ORACLE

Exadata Database Service on Dedicated Infrastructure X11M and X11MV

Exadata Cloud Infrastructure X11M and X11MV in Public Cloud

Run Oracle's most powerful, available, and flexible cloud database service – Oracle Exadata Database Service – on dedicated Exadata Cloud Infrastructure, the most powerful, available, and secure database cloud platform, with the simplicity agility, and elasticity of a public cloud deployment.

Exadata Database Service

Exadata Database Service combines the world's #1 database technology, Oracle Database, with Exadata, in a choice of either the public cloud or customer data centers, delivering the simplicity, elasticity, and economics of a cloud-based deployment. It offers fully-featured Oracle Enterprise Edition databases with pay per use software licensing on Exadata subscribed to as a service. Exadata Database Service is co-managed by Oracle and customers. Oracle manages the infrastructure while customers manage their operating environments.

Customers have the flexibility to control many aspects of the service, which provides capabilities similar to their on-premises environments while facilitating the transition from on-premises to the cloud with no application changes. Powerful cloud automation enables customers to manage the service with minimal effort while still providing full access to database instances, database homes, and Grid Infrastructure. Customers have root access to the virtual machines (VMs) hosting the databases in the Exadata database servers, as well as full DBA privileges for the databases they provision. Customers can configure the database VMs as required and deploy additional software, such as backup and monitoring agents.

Exadata Cloud Infrastructure

Exadata Cloud Infrastructure is the premiere public cloud platform for Oracle databases. It supports two Oracle Database cloud services; Exadata Database Service and Autonomous Database. Exadata Cloud Infrastructure offers the same extreme performance and availability realized by thousands of organizations deploying Exadata on-premises. Full Oracle Database compatibility simplifies and reduces the risk of critical cloud migrations. With online server expansion and support for the largest workloads, Exadata Cloud Infrastructure helps maximize business agility and operational flexibility as workload requirements grow. The combination of cloud economics, powerful

"We migrated over 100 custom application environments and over 50 databases from a legacy data center to OCI with Exadata Database Service on Dedicated Infrastructure in half of the expected time for greater stability, security, and efficiency."

Bradley Mills
Head of Software Engineering
Talcott Resolution

"We are very satisfied with the Exadata servers in Oracle Cloud. They meet our requirements for data throughput, data volume, complexity, and response time."

Jochen Hinderberger
Senior Director Production & SW Support Systems
Renesas Design Germany GmbH

Copyright © 2026, Oracle and/or its affiliates / Public

automation and infrastructure maintained by Oracle experts also lowers IT costs, eliminates most operational tasks, and frees personnel to focus on core business functions. Exadata Cloud Infrastructure is dedicated to a single tenant, providing complete isolation from other cloud customers.

Exadata: The Best Database on the Best Cloud Platform

Exadata has been the industry leading database platform for over a decade and is established as the best performing, highest available, and most secure platform for deploying Oracle databases. Exadata was designed from the beginning as a cloud architecture featuring scale-out database servers and scale-out intelligent storage servers. It delivers many smart hardware and software innovations for Oracle databases, distinguishing itself from generic converged systems.

Exadata has been engineered to run Oracle Database, the world's most popular and most versatile database technology. With decades of technology innovation, Oracle Database has become the industry standard for mission-critical deployments. Exadata supports Online Transaction Processing (OLTP), Data Warehousing (DW), In-Memory Analytics, Artificial Intelligence (AI), and Mixed/Hybrid workloads, making it the ideal database consolidation platform. Exadata is available on-premises as Exadata Database Machine, in the public cloud as Exadata Cloud Infrastructure, and as a hybrid cloud in customer data centers with Exadata Cloud@Customer.

What's New in Exadata Cloud Infrastructure X11M and X11MV

Exadata Cloud Infrastructure X11M and X11MV are built on Exadata hardware, offering more and faster CPU cores, faster DDR5 memory, faster PCIe NVMe flash, new Exadata Remote Direct Memory Access (RDMA) Memory (XRMEM), and higher storage capacity compared to the previous generation offered in the public cloud, X9M. The XRMEM Data Accelerator with Remote Direct Memory Access (RDMA) accessible memory boosts overall system performance, reducing storage latency to as low as 14µs. Exadata Cloud Infrastructure X11MV supports up to 12 VMs per database server, up to 24 VM Clusters per system, and up to 1.7 TB /u02 filesystem per VM for Oracle Database homes.

Exadata Hardware

Exadata Cloud Infrastructure is built with powerful database servers, scale-out intelligent storage servers, XRMEM, PCIe NVMe flash, and high-capacity disk drives. Internal connectivity between database and storage servers is enabled by a low-latency RoCE fabric. External connectivity to the Exadata Cloud Infrastructure system is provided using standard 100 Gigabit Ethernet.

The database-optimized data tiering between XRMEM, PCIe NVMe flash, and disk implemented in Exadata storage provides lower latency, higher capacity, and faster performance than other flash-based solutions. All-flash storage arrays cannot match the throughput of Exadata's integrated architecture with full RoCE-based scale-out, XRMEM, PCIe NVMe flash, offload of data intensive operations to storage, and algorithms optimized for databases.

"Having a cloud-first strategy, IFFCO is a frontrunner in adopting new technology. Oracle met our business objectives, providing us with a robust, secure cloud system powered by the high performance of Exadata Database Service on OCI."

Anil Kumar Gupta
Director IT Services & Board Member
IFFCO Ltd

Key Benefits

- World's fastest OLTP, Analytics, and AI database cloud
- All Exadata capabilities - exceptional performance, availability, and security
- Complete server isolation with dedicated infrastructure
- Fully elastic database and storage server expansion
- No workload or database too large
- Exadata infrastructure management by Oracle reduces effort and risk
- Compatible with on-premises databases
- Cloud UI and REST APIs simplify provisioning and lifecycle management
- CapEx to OpEx cloud economics
- Pay-per-use aligns usage with costs and lowers TCO
- Choice of License-included or Bring Your Own License (BYOL)
- Database consolidation increases value

Elastic Compute

- 5th Generation AMD EPYC™ Processors
- Up to 6,080 Usable Database Server Cores Available to VMs
- Up to 44 TB of DDR5 DRAM

Copyright © 2026, Oracle and/or its affiliates / Public

Exadata Cloud Infrastructure offers elastic infrastructure shapes to support workloads of different sizes. Customers can deploy flexible shapes that range from 2 database and 3 storage servers, up to 32 database and 64 storage servers to meet a variety of CPU processing and storage requirements. It also supports a Base System that provides a lower cost dedicated Exadata entry point with a fixed, non-elastic shape that is hardware generation agnostic.

Exadata Software

The technology that enables Exadata's unparalleled performance without any of the bottlenecks of traditional storage arrays is the Exadata Storage Server Software. This software powers the storage servers, providing an extremely efficient and database-optimized storage infrastructure. All Exadata Storage Server Software features are included in Exadata Cloud Infrastructure.

One of the many unique features of Exadata Storage Server Software is Smart Scan technology, which offloads data intensive SQL operations from the database servers directly into the storage servers. By pushing SQL to the storage servers, data filtering and processing for databases of any size occurs immediately and in parallel across all storage servers, as data is read from XRMEM, flash, and disk. Only the rows and columns that are directly relevant to a query are sent to the database servers. This greatly accelerates analytic queries, eliminates bottlenecks, and significantly reduces the processor usage of the database servers.

AI Smart Scan, another Exadata unique feature, greatly accelerates AI Vector Search with optimizations that deliver extremely low-latency, high-throughput, and parallelized scans across massive volumes of vector data. AI vector data is processed at memory speed, leveraging XRMEM and flash in the storage servers, avoiding unnecessary network data transfer and database server processing.

In addition to Smart Scan, Exadata includes a vast array of software capabilities. Some of these Exadata software features are:

- Exadata RDMA Memory Data Accelerator uses RDMA to read data from XRMEM in the storage servers with unprecedented low latency
- Smart Flash Log Write-Back eliminates storage disks as a potential log write throughput bottleneck and provides consistent log write latency
- Storage Indexes avoid unnecessary I/O operations by replacing them with a few in-memory lookups
- Exafusion Direct-to-Wire Protocol allows database processes to read and send Oracle RAC messages directly over the RoCE network, which considerably improves OLTP response time and scalability in Exadata
- Hybrid Columnar Compression utilizes a combination of row and columnar methods to greatly compress data, enabling tremendous cost-savings and performance improvements due to reduced storage capacity and reduced I/O, especially for analytic workloads
- In-Memory columnar formats in Flash Cache automatically transform data into In-Memory columnar formats as it's loaded into Flash Cache. Smart Scans then leverage ultra-fast Single Instruction Multiple Data (SIMD) Vector instructions, thus processing multiple column values with a single instruction

Scalable Storage

- Up to 4.0 PB Database Size (High Redundancy, Without Compression)
- Up to 1.7 PB NVMe Flash
- Up 80 TB Exadata RDMA Memory (XRMEM)
- 5th Generation AMD EPYC™ Processors
- Up to 4,096 Storage Server Cores

Fastest Networking

- 2 x 100 Gbps RoCE Internal Fabric
- 100 Gbps Ethernet shared for client and backup connections

Exadata Software

- Smart Scan
- AI Smart Scan
- JSON/XML Smart Scan
- Exadata RDMA Memory Data Accelerator
- Storage Indexes
- Data Mining Offload
- Hybrid Columnar Compression
- Smart Flash Cache
- Smart Flash Logging
- In-Memory Fault Tolerance
- I/O Resource Management
- Network Resource Management
- Instant Failure Detection
- Sub-second I/O Latency Capping
- Columnar Flash Cache
- Direct-to-Wire OLTP protocol
- Test/Dev Thin Clones
- Fastest Oracle RAC Node Failure Recovery
- Fastest Data Guard Redo Apply

Related Products

- Oracle Database 26ai
- Autonomous Database
- Autonomous Recovery Service
- Real Application Clusters
- Active Data Guard

Copyright © 2026, Oracle and/or its affiliates / Public

Exadata Cloud Infrastructure systems can be used to deploy a large number of databases, enabling high database consolidation. To ensure consistent performance in a highly consolidated environment, Exadata provides unique end-to-end prioritization and resource management capabilities spanning database servers, network and storage.

- Multitenant
- Database In-Memory
- Partitioning
- Advanced Compression
- Advanced Security
- Real Application Testing
- Advanced Analytics
- Enterprise Manager
- Database Management Service

Maximum Availability Architecture (MAA)

Exadata is engineered to provide the highest levels of availability with completely redundant hardware components. It has also been designed with Oracle Maximum Availability Architecture (MAA) in mind, a set of tiered best practices and blueprints for the use of Oracle's High Availability (HA) and Disaster Recovery (DR) technologies. Exadata is engineered to provide the highest levels of availability with completely redundant hardware components. It has also been designed with Oracle Maximum Availability Architecture (MAA) in mind, a set of tiered best practices and blueprints for the use of Oracle's High Availability (HA) and Disaster Recovery (DR) technologies. These technologies include Real Application Clusters (Oracle RAC), ASM, RMAN, Flashback, Active Data Guard, and Application Continuity and optimize availability to meet the business continuity requirements of critical applications. Further, Exadata-specific HA capabilities such as Instant Detection of Database and Storage Server Failures and Exadata I/O Latency Capping, significantly enhance the availability of Exadata. Exadata Database Service is deployed with MAA best practices enabling customers to take immediate advantage of key HA and DR features including Oracle RAC and Active Data Guard.

Multiple Virtual Machine Clusters

Database services run securely in Virtual Machine (VM) Clusters running on Exadata Cloud Infrastructure. Each Exadata Cloud Infrastructure system can run multiple VM Clusters to increase value through greater consolidation. They provide isolated operating environments for different database workloads through separate access rules and network configurations as well as customizable compute, memory, and storage resources. Each VM Cluster can run Autonomous Database or Exadata Database Service, which allows Autonomous Database to be deployed alongside Exadata Database Service on the same infrastructure, eliminating the need to deploy separate systems for these services. VM Clusters can span a subset of database servers in the infrastructure with a single database server minimum to better align resources to workload requirements. VM Clusters are easily provisioned through the Cloud Control Plane.

Oracle Cloud Infrastructure

Exadata Cloud Infrastructure is available in Oracle's next-generation cloud, Oracle Cloud infrastructure (OCI). Built on the foundation of the most modern datacenter, network and server technology, Oracle Cloud Infrastructure services are architected from the ground up with a fundamentally different approach to Cloud platform deployment. The following Oracle Cloud Infrastructure features provide a set of unique benefits for Exadata Cloud Infrastructure around availability, performance and ease of cloud integration: Regions and Availability Domains, a modern network infrastructure, Virtual Cloud Network and high-performance compute infrastructure.

- Oracle Cloud Infrastructure services are deployed 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. Availability Domains are isolated from each other, fault tolerant, and very unlikely to fail simultaneously. All the Availability Domains in a region are connected to each other by a low latency, high bandwidth network.
- Oracle Cloud Infrastructure network infrastructure is comprised of a high performance, non-oversubscribed, flat physical network which provides the latency and throughput of rack adjacency across the network within an Availability Domain.

Copyright © 2026, Oracle and/or its affiliates / Public

- Oracle Cloud Infrastructure provides a secure, private software-defined Virtual Cloud Network (VCN) that allows customers to treat OCI services as a secure and elastic extension of their on-premises network. Customers can configure their Exadata Cloud Infrastructure system in their preferred VCN with complete flexibility that includes assigning their own private IP address space, creating subnets, creating route tables and configuring stateful firewalls. Customers can configure the VCN with an optional Internet Gateway to handle public traffic, an optional Service Gateway to privately access Oracle services or an optional IPSec VPN connection to securely extend their on-premises network.

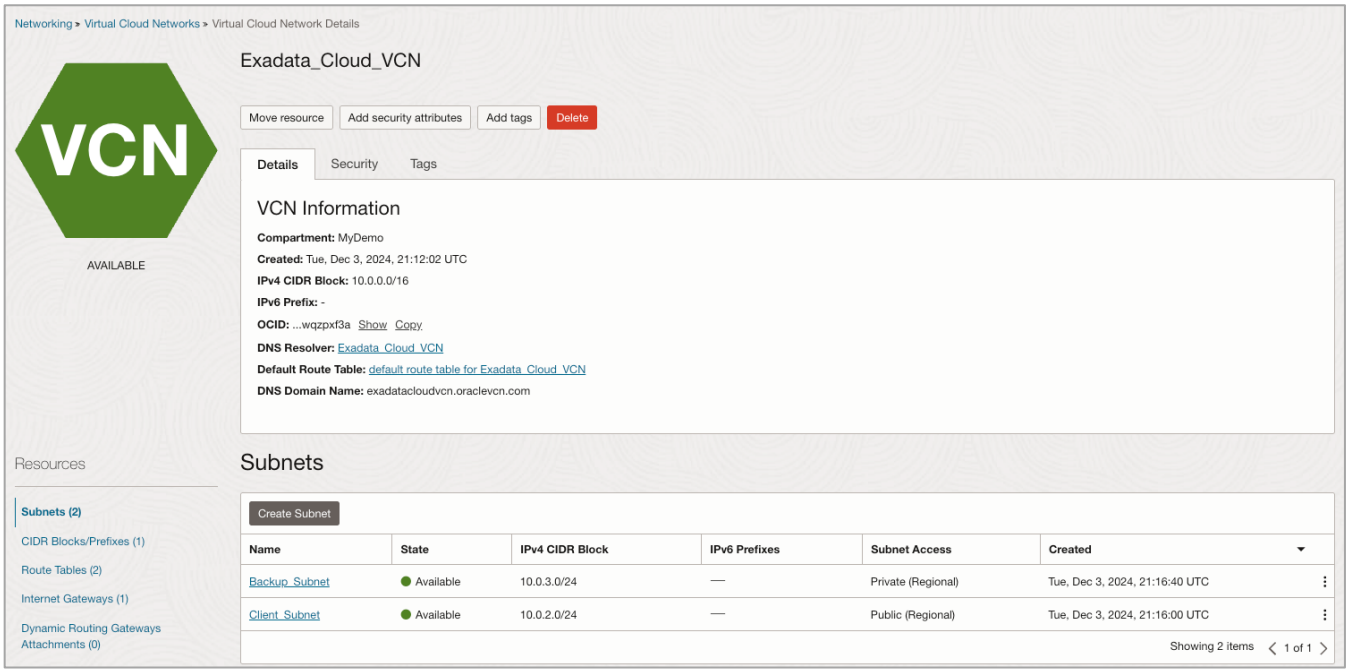

Figure 1: Oracle Cloud Infrastructure Virtual Cloud Network (VCN) Details

- Oracle Cloud Infrastructure services also offer fully dedicated bare metal and virtualized compute infrastructure instances with powerful processors, high memory, and latest generation NVMe SSDs, which provides unrivaled raw performance ideal to run CPU and I/O intensive applications. These applications connect to the databases deployed on Exadata Cloud Infrastructure over a secure, high speed network connection, delivering unparalleled performance for any enterprise-scale application deployment.

Oracle Cloud Infrastructure is currently available globally, and Oracle is rapidly building more regions with the goal to offer proximity and meet data residency requirements, as well as provide true disaster protection with multiple geographically distributed cloud regions in every country. Oracle Cloud serves commercial businesses and governments with distinct regions to meet specific compliance and tenancy requirements. Oracle also has unique hybrid cloud options, including Dedicated Region Cloud@Customer which offers all Oracle Cloud services in customer data centers. Exadata Cloud Infrastructure is available for deployment in commercial, government, and dedicated regions.

Exadata Cloud Infrastructure is also available in select Microsoft Azure, Google Cloud, and AWS regions. Applications in partner cloud regions benefit from low-latency, native access to Oracle databases running on Exadata, providing the highest levels of performance, scalability, and availability.

For more information on Oracle Cloud Infrastructure, visit www.oracle.com/cloud

Cloud Control Plane

The Cloud Control Plane is a sophisticated software suite which runs in Oracle Cloud Infrastructure. Customers can connect to the Cloud Control Plane through a secure link using a web browser, command line interface (CLI), REST APIs, or language-specific SDKs.

Copyright © 2026, Oracle and/or its affiliates / Public

The Cloud Control Plane includes integrated identity management which allows multiple departments or groups to share an Oracle Cloud Infrastructure tenancy. Compartments enable access control across resources and provide an effective mechanism to organize and control access to resources such as Exadata Cloud Infrastructure within a single tenancy.

The Cloud Control Plane is used to deploy Exadata Cloud Infrastructure and databases running on the system. It is also used to perform lifecycle operations such as provisioning, patching, backup, and configuring Data Guard. Policies can be used to grant fine-grain permissions within a single database for separation of duty. Another key function of the Cloud Control Plane is to track customer usage and bill only for what they use.

The Cloud Control Plane used by Exadata Cloud Infrastructure is the same as the one used in Exadata Cloud@Customer. This allows customers to have the same experience in both the public cloud and Exadata Cloud@Customer, using the same UX and REST APIs.

Enterprise Class Security

Oracle Exadata benefits from scrutiny by Oracle security experts and by hundreds of industry experts around the world. Exadata Cloud Infrastructure delivers Exadata as a service and is based on comprehensive security measures deployed in the hardware infrastructure, network, Exadata platform, and Oracle Database. The security features of Exadata Cloud Infrastructure segregate customer data access and Oracle Cloud Operations and secure data that enters, leaves, and resides on the system, authenticate access to the system, and validate Oracle provided software that runs on the system. Oracle Cloud automation further enhances security by enforcing strong passwords, encrypting data for all Oracle databases, and making it fast and easy for customers to keep databases updated with the latest security updates from Oracle.

Exadata Cloud Infrastructure security protects the physical servers and components that are the building blocks of the system. Infrastructure security features include:

- Vendor signed firmware on most hardware components from the vendor that supplies the component
- Hardware acceleration that delivers near-native encryption and decryption speed so that encryption can always be used for all Oracle Database data
- Infrastructure optimizations that uniquely move decryption processing to Exadata Storage Server infrastructure
- Virtual machines to provide secure isolation between customer data and Oracle Cloud Operations

Customers have full control of the data in Oracle Database so it can only be accessed by users with explicit rights to access that data. Oracle Cloud Operations does not access customer data to carry out their duties of infrastructure support.

Exadata Cloud Infrastructure network security is implemented with isolated networks, and each network is equipped with additional security measures to secure critical data processing tasks. Network security features include:

- Internal RoCE network: RoCE Secure Fabric isolates and protects storage and Oracle RAC interconnect traffic
- Customer client network: Oracle Net Encryption secures application traffic to databases
- Customer backup network: Oracle Net Encryption secures traffic for high-bandwidth use cases such as backup, data loading, and disaster protection using Data Guard
- Customer controlled VCN mapped directly to the database VMs

Exadata Cloud Infrastructure platform security leverages virtual machine isolation. The operating system deployment for the Exadata Cloud Infrastructure platform includes:

- A minimal Linux distribution ensures that just the packages needed to run Oracle Database are installed and enabled
- Minimal open ports and running services that minimize attack surfaces
- Comprehensive logging and auditing that tracks access and modification

Copyright © 2026, Oracle and/or its affiliates / Public

Customers running Exadata Database Service have full root access to the virtual machines using Token-based SSH access, and they can add additional tools to implement their existing security best practices such as installing software agents, configuring the iptables firewall, and LDAP authentication.

Exadata Database Service also supports all enterprise security features of the Oracle Database. TDE encryption keys are stored in a password protected Oracle wallet in the customer's database VM by default, and customers can optionally configure Oracle Cloud Infrastructure Vault for key management. Data transmitted over the network is secured between the client application and the database using Oracle Native Network Encryption. Backups are encrypted in Oracle Cloud Infrastructure.

Oracle Cloud Operations

Oracle Cloud Operations manages, monitors, and maintains components for Exadata Cloud Infrastructure.

- Components managed include:
  - Exadata storage servers and physical database servers
  - Power distribution units (PDUs)
  - RoCE network and switches
  - Management switch
  - Control plane servers
  - Oracle KVM (hypervisor)
  - Exadata system software and all firmware
- Monitoring activities include:
  - Infrastructure layer incident monitoring, management, and root cause analysis
  - Threshold performance analysis
- Maintenance activities include:
  - Bug and security fixes inside hypervisor
  - Exadata System Software updates and upgrades
  - Firmware updates and upgrades to any of the hardware components including networking components and RoCE switches
  - Proactive infrastructure upgrades to update software and firmware as required

Infrastructure Service and Software Licensing Models

Infrastructure Service

Exadata Cloud Infrastructure is available as a pay-per-use service offering that requires a minimum term of 48 hours. Customers can choose to deploy elastic Exadata Cloud Infrastructure X11M and X11MV shapes or an entry level Base System, which is hardware generation agnostic and not expandible. The X11M and X11MV shapes start with 2 database and 3 storage servers that can be expanded with additional database and storage servers to enable higher compute and storage capacity. All the disk/flash, IOPS and memory for the configuration chosen is dedicated to the customer and included in the price. There is no charge for network communication to the Exadata Cloud Infrastructure system. Detailed specifications for the typical Exadata Cloud Infrastructure X11M and X11MV shapes as well as individual database and storage servers are provided in Table 1.

Software Licensing Models

Exadata Database Service offers two software licensing models:

- License Included
- Bring Your Own License (BYOL)

Exadata Database Service software licensing is based on ECPUs allocated to a VM Cluster. Customers can scale database cores online, thus paying only for the processing power they require.

Copyright © 2026, Oracle and/or its affiliates / Public

License Included

This subscription model includes all the features of Oracle Database Enterprise Edition, plus all the Oracle Database Enterprise Manager Packs and all Oracle Database Enterprise Edition Options. These industry-leading capabilities include Database In-Memory, Real Application Clusters (Oracle RAC), Multitenant, Active Data Guard, Automatic Storage Management (ASM), Partitioning, Advanced Compression, Advanced Security, Database Vault, Real Application Testing, OLAP, Advanced Analytics and Spatial and Graph. This subscription model is ideal for customers without existing Oracle Database licenses, or customers seeking to use Oracle Database features beyond what they are currently licensed to use.

Bring Your Own License (BYOL)

Bring Your Own License (BYOL) is designed to minimize costs when migrating to the cloud. In a BYOL model, customers can deploy their existing Oracle Database Enterprise Edition and Database Option licenses. Oracle Database Standard Edition is not supported. When a customer brings an Oracle Database Enterprise Edition license entitlement, they are granted the rights to use Transparent Data Encryption (TDE), Diagnostics Pack, Tuning Pack, Data Masking and Subsetting Pack, and Real Application Testing without bringing license entitlements for those Database Options and Management Packs. The Exadata System Software is also included in a BYOL subscription, so BYOL customers do not have to bring a license entitlement for the Exadata System Software.

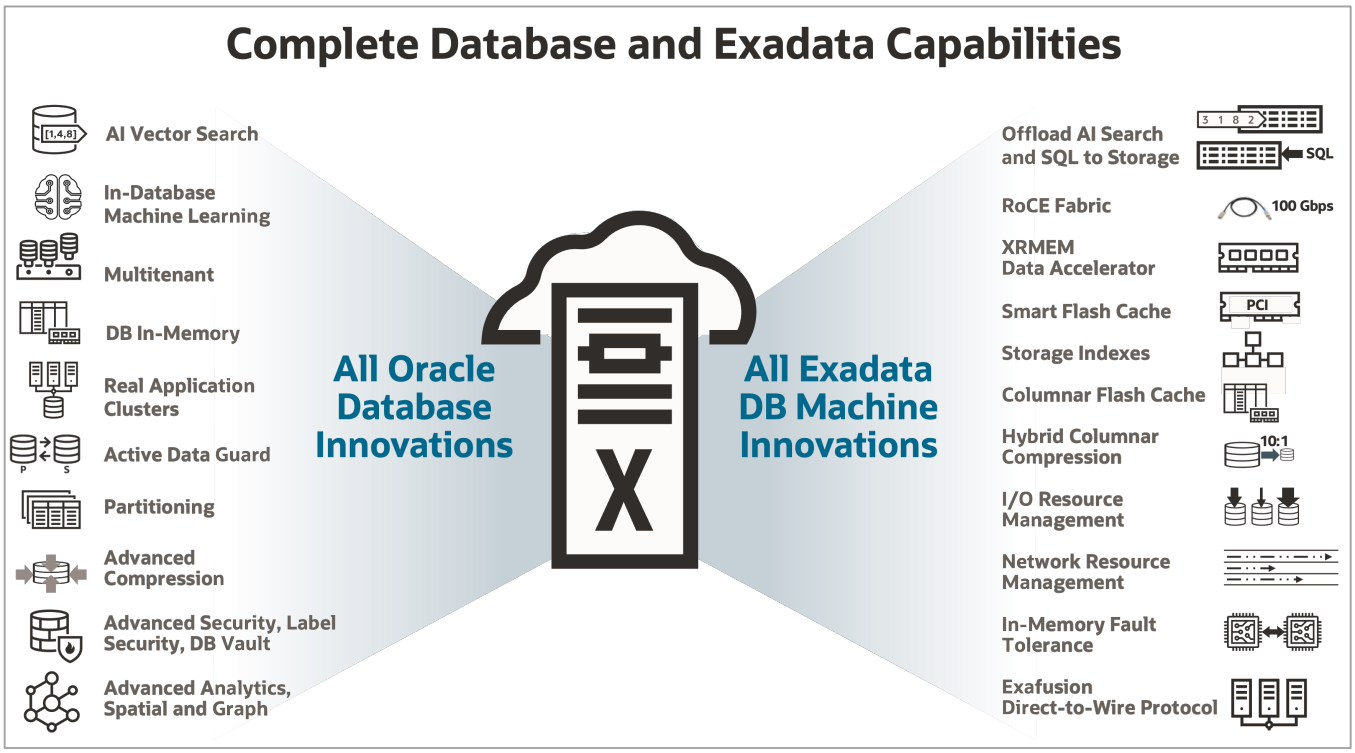

Figure 2: Exadata Cloud with all Database and Exadata features

Managing Exadata Database Service on Dedicated Infrastructure

Customers provision Exadata Database Service on Dedicated Infrastructure by deploying the infrastructure and creating VM Clusters running Oracle Linux. VM Clusters can host multiple container databases and one or more pluggable databases within each container database. Lifecycle operations for the service are performed using the web browser UI or REST API-driven automation available through the Cloud Control Plane, including provisioning, scaling, updating, and backup. Operating system and database updates are applied by customers based on their preferred schedule. The underlying Exadata Cloud Infrastructure, including the database and storage servers, RoCE network, hypervisor, and Exadata System Software, is deployed, monitored, and managed by Oracle Cloud Operations.

Copyright © 2026, Oracle and/or its affiliates / Public

Customers can set a time preference that determines the infrastructure maintenance window. This flexibility improves customer productivity and reduces business risk by enabling customers to focus on their core business while scheduling infrastructure maintenance around critical business activities.

Customers can easily scale their VM Cluster resources, including ECPUs, memory, local disk space, and Exadata storage allocated to the VMs, as business conditions change. Flexible scaling avoids the costly practice of sizing for the highest possible peak workload, which is often required for on-premises systems. Use cases that leverage such dynamic scaling are workloads whose busy periods vary depending on the time of day, week, month, quarter, or year -for example, a retailer whose workload peaks during the holidays. Databases remain completely online while database cores are scaled in this manner.

Exadata Database Service on Dedicated Infrastructure enables automatic database backups to Oracle Database Zero Data Loss Autonomous Recovery Service or Oracle Cloud Infrastructure Object Storage. Customers can also enable Data Guard through the Cloud Control Plane to protect mission-critical databases from unplanned failures or reduce downtime for planned maintenance activities.

Customers can deploy all currently supported Oracle Database versions with Exadata Database Service on Dedicated Infrastructure. Review MyOracle Support Note PNEWS1360 - Release Schedule of Current Database Releases for the latest supportability status of Oracle databases.

Autonomous Database on Dedicated Infrastructure

The same Exadata Cloud Infrastructure can run both Exadata Database Service and Autonomous Database, which allows Autonomous Database to be deployed alongside Exadata Database Service. Autonomous Database is the simplest cloud database service for running any application, at any scale or criticality. It uses machine learning driven automation to eliminate human labor, human error, and manual tuning, thereby reducing deployment costs and administrative complexities while ensuring the highest reliability, security, and operational efficiency.

For more information on Autonomous Database on Dedicated Infrastructure, visit www.oracle.com/autonomous-database/autonomous-database-on-dedicated-infrastructure/

Migration To Exadata Cloud Infrastructure

Full compatibility between on-premises databases and databases deployed on Exadata Cloud Infrastructure makes migration simple and low risk. Oracle recommends using Zero Downtime Migration as a best practice for moving your database workloads. Oracle ZDM makes it easy to migrate online, and from Linux x86, AIX and Solaris platforms.

For more information on moving your databases to Oracle Cloud, visit www.oracle.com/goto/move

Conclusion: Transform IT, Unleash Business Potential

Exadata Database Service is Oracle's most powerful, available, and flexible cloud database service. It runs in the public cloud on Exadata Cloud Infrastructure, or in customer data centers on Exadata Cloud@Customer, the world's fastest cloud database platforms.

With more compute and storage resources in the latest generation of Exadata Cloud Infrastructure along with extreme scale-out capability, customers can consolidate even more mixed database workloads on less infrastructure. Granular scalability of database and storage servers lowers infrastructure costs by enabling customers to properly size their hardware configuration to match their workload requirements. Infrastructure managed by Oracle and built-in automation for common lifecycle tasks simplifies the overall management of the system and databases. Customers also only pay for the processing power they require by elastically scaling database cores online.

Enterprise-proven database capabilities are now instantly available to maximize productivity, lower risk and accelerate time-to-value. To embrace the cloud, customers no longer have to compromise their SQL functionality, performance, availability, data models, or transactional integrity. No changes to on-premises applications are required either,

Copyright © 2026, Oracle and/or its affiliates / Public

enabling rapid and easy migration to the cloud. Customers can bring their existing on-premises database software license, leveraging their existing investments.

With a database platform uniquely engineered for extreme performance, along with fast deployment, simplified management, low operating costs and reduced risks, Exadata Cloud Infrastructure is the best public cloud database platform available. Oracle uniquely delivers all these benefits as a service in the public cloud with Exadata Database Service on Dedicated Infrastructure in OCI and partner clouds. For customers requiring a smaller entry size and even more granular shapes than individual servers, Exadata Database Service is also available on shared Exascale Infrastructure in the public cloud, allowing customers to provision only the VM resources and storage they need without dedicated infrastructure. Exadata Database Service is also available in customer data centers with Exadata Database Service on Cloud@Customer.

For more information on Oracle Exadata Database Service, visit https://www.oracle.com/engineered-systems/exadata/database-service/

Copyright © 2026, Oracle and/or its affiliates / Public

ORACLE

Table 1: EXADATA CLOUD INFRASTRUCTURE: Technical Specifications

Typical Hardware Configuration Examples

Service item	Base System[1]	X11M/X11MV Elastic Config. Example 1[2]	X11M/X11MV Elastic Config. Example 2[2]	X11M/X11MV Elastic Config. Example 3[2]
Number of Database (DB) Servers per System	2	2	8	2
Number of Storage Servers per System	3	3	8	14
Total Usable Cores in DB Servers per System	48	380	1,520	380
Total ECPUs in DB Servers per System	192	1,520	6,080	1,520
Min # of ECPUs per VM	8	8	8	8
Total Memory Available for VMs (GB)	720	2,780	11,120	2,780
Max # of VMs per DB Server[3]	1	8 (X11M) 12 (X11MV)	8 (X11M) 12 (X11MV)	8 (X11M) 12 (X11MV)
Max # of VM Clusters per System[3]	1	8 (X11M) 24 (X11MV)	8 (X11M) 24 (X11MV)	8 (X11M) 24 (X11MV)
Max Usable Local Storage per DB Server[4] (GB)	900	2,243	2,243	2,243
Max Usable Storage per VM /u02 Filesystem[4] (GB)	900	900 (X11M) 1,700 (X11MV)	900 (X11M) 1,700 (X11MV)	900 (X11M) 1,700 (X11MV)
VM Image Size Minimum and Default[4] (GB)	244	244	244	244
Total Cores in Storage Servers per System	144	192	512	896
Total XRMEM Capacity[5] (TB)	n/a	3.75	10	17.5
Total Flash Capacity (TB)	38.4	81.6	217.6	380.8
Total Usable Disk Capacity[6] (TB)	73	240	640	1,120
Max DB Size – No Local Backup[6] (TB)	58	192	512	896
Max DB Size – Local Backup[6] (TB)	29	96	256	448
Max SQL Flash Bandwidth[7] (GB/s)	25	300	800	1,400
Max SQL XRMEM Bandwidth[7] (GB/s)	n/a	1,500	4,000	7,000
Max SQL Read IOPS[5,8]	562,500	5,600,000	22,400,000	5,600,000
Max SQL Write IOPS[9]	518,000	3,000,000	8,000,000	5,000,000
Max SQL Disk Bandwidth[7] (GB/s)	2.7	5.4	14.4	25.0
Max SQL Disk IOPS[8]	3,900	7,800	20,800	36,000
Max Data Load Rate[10] (TB/hr)	3.8	7.5	20.0	7.5
Network Connectivity	10 GbE	100 GbE	100 GbE	100 GbE

Individual Server Specifications

Server Type	Total Usable Database Cores	Total ECPUs	Total Memory Available for VMs (GB)
X11M and X11MV Database Server (32 Max)	190	760	1,390

Server Type	Total Cores	XRMEM Capacity[5] (TB)	Total Flash Capacity (TB)	Total Usable Disk Capacity[6] (TB)
X11M and X11MV Storage Server (64 Max)	64	1.25	27.2 TB	80 TB

Individual Server Performance Metrics

Server Type	Maximum SQL Flash Bandwidth[7] (GB/s)	Maximum SQL XRMEM Bandwidth[7] (GB/s)	Maximum SQL Read IOPS[5,8]	Maximum SQL Write IOPS[9]
X11M and X11MV Database Server	n/a	n/a	2,800,000	2,500,000
X11M and X11MV Storage Server	100	500	2,800,000	1,000,000

Copyright © 2026, Oracle and/or its affiliates / Public

Notes on Technical Specifications:

[1] Base System is hardware generation agnostic and is not expandable. It only supports a single VM Cluster.

[2] Elastic X11M and X11MV infrastructure configuration shapes range from 2 database and 3 storage servers, up to a total of 32 database and 64 storage servers to achieve the exact ratio of compute to storage required. Elastic configuration example 1 is the minimum size elastic configuration with 2 database and 3 storage servers. Elastic configuration example 2 with 8 database and 8 storage servers and elastic configuration example 3 with 2 database and 14 storage servers are examples elastic configurations that provide the highest SQL Read IOPS and Bandwidth in a theoretical single rack, respectively.

[3] The maximum number of VMs per database server is 8 for X11M and 12 for X11MV. The maximum number of VM Cluster per system is 8 for X11M and 24 for X11MV regardless of the number of database servers in the system.

[4] The maximum usable local storage per database server is 2,243 GB. Each VM requires a minimum VM image size of 244 GB which includes 60 GB for /u02. The /u02 filesystem used for Oracle Database homes can be up to 900 GB per VM for X11M and up to 1.7 TB per VM for X11MV. The maximum /u02 filesystem size may be limited by the amount of available local storage. The 2,243 GB limit does not apply to VMs on Exascale storage.

[5] Exadata RDMA Memory (XRMEM) is included with Elastic configurations. Read I/Os use XRMEM.

*[6] Usable capacity is measured using normal powers of 2 space terminology with 1 TB = 1024 * 1024 * 1024 * 1024 bytes. It is the actual space available to create a database after taking into account space needed for ASM high redundancy and recovering from a drive failure, but before database compression.*

[7] Bandwidth is peak physical scan bandwidth achieved running SQL, assuming no database compression. Effective user data bandwidth is higher when database compression is used.

[8] Based on 8K I/O requests running SQL.

[9] Based on 8K I/O requests running SQL. Flash write I/Os measured at the storage servers after ASM mirroring, which issues multiple storage I/Os to maintain redundancy.

[10] Load rates are typically limited by database server CPU, not I/O. Rates vary based on load method, indexes, data types, compression and partitioning.

Additional Notes on Technical Specifications:

1) Refer to the product documentation for the latest information on product features.

Connect with us

Call +**1.800.ORACLE1** or visit **oracle.com**. Outside North America, find your local office at: **oracle.com/contact**.

blogs.oracle.com facebook.com/oracle twitter.com/oracle

Copyright © 2026, Oracle and/or its affiliates. This document is provided for information purposes only, and the contents hereof are subject to change without notice. This document is not warranted to be error-free, nor subject to any other warranties or conditions, whether expressed orally or implied in law, including implied warranties and conditions of merchantability or fitness for a particular purpose. We specifically disclaim any liability with respect to this document, and no contractual obligations are formed either directly or indirectly by this document. This document may not be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without our prior written permission.

Oracle, Java, MySQL, and NetSuite are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.