

Frequently Asked Questions Oracle Private Cloud Appliance



INTRODUCTION

Oracle Private Cloud Appliance is an on-premises cloud native converged infrastructure that allows customers to efficiently consolidate business critical middleware and application workloads. Oracle Private Cloud Appliance is cost effective, easy to manage, and delivers better performance than disparate build-your-own solutions. Oracle Private Cloud Appliance together with Oracle Exadata provides powerful, single-vendor, application and database platforms for today's data driven enterprise.

Oracle Private Cloud Appliance runs enterprise workloads alongside cloud-native applications to support a variety of application requirements. Oracle Private Cloud Appliance together with Oracle Cloud Infrastructure provides customers with a complete solution to securely maintain workloads on both private and public clouds. Oracle Private Cloud Appliance's converged architecture integrates the Oracle Linux Cloud Native Environment, decoupling the workloads from the infrastructure to provide a scalable framework for effortless workload portability to Oracle Cloud Infrastructure.

General Questions

Which Oracle software is certified for use with Oracle Private Cloud Appliance?

- By default, all Oracle software that has been certified for use with Oracle VM is certified for Oracle Private Cloud Appliance, which includes the Oracle Database, Oracle Fusion Middleware, Oracle Applications, and Oracle Real Application Clusters. Backed by Oracle's world-class support organization, customers now have a single point of support for their entire hardware and software virtualization environments.

Which external storage systems are certified for use with Oracle Private Cloud Appliance?

- Oracle Private Cloud Appliance has an integrated ZFS Storage Appliance that supports NFS/iSCSI. This internal storage is used for management and maintenance of the appliance as well as providing extreme performance and superior efficiency required by demanding enterprise applications running in VMs.

External storage is purchased separately and installed externally to the Oracle Private Cloud Appliance. The storage capacity of Oracle Private Cloud Appliance can be expanded beyond the integrated storage, to external data center racks containing Oracle ZFS Storage Appliance, or supported storage available from other storage vendors. By default, any external Oracle or non-Oracle storage appliance that has been certified for use with Oracle VM will integrate with Oracle Private Cloud Appliance. For a list of supported 3rd party storage systems, refer to [Hardware Certification List](#).

Why is Oracle offering the Oracle Private Cloud Appliance?

- Oracle has a long-standing history of delivering Engineered Systems to help simplify IT and enable data centers to deliver better services from database, business applications to middleware and hardware integrated solutions.

Consistent with this strategy, the Oracle Private Cloud Appliance provides IT a highly scalable, multi-tenant IaaS foundation to support consolidation as well as a robust integrated solution to help IT achieve maximum efficiency with existing investments or prepare for the migration to cloud computing.

Oracle Private Cloud Appliance is an easy-to-acquire, easy-to-deploy, “turnkey” solution that integrates compute, network, and storage resources in a software-defined fabric to enable agile and efficient data center deployments. With Oracle Private Cloud Appliance, customers get a converged infrastructure that can be scaled linearly, one server at a time and by addition of extra storage shelves as customer needs grow. In addition, Oracle Private Cloud Appliance uniquely provides the capability to rapidly deploy applications, not just hardware, based on the ability to leverage Oracle VM Templates and Assemblies that are user-created or that are available for download from Oracle.

What is Oracle Linux Cloud Native Environment?

- [Oracle Linux Cloud Native Environment](#) is an integrated software suite for the development and management of cloud-native applications. Based on the Open Container Initiative (OCI) and Cloud Native Computing Foundation (CNCF) standards, Oracle Linux Cloud Native Environment delivers a simplified framework for installations, updates, upgrades, and configuration of key features for orchestrating microservices. For more information about Oracle Linux Cloud Native Environment, please see [Getting Started](#).

What are the components of the Oracle Private Cloud Appliance X8-2?

[Oracle Private Cloud Appliance X8-2](#) is a turnkey solution which has the following components pre-integrated and wired from the factory:

Compute and Management:

- The base rack consists of 2 dedicated Oracle X8-2 Servers as management nodes. In addition, a base rack can support a maximum of 25 Oracle X8-2 Servers as compute nodes

Networking:

- High-speed, low latency software-defined networking is implemented on top of 100 Gb Ethernet leaf and spine switches. These offer 100 Gb Ethernet connectivity for all communication between internal rack components and allow for flexible 10/25/40/100 GbE connectivity to a customer's data center.
 - Two 36-port 100 GbE Spine switches
 - Two 36-port 100 GbE Leaf switches
 - One 48-port Management switch

Internal Storage:

- Oracle ZFS ZS7-2 Storage Appliance that centrally stores the Oracle Private Cloud Appliance controller software as well as customer workloads. With dual ZS7-2 controllers in a high-availability (HA) configuration and one high-capacity DE-24C storage shelf, Oracle Private Cloud Appliance now includes 100 TB of customer usable storage capacity in the rack. This storage can be scaled to 3.2 PB using a combination of DE3-24C or all-flash DE3-24P expansion storage trays.

Software:

- Oracle Private Cloud Appliance is preloaded with Oracle Private Cloud Appliance controller software, Oracle VM, Oracle VM Manager, Storage System Software.

Pricing and Licensing

What additional licenses are required with the Oracle Private Cloud Appliance?

- No additional software licenses are required for Oracle Private Cloud Appliance. The Oracle Private Cloud Appliance system price includes all the required software.

Features and Benefits

What are some of the features and benefits of the Oracle Private Cloud Appliance?

Oracle Private Cloud Appliance is an agile and intelligent Engineered System designed for rapid and automated private cloud deployment. Whether running Linux, Windows, Oracle Solaris applications or running containerized cloud native applications, Oracle Private Cloud Appliance supports consolidation for a wide range of mixed workloads.

- PCA delivers a Cloud Native Framework with container runtime environment for application development, and Kubernetes for container orchestration
- Power-on to production in hours as opposed to months
- Prebuilt Oracle VM templates help deploy Oracle applications like Oracle RAC and middleware in minutes
- Support for Oracle Linux Cloud Native Environment (OL CNE) to automate deployment, scaling and management of containerized applications
- Supports Trusted Partitioning for efficient Oracle software licensing
- Secure multitenancy – isolated tenant groups

Oracle Private Cloud Appliance offers exceptional value in the following areas:

Secure, scalable and agile private cloud

- Scalable up to 1200 cores and 3.3Pb
- Supports up to 23 additional capacity and flash storage trays
- Supports up to 8 fully isolated tenant groups
- Zero Downtime upgrades

Highly Available, Integrated Cloud Native Environment:

- Simplify, Automate, Deploy and auto-scale Kubernetes Clusters in 30 minutes!
- Enable DevOps, modernization and application portability
- Easily extend and/or migrate workloads to Oracle Cloud Infrastructure

Converged Engineered System for middleware and apps:

- Consolidate enterprise and cloud native workloads
- Cost-effective and scalable
- Single pane of glass management – Applications to Disk
- Up to 40% better price/performance than build-your-own

Seamless integration with Oracle Exadata:

- Single vendor support for Applications, Middleware, Database and Infrastructure
- Direct Attach – lowest latency between Middleware and DB tier

Application Portability

- Includes support for OLCNE (based on open CNCF standards) to automate deployment, scaling and management of container workloads
- Oracle Container Registry is the trusted source of Oracle S/W as Docker containers
- Applications seamlessly portable to any Kubernetes compliant platform

Can Oracle VM Templates be used with Oracle Private Cloud Appliance?

- Oracle VM Templates can be used with Oracle Private Cloud Appliance. Oracle VM Templates provide an innovative approach to deploying a fully configured software stack by offering pre-installed and pre-configured software images. Use of Oracle VM Templates eliminates the installation and configuration costs, helping organizations achieve faster time-to-market and lower cost of operations. Oracle VM Templates of many key Oracle products are available for download, including Oracle Database, Oracle Real Application Cluster (RAC), Oracle E-Business Suite, JD Edwards, Fusion Middleware, HCM, PeopleSoft and many more. [Learn more about Oracle VM Templates.](#)

Technical Details

How do customers manage their Oracle Private Cloud Appliance?

- A browser-based management dashboard is included along with the Oracle Private Cloud Appliance controller software. The dashboard allows customers to manage the hardware. The controller software, which runs on the management nodes, is responsible for the automation and control of the appliance. To manage the virtualized environment, a browser-based management solution [Oracle VM Manager](#) is included at no additional charge. In addition, customers can use [Enterprise Manager to monitor and manage their Oracle Private Cloud Appliance](#).

What guest operating systems are supported with Oracle Private Cloud Appliance?

- The following guest operating systems are supported with Oracle Private Cloud Appliance:
 - Oracle Solaris
 - Oracle Linux
 - Red Hat Enterprise Linux
 - Microsoft Windows Server

Please refer to Oracle release notes for complete information on supported Guest OS configurations.

What are the technical specifications for the compute and management nodes in Oracle Private Cloud Appliance X8?

- Oracle Servers X8-2 are the compute nodes and management nodes supported in Oracle Private Cloud Appliance X8.
- The Oracle Server X8-2 Management node has the following specifications:
 - (2) Intel® Xeon® 5218 2.3 GHz, 16 core processors (Total 32 cores)
 - 12X32 GB DDR4 DIMMs (384 GB RAM total)
 - (2) 1.2 TB HDDs (RAID1)
 - (1) Dual-port 100Gbit Ethernet HCA (CX5)
 - (1) GbE management port (BASE-T)
 - 1 Gbit + 2 X 10/25 Gbit embedded Ethernet ports
 - Redundant power supplies, cooling fans and disks
- The Oracle Server X8-2 serving as Compute Nodes has the following specifications:
 - (2) Intel® Xeon® 8260 2.4 GHz, 24 cores, 165 watts processors (Total 48 cores)
 - 3 memory configurations with 384GB, 768GB and 1.5 TB RAM
 - (2) 1.2 TB HDDs (RAID1)
 - 1 Gbit + (2) 10/25 Gbit Embedded Ethernet ports
 - (1) Dual-port 100Gbit Ethernet HCA (CX5)
 - (1) GbE management port (BASE-T)
 - Hot-swappable and redundant disks, cooling fans and power supply units

Does Oracle Private Cloud Appliance include any Ethernet switching elements?

- Yes, Oracle Private Cloud Appliance uses Ethernet. High-speed, low latency software-defined networking is implemented on top of 100 Gb Ethernet leaf and spine switches. These offer 100 Gb Ethernet connectivity for all communication between internal rack components and allow for flexible 10/25/40/100 GbE connectivity to a customer's data center.

Does Oracle Private Cloud Appliance enable automation using Infrastructure as Code?

- Yes, we have released an Ansible VM lifecycle management module for automating deployments on Oracle Private Cloud Appliance. This module automates and accelerates creation, deletion, starting and stopping of virtual machines beginning with Oracle VM 3.4 and Oracle Private Cloud Appliance 2.3.1. In addition, this allows you to clone Virtual machines from VM Templates and Virtual Machine Assemblies. Ansible automates application deployment and configuration by communicating with Oracle VM REST APIs over HTTPS. Download the Ansible rpm and accompanying whitepapers from [Oracle VM Tools Download](#).

How does a customer deploy Cloud Native Environment on Oracle Private Cloud Appliance?

- Oracle Private Cloud Appliance comes integrated with a fully supported, production-ready Oracle Linux Cloud Native Environment to simplify and automate the lifecycle of Kubernetes clusters. Customers can use pca-admin CLI or Oracle Enterprise Manager GUI to create, delete and scale Kubernetes clusters. A fully HA Kubernetes cluster can be created in as little as 30 minutes, thereby providing an easy path for customers to modernize their workloads.

Do you have a tool that can be used to migrate VMware vSphere virtual machines to Oracle VM?

- Yes, we have a tool that automates migration of virtual machines from VMware vSphere to Oracle VM. Please reference the [accompanying whitepaper and tool](#) under 'ImportFromVMware' section.

Support Details

How do I get access to patches and updates?

- Patches for Oracle Private Cloud Appliance are available through My Oracle Support. Get the download instructions from [Oracle VM OTN download page](#).

What is Microsoft's support policy regarding Windows and Oracle VM?

- Oracle VM Server for x86 with Windows PV Drivers passed [Microsoft SVVP requirements for Windows Servers](#). Please refer to the Microsoft Help and Support document titled, "[Support Policy for Microsoft Software Running in Non-Microsoft Hardware Virtualization Software.](#)"

More Information

For more information about Oracle Private Cloud Appliance visit <https://www.oracle.com/servers/private-cloud-appliance/> or call +1.800.ORACLE1 to speak to an Oracle representative.

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