Oracle Private Cloud Appliance X11

Frequently Asked Questions (FAQs)

Table of Contents

Introduction

1. What is Oracle Private Cloud Appliance?

Oracle Private Cloud Appliance is a rack-scale engineered system that delivers Oracle Cloud Infrastructure (OCI) compatible compute, storage, and networking on-premises. It lets customers rapidly deploy both traditional and cloud-native workloads using built-in automation in an OCI-like environment. Private Cloud Appliance can be directly connected to Oracle Exadata or Oracle Database Appliance platforms to create full-stack environments with the lowest latency and highest performance between the tiers. Private Cloud Appliance provides a consistent cloud-like development and deployment experience that mirrors OCI while also meeting data residency requirements.

Features and Benefits

2. What are the benefits of running workloads on Oracle Private Cloud Appliance?

With Oracle Private Cloud Appliance, you can:

- Modernize your infrastructure with the best on-premises platform for traditional and cloud-native workloads – reducing cost, complexity, and administrative requirements.
- Directly connect to Oracle Exadata and Oracle Database Appliance to provide a low-latency connectivity
- Utilize OCI compatible APIs, SDK, and management tools for simplified workload migration to/from OCI
- Provide a consistent and seamless cloud-like experience with easy portability between private and public clouds
- Support mixed workloads with single vendor support to run mission-critical applications and provide business continuity
- Enable business growth by consolidating legacy applications and by developing, maintaining, and quickly deploying separate applications for on-premises and the cloud
- Adhere to data residency, latency, and regulatory requirements by maintaining data in your data center
- Run applications faster and reduce operational complexity by using the latest integrated solutions with high-performance, independent scale-out compute and storage capabilities

3. What value does Oracle Private Cloud Appliance provide to customers?

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

- *Converged Engineered System for middleware and applications*
    - Consolidate enterprise and cloud native workloads
    - Reduce licensing fees with "Trusted Partitions" that let organizations optimize Oracle software license usage

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- o Scale independently and dynamically – with scale-out compute and storage scalabilities
- o Deliver secure multitenancy – up to eight isolated tenancies
- o Provide high availability, with no single point of failure along with three fault domains

- *High performance connectivity with Oracle Exadata and Oracle Database Appliance*

  - o Achieve the lowest application-to-database latency
  - o Provide single vendor support for all Oracle hardware and software

- *Highly available, integrated OCI Kubernetes Engine*

  - o Achieve application portability with OCI compatible APIs, SDKs, and management tools to simplify workload migration to/from OCI
  - o Utilize OCI Kubernetes Engine (OKE) with container runtime environment for application development, and Kubernetes for container deployment, scaling, and application management
  - o Simplify, automate, deploy and auto-scale Kubernetes clusters

4. **How scalable is Oracle Private Cloud Appliance?**

   Oracle Private Cloud Appliance X11 is highly scalable with compute scalability from 552 to 1656 available high-speed 5th Generation AMD EPYC™ CPU cores in a single rack and up to 6602 OCPUs in a multi-rack configuration. It also includes usable high-capacity storage scaling from 150 TB to 3.65 PB or high-performance storage up to 1.2PB. Both compute and storage can be scaled independently of each other.

5. **Can I connect Oracle Exadata to Oracle Private Cloud Appliance?**

   Private Cloud Appliance X11 provides the unique ability to be directly connected to a combination of up to 16 database nodes on Exadata Database Machine, Exadata Cloud@Customer, or Oracle Database Appliance systems, providing up to 800 Gbps of dedicated bandwidth. This capability enables Private Cloud Appliance customers to bypass their data center networks and achieve better performance between their application and database tiers. Customers also benefit from the enhanced scalability and single vendor support in multi-tier deployments on Private Cloud Appliance, and Exadata and Database Appliance.

6. **What storage services are available on the Oracle Private Cloud Appliance?**

   Oracle Private Cloud Appliance X11 supports Block, Object and File Storage services.

7. **Does Oracle Private Cloud Appliance provide AI/ML capabilities?**

   Oracle Private Cloud Appliance can scale up to 48 NVIDIA L40S GPUs and is the ideal choice for organizations seeking high-performance compute without the need for a full cloud region on-premises. Oracle brings AI/ML acceleration and scalable compute power to enterprises in a flexible, cost-effective solution, catering to all deployment scales and requirements of customers. For more information, visit the Oracle Private Cloud Expansion Option for GPU datasheet.

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Technical Details

8. What are the components for Oracle Private Cloud Appliance?

The main components that make up the Private Cloud Appliance X11 include:

- <u>System Software</u> - Includes hypervisor, management, and operating system software
  - o <u>Hypervisor, management, and operating system software</u> - Oracle KVM based hypervisor installed on all compute nodes. PCA controller software for Service Enclave and Compute Enclave, installed on the management servers, and the various management databases and activity logs installed on the ZFS Storage

- <u>Compute Nodes</u> – 3-9 compute nodes in each physical rack

- <u>Management Nodes</u> – 3 management nodes

- <u>Integrated ZFS Storage</u> - The integrated ZFS storage hosts the management software, including the server installation images, and the various management databases and activity logs. The appliance also provides 150 TB of customer usable capacity to serve as the primary storage for applications, templates and VM disk images. The integrated ZFS Storage can be expanded with additional high-capacity or high-performance storage. Also, the storage has high availability with Dual-controller HA cluster.

- <u>Switches</u> - Ethernet switches used for the internal network and management network in a Private Cloud Appliance solution
- <u>Rack</u> - A single, standalone rack based on the Oracle Rack Cabinet 1242 that houses and provides AC power to all internal hardware components (Compute nodes, system disk, switches, management servers) in a Private Cloud Appliance solution.

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

Oracle Private Cloud Appliance X11 supports the following guest operating systems:
- Oracle Linux – 9.x, 8.x, 7.x
- Oracle Solaris – 11.x
- RedHat Enterprise Linux – 9.2, 8.x, 7.x
- CentOS Linux – 8.x, 7.x
- SUSE Linux Enterprise Server – 15 (latest), 12 SP4
- Ubuntu – 20.04 and later, 18.04 and later
- AlmaLinux OS – 9.2
- Kali Linux
- Microsoft Windows Server – 2022, 2019, 2016

Images of Oracle Linux and Oracle Solaris are provided at no extra cost as part of the appliance software, and new image versions are added through upgrades and patches. You can add other operating systems to your appliance environment as custom images.

Please refer to Oracle Private Cloud Appliance release notes for the latest information on supported Guest OS configurations.

10. Where can I find technical information for the Oracle Private Cloud Appliance?

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Please refer to the Oracle Private Cloud Appliance X11 datasheet for more information. To understand more about the product, visit the Oracle Private Cloud Appliance site.

Support Details

11. **How do I get access to patches and updates?**

Oracle Platinum Services is included with Oracle Private Cloud Appliance X11 – which provides 24/7 remote fault monitoring, industry-leading response times, and patch deployment services – at no additional cost. For more information, please visit Oracle Platinum Services.

Here are details about the Patching Guide.

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