle server with nodes, instances, and independent sets of database files. The primary and standby systems are almost exclusively on separate infrastructure to provide business continuity in case there is a failure of the primary system.

**Data Pump**   A facility for transferring large amounts of data at high speed into, out of, or between databases.

**data residency**   Data residency refers to a data location policy usually associated with highly regulated and sensitive environments, which limits the consumption of data storage services to only resources within a particular locale.

**data sovereignty**   Data sovereignty refers to a data management policy usually associated with highly regulated and sensitive environments, which limits the management of data to personnel located in a particular geographic region.

**data transfer service**   Oracle offers an offline, secure data transfer service to upload data to your designated object storage bucket at no additional cost.

**datafile**   The disk-based structure for storing data in the context of an Oracle database.

**DBA**   Database administrator. The person responsible for creating and managing Oracle databases—this could be you.

**DBaaS**   Database as a Service. *See* DBCS.

**DBCS**   Database Cloud Service is a PaaS service that provides you with a fully functional and deployed Oracle database platform on a virtual machine (VM), bare metal (BM), or Exadata server.

**DBMS**   Database management system. Often used interchangeably with RDBMS.

**DHCP**   Dynamic Host Configuration Protocol services provide configuration information to compute instances at boot time. You can influence only a subset of the DHCP service offerings by setting DHCP options that apply to all compute instances created in the subnet or VCN.

**DNS**   The Domain Name System is a directory that maps hostnames to IP addresses. The OCI DNS service is a regional service.

**DRG**   A Dynamic Routing Gateway connects your VCN to other networks.

**emulated mode**   A compute instance launched in emulated mode is fully virtualized and runs without modification on the OCI hypervisor.

**ExaCS**   Exadata Cloud Service places the stable and mature Exadata engineered system within reach of any OCI tenancy. The Exadata platform is built with redundancy and high-performance components at its core and consists of preconfigured compute nodes, storage cells, and networking infrastructure. Exadata system software unlocks unique database software optimizations that include SmartScan, Storage Indexes, and Hybrid Columnar Compression.

**fast incremental database backup**   An incremental backup that uses a block change tracking file to identify only changed blocks since the last backup.

**FastConnect**   FastConnect is used to create a dedicated high-speed private connection between on-premises networks and OCI VCNs. FastConnect provides consistent, predictable, secure, and reliable performance.

**fault domain**   Fault domains are sets of fault-tolerant isolated physical infrastructure within an AD. By choosing different fault domains for two VM instances, you ensure these are hosted on separate physical hardware, thus increasing your intra-availability domain resilience.

**FSS**   The File Storage Service (FSS) provides network file systems (NFSv3) that provide shared storage to instances in the same region and offers exabyte scale storage.

**FSS snapshots**   FSS snapshots are a read-only point-in-time backup of an FSS file system located in a hidden directory named .snapshot in the root directory of the FSS file system.

**full database backup**   A backup containing all blocks of the files backed up, not only those blocks changed since the last backup.

**GI**   Grid Infrastructure is specialized Oracle software used for supporting databases that use ASM for storage and provides cluster services used by RAC databases and the Oracle Restart feature, which improves database availability by automatically restarting various Oracle components.

**GPU**   Graphical Processing Units. OCI compute instances based on GPU shapes are based on servers with NVIDIA GPUs.

**HPC**   High Performance Computing. OCI compute instances based on HPC shapes offer supercomputer high-performance compute power.

**HTTP**   Hypertext Transfer Protocol. The layered protocol, which runs over TCP/IP, enables the World Wide Web.

**I/O**   Input/output. The activity of reading from or writing to disks—often the slowest point of a data processing operation.

**IaaS**   Infrastructure as a Service. A collection of servers, storage, and network infrastructure onto which you deploy your platform and software. IaaS is an abstraction of these infrastructure components available in an online marketplace, enabling you to choose the most appropriate combination of these elements to meet your computing requirements. OCI and other IaaS vendors provide this fundamental service.

**IaC**   Infrastructure as Code enables consistent, infrastructure architectures to be programmatically deployed using tools including the OCI CLI and Terraform.

**image copy**   An RMAN copy of a file.

**inconsistent backup**   A backup made while the database was open.

**incremental database backup**   A backup containing only blocks that have been changed since the last backup was made.

**instance configurations**   Instance configurations provide a system for creating configuration templates from existing compute instances.

**instance pools**   Instance configurations form the basis for instance pools. These are pools of compute instances created using the instance configuration templates in a particular region.

**instance recovery**   The automatic repair of damage caused by a disorderly shutdown of the database.

**Internet gateway**   An Internet gateway is attached to any new VCN. It allows resources and services with public IP addresses to be reached over the Internet and for these instances to connect to the Internet.

**IP**   Internet Protocol. Together with the Transmission Control Protocol, IP makes up the de facto standard communication protocol (TCP/IP) used for client-server communication over a network.

**iSCSI**   Internet Small Computer Systems Interface. Block volumes can be connected to compute instances using the iSCSI protocol over a TCP/IP network connection. iSCSI is an established storage communications protocol and is supported on bare metal and VM instances.

**JSON**   JavaScript Object Notation is an open-standard file format that describes data objects in terms of attribute-value pairs as well as supporting array data types. JSON format files may be used as an input or an output format for the OCI CLI.

**level 0 incremental backup**   A full RMAN backup that can be used as the basis for an incremental backup strategy.

**level 1 cumulative incremental backup**   An RMAN backup of all changed blocks since the last level 0 incremental backup.

**level 1 differential incremental backup**   An RMAN backup of all changed blocks since the last level 0 or level 1 incremental backup.

**listener, database**   The server-side process that listens for database connection requests from user processes, and launches server processes to establish sessions.

**listener, load balancer**   Each listener in a load balancer defines a set of properties that include a unique combination of protocol (HTTP or TCP) and port number. Incoming network traffic to a load balancer is received by the listener and handed off to underlying backend set servers.

**load balancer**   A load balancer is a network device that ultimately routes traffic to one or more reachable backend compute instances (called backend servers) that reside in any subnet in the VCN.

**LPG**   A local peering gateway allows VCNs in the same region, regardless of tenancy, to act as peers and supports instances in one VCN connecting to instances in another VCN using private IP addresses.

**LVM**   Logical Volume Manager. A layer of software that abstracts the physical storage within your computer from the logical storage visible to an application.

**mounted database**   A situation where the instance has opened the database control file, but not the online redo logfiles or the datafiles. Traditional Data Guard physical standby databases operate in mount mode while Active Data Guard physical standby databases are in open mode.

**MTTR**   Mean Time To Recover. The average time it takes to make the database available for normal use after a failure.

**multiplexing**   To maintain multiple copies of files.

**multitenant architecture**   An architecture that hosts many logical databases within one larger database instance to more efficiently use server resources such as memory, CPU, and I/O.

**namespace**   A logical grouping of objects within which no two objects may have the same name.

**NAT gateway**   A network address translation gateway allows instances with no public IP addresses to access the Internet while protecting the instance from incoming traffic from the Internet. When an instance makes a request for a network resource outside the VCN, the NAT gateway makes the request on behalf of the instance to the Internet and forwards the response back to the instance.

**node**   A computer attached to a network.

**non-CDB**   A standalone database that cannot automatically be plugged into a CDB and cannot host PDBs. A non-CDB can be at any database version, but to convert to a PDB directly, it must be at version 12.1.0.1 or newer. The non-CDB architecture was the only type of architecture available before release 12.

**NVMe (Non-Volatile Memory express)**   The fastest, most expensive storage options available in OCI are NVMe SSD storage drives attached locally to a compute instance. This storage is typically used in high-performance computing where high IO speeds are required, such as an important transactional database, and provides terabyte-scale capacity.

**OCI**   Oracle Cloud Infrastructure refers to a collection of IaaS and some PaaS offerings and forms part of the Oracle Public Cloud offering.

**OCI CLI**   The OCI Command Line Interface or CLI is based on Python and makes use of JSON input and output formats. The Python code is a wrapper around OCI APIs. OCI CLI commands call these APIs that implement the required functionality supporting script–based OCI resource management.

**OCI dynamic group**   Dynamic groups authorize member instances to interact with OCI resources at a tenancy level by using IAM policies.

**OCI group**   OCI users are organized into groups. A user may belong to many groups.

**OCI policy**   OCI policies are the glue that determines how groups of users interact with OCI resources that are grouped into compartments. Provides capabilities (“permissions”).

**OCI user**   An OCI user is an individual or system that has been granted access to OCI resources. There are three types of users: local users, federated users, and provisioned or synchronized users.

**OCPU**   An Oracle Compute Unit is equivalent to a hyper-threaded CPU core in an x86 server. Each OCPU corresponds to two hardware execution threads, known as vCPUs.

**offline backup**   A backup made while the database is closed.

**OLAP**   Online Analytical Processing. Select, intensive work involving running queries against a (usually) large database. Oracle provides OLAP capabilities as an option, in addition to the standard query facilities.

**OLTP**   Online Transaction Processing. A pattern of activity within a database typified by a large number of small, short transactions.

**online backup**   A backup made while the database is open.

**ORACLE\_BASE**   The root directory into which Oracle products are installed.

**ORACLE\_HOME**   The root directory of any one Oracle product.

**Oracle Net**   Oracle’s proprietary communications protocol, layered on top of an industry-standard protocol.

**OS**   Operating system. Typically, in the Oracle database environment this will be a version of Linux (perhaps Unix) or Microsoft Windows.

**PaaS**   Platform as a Service. A collection of one or more preconfigured infrastructure instances usually provided with an operating system, database, or development platform onto which you can deploy your software.

**parallelization**   Using multiple slave processes managed by a single coordinator process to perform queries or DML operations in parallel across multiple CPUs and I/O channels simultaneously. RMAN backups take advantage of parallelism by allocating multiple channels and improving backup performance by executing partitioned chunks of I/O in parallel.

**paravirtualized mode**   Paravirtualized (PV) mode in OCI refers to a type of virtualization used when launching an imported custom image that provides drivers to directly access some of the underlying hardware interfaces instead of emulating these interfaces. An instance launched in PV mode will perform better than one in emulated mode. It is therefore preferable to migrate older systems to newer natively supported images.

**PDB**   *See* pluggable database.

**physical backup**   A copy of the files that constitute the database.

**PL/SQL**   Procedural Language/Structured Query Language. Oracle’s proprietary programming language, which combines procedural constructs, such as flow control, and user interface capabilities with the ability to call SQL statements.

**pluggable database**   Also known as a PDB, or a pluggable container. A logical database that exists within a container database and shares the memory, process slots, and other resources with other logical databases within the CDB but is isolated from all other logical databases in the same container. Pluggable databases can be unplugged (removed) from the container database and plugged back in later to the same or different container.

**preauthenticated requests**   A preauthenticated request enables object storage contents or buckets to be shared for a limited time.

**private peering**   Private peering extends your on-premises network into a VCN and may be used to create a hybrid cloud. On-premises connections can be made to the private IP addresses of instances as if they were coming from instances in the VCN. Private peering can also occur between instances in VCNs in other regions.

**public load balancer**   A public load balancer is allocated a public IP address that is routable from the Internet.

**public peering**   Public peering allows you to connect from resources outside the VCN, such as an on-premises network to public OCI services including object storage, without traversing the Internet, over FastConnect.

**RAC**   Real Application Clusters. Oracle database clustering technology, which allows several instances on different machines to open the same database for scalability, performance, and fault tolerance.

**RAID**   Redundant Array of Inexpensive Disks. Techniques for enhancing performance and/or fault tolerance by using a volume manager to present a number of physical disks to the operating system as a single logical disk.

**RAM**   Random access memory. The chips that make up the real memory in your computer hardware, as opposed to the virtual memory presented to software by the operating system.

**RDBMS**   Relational database management system. Often used interchangeably with DBMS.

**recovery window**   An RMAN parameter and time period that defines how far back in time the database can be recovered.

**region**   A region consists of one or more availability domains within a specific geography.

**resource consumer groups**   Groups of users or sessions that have similar resource needs.

**restore point**   A database object containing either a system change number (SCN) or a time in the past used to recover the database to the SCN or timestamp.

**retention policy**   The number of copies of all objects that RMAN will retain for recovery purposes.

**RMAN**   Recovery Manager. Oracle’s backup and recovery tool.

**RPC**   A remote peering connection is created on the DRG in both regionally separated VCNs.

**RPO**   Recovery Point Objective refers to how much data loss is tolerable for the organization in the event of a disaster.

**route table**   Route tables contain rules that determine how network traffic coming in or leaving subnets in your VCN is routed.

**RTO**   Recovery Time Objective refers to the duration of a service outage.

**SaaS**   Software as a Service. Applications are deployed and maintained in a cloud and all you do is access them through your browser. SaaS applications range from webmail to complex ERP and BI Analytic systems.

**security lists**   Security lists contain firewall rules for all the compute instances using the subnet. Ingress and egress rules specify whether certain types of traffic are permitted into and out of the VCN respectively. The traffic type is based on the protocol and port, and a rule can be either stateful or stateless. Stateful rules allow connection tracking and are the default, but stateless is recommended if you have high-traffic volumes.

**service gateway**   Allows OCI instances to access OCI services using a private network path on OCI fabric without traffic needing to traverse the Internet.

**service name**   A logical name registered by an instance with a database listener; can be specified by a user process when it issues a connect request.

**session**   A user process and a server process, connected to the instance.

**SGA**   System Global Area. The block of shared memory that contains the memory structures that make up an Oracle instance.

**SID**   System identifier. The name of an instance, which must be unique on the computer the instance is running on. Alternatively, session identifier. The number used to identify uniquely a session logged on to an Oracle database instance.

**SQL**   Structured Query Language. An international standard language for extracting data from and manipulating data in relational databases.

**SSL**   Secure Sockets Layer. A standard for securing data transmission using encryption, checksumming, and digital certificates.

**subnet**   A portion of your network or VCN that comprises a contiguous CIDR block that is a subset of the VCN CIDR block.

**tag**   A tag is simply a key-value pair that you associate with a resource. There are two types of tagging: free-form and defined tags. Free-form tags are descriptive metadata about a resource, but they are not subject to any constraints. Defined or schema tagging is the recommended enterprise-grade mechanism for organizing, reporting, filtering, managing, and performing bulk actions on your OCI resources.

**TCP**   Transmission Control Protocol. Together with the Internet Protocol, TCP makes up the de facto standard communication protocol (TCP/IP) used for client-server communication over a network.

**TCPS**   TCP with SSL. The Secure Sockets version of TCP.

**TDE**   Transparent Data Encryption is a feature of the Database Advanced Security Option that is included for database encryption across all editions using DBaaS on OCI.

**Terraform**   Terraform is an industry standard declarative tool used to automate the full infrastructure lifecycle from the provision stage to updates and maintenance to the destroy stage. Terraform is developed by HashiCorp and is integrated into OCI through the Terraform provider for OCI.

**TNS**   Transparent Network Substrate. The heart of Oracle Net, TNS is a proprietary layered protocol running on top of whatever underlying network transport protocol you choose to use—probably TCP/IP.

**TSPITR**   Tablespace point-in-time recovery. A recovery method that is ideal for recovering a set of objects isolated to a single tablespace.

**UI**   User interface. The layer of an application that communicates with end users—nowadays, frequently graphical: a GUI.

**URL**   Uniform Resource Locator. A standard for specifying the location of an object on the Internet, consisting of a protocol, a hostname and domain, an IP port number, a path and filename, and a series of parameters.

**user-managed recovery**   Using tools or commands outside of RMAN to recover a database or tablespace.

**VCN**   A virtual cloud network, which works much like a traditional private, on-premises network. It is a regional resource that spans all ADs in a region and resides in a compartment. At least one VCN must be set up before compute instances may be provisioned.

**VCN peering**   VCN peering refers to connecting your VCN to other networks.

**vCPU**   A virtual CPU or vCPU is equivalent to a single CPU core hardware execution thread in an x86 server.

**virtualization**   Virtualization of resources is the underlying philosophy behind IaaS. On premises, virtualization technologies like Oracle Virtual Machine (OVM) paved the way for consolidation and pooling of resources and sharing these between VMs to optimize hardware and infrastructure efficiency.

**VM**   Virtual machines reside on physical equipment localized in a data center or AD. A VM is defined as an independent computing environment executing on physical hardware. Multiple VMs may share the same physical hardware.

**vNIC**   A virtualized network interface card (NIC) resides in a subnet and is allocated to a compute instance, thus allowing the instance to connect to the subnet’s VCN. Upon launch of a compute instance, a private, unremovable vNIC is assigned to the instance and allocated a private IP address.

**volume groups**   Block volumes may be grouped with other block volumes to form a logical set known as a volume group. Volume groups may be backed up together to form a consistent point-in-time backup that is also useful for cloning.

**whole-database backup**   A database backup that includes all datafiles plus the control file.