Frequently Asked Questions
Oracle Server X6-2

Overview

Oracle Server X6-2 is powered by two Intel® Xeon® processor E5-2600 v4 product family CPUs and 24 memory slots. With up to 22 cores per socket, this server supports the highest performing processor in a compact 1U enclosure. With more than 20 percent increase in processing power, Oracle Server X6-2 provides the optimal balance of cores, memory, and I/O throughput, making it the highest performing server in its class for enterprise applications.

Built for the demands of enterprise and virtualization workloads, this server offers four low-profile PCIe 3.0 expansion slots (two 16-lane and two 8-lane slots). Four embedded 10GBase-T ports free up PCIe slots for additional network and storage connectivity. Each Oracle Server X6-2 includes a SAS-3 (12 Gb/sec) RAID controller in one of the 8-lane PCIe slots and includes eight small form factor drive bays, four of them capable of housing NVMe SSDs. The server can be configured with up to 9.6 TB of hard disk drive (HDD) capacity or up to 3.2 TB of conventional solid-state drive (SSD) flash capacity.

Designed as an optimal server for running Oracle Database in a clustered configuration, Oracle Server X6-2 can be combined with Oracle Real Application Clusters (Oracle RAC) to achieve high availability, performance, and agility. In order to achieve accelerated performance for Oracle Database, Oracle Server X6-2 can be configured with up to four hot-swappable, high-bandwidth flash drives that greatly accelerate Oracle Database performance in combination with Database Smart Flash Cache, a feature of Oracle Database. Using Oracle's unique NVM Express (NVMe) design, Oracle Server X6-2 supports up to four small form factor NVMe drives for a total capacity of 12.8 TB.

With 106 GB/sec of bidirectional I/O bandwidth, combined with the high thread count (up to 88 threads) and memory capacity (up to 1.5 TB), Oracle Server X6-2 is an ideal server for consolidating enterprise virtual machines. With a standard,

efficient power profile, Oracle Server X6-2 can be deployed easily into existing data centers as the building block of a private cloud or infrastructure-as-a-service (IaaS) implementation.

Customer Benefits

Oracle Server X6-2 provides the following key customer benefits.

Security in Depth

Oracle takes security very seriously and believes that security should be built in, not bolted on. Oracle owns 100 percent of the design of our systems and controls 100 percent of the supply chain and firmware source code. Oracle enables secure protocols out of the box to prevent unauthorized access at point of install. For even greater security, customers running Oracle Ksplice can benefit greatly from zero downtime patching of the Oracle Linux kernel.

Perfect Balance of High Performance and Energy Efficiency

With an advanced cooling system unique to Oracle, Oracle Server X6-2 achieves system efficiencies that result in power savings and maximum uptime. Oracle Advanced System Cooling utilizes remote temperature sensors for fan speed control, minimizing power consumption while keeping optimal temperatures inside the server. These remote temperature sensors are designed into key areas of this server to ensure efficient fan usage by organizing all major subsystems into cooling zones. This capability helps reduce energy consumption in a way that other servers cannot.

Oracle Server X6-2 is ENERGY STAR compliant. In addition, the power supplies in Oracle Server X6-2 have Climate Savers 80 PLUS certification and are silver rated.

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Best-in-Class Manageability

All Oracle servers ship with full-function server management tools at no additional cost. Oracle Integrated Lights Out Manager (Oracle ILOM) utilizes industry-standard protocols to provide secure and comprehensive local and remote server lifecycle management. Oracle ILOM features also include power management and monitoring, fault detection, and notification.

Oracle Server X6-2 offers hot-swappable and redundant cooling fans, power supply units, and RAID-enabled disks. Combining these enterprise-class reliability, availability, and serviceability (RAS) capabilities with integrated and cloud-ready management tools, Oracle Server X6-2 is designed to maximize uptime, simplify system management, and reduce operational expenses.

Frequently Asked Questions

Q: What is Oracle Server X6-2?

A: Oracle Server X6-2 is designed from the ground up to be the best two-socket server for running Oracle Database in a clustered configuration and also for high-density virtualization environments that require an optimal balance among core density, memory footprint, and I/O bandwidth. With support for up to four high-bandwidth NVM Express (NVMe) flash drives, Oracle Database can be accelerated using Database Smart Flash Cache. Each server comes with built-in, proactive fault detection, and advanced diagnostics, along with firmware that is already optimized for Oracle software, to deliver extreme reliability for enterprise workloads.

Q: How does Oracle Server X6-2 compare with Oracle Server X5-2?

A: Oracle Server X6-2 is based on the Intel Xeon processor E5-2600 v4 product family while Oracle Server X5-2 is based on Intel Xeon processor E5-2600 v3 product family. The memory subsystem is enhanced to operate at DDR4 2,400 MT/sec, and the flash density doubles in this generation to 3.2 TB per NVMe device. Oracle Server X6-2 uses the same chassis, motherboard, storage, and Ethernet controllers and disk drives as Oracle Server X5-2. Thus, existing customers of Oracle Server X5-2 can minimize their qualification testing of Oracle Server X6-2 to focus on the processor, memory, and flash subsystems.

Q: What kind of applications and workloads is Oracle Server X6-2 best suited to run?

A: Oracle's x86 systems are the best x86 platforms to run Oracle software. With an optimal balance of compute power, memory capacity, and I/O capability in a compact and energy-efficient 1U enclosure, the versatility of Oracle Server X6-2 makes it ideal for the following customers:

- Oracle Database clusters including Oracle RAC deployments
- Enterprise-class applications in virtualized environments
- Environments requiring highly secure and reliable x86-based infrastructure

Q: What flash storage options are available on Oracle Server X6-2?

A: Oracle Server X6-2 supports 400 GB SAS-3 SSDs, for a total internal flash capacity up to 3.2 TB using SAS SSDs. Oracle Server X6-2 supports up to four 3.2 TB small form factor high-bandwidth NVMe drives, for a total capacity of 12.8 TB.

Q: What memory and I/O expansion features are supported on Oracle Server X6-2?

A: Oracle Server X6-2 includes 24 DDR4 dual inline memory module (DIMM) slots, and it can be configured with 16 GB, 32 GB RDIMMs or 64 GB LRDIMMs. Four onboard 10 GBase-T ports are included with the server, and three low-profile PCIe 3.0 slots are available for configuring a number of Ethernet, InfiniBand, and Fibre Channel option cards. The fourth low-profile PCIe 3.0 slot is populated with the RAID HBA and is part of the standard server offering. For more information on supported PCIe cards, visit Oracle Server X6-2 Option Card Support.

Q: Does the memory for Oracle Server X6-2 support error-correcting code (ECC)?

A: Yes.

Q: What disk cage options are supported on Oracle Server X6-2?

A: This server offers the following disk cage option:

- Eight 2.5-inch SAS drive bays for HDD and SSD
  - Four drive bays support NVMe
- DVD-RW (optional)

Q: Can I populate HDDs or SSDs in NVMe-capable drive slots?

A: Yes, it is allowed.

Q: What operating systems are certified to run on Oracle Server X6-2?

A: Oracle Server X6-2 is certified to run Oracle Linux, Oracle VM, Oracle Solaris, Red Hat Enterprise Linux, VMware, and Microsoft Windows Server.

To see a list of supported operating system versions, visit Oracle Server X6-2 OS Support.

Q: What system management options are available for Oracle Server X6-2?

A: Oracle Server X6-2 includes an embedded service processor, known as Oracle Integrated Lights Out Manager (Oracle ILOM). Oracle ILOM helps to simplify data center management, system configuration, and server lifecycle management by providing a rich set of management interfaces for monitoring the health of the system and for remote server management.
Oracle Hardware Management Pack is a set of command-line tools and agents that assists with automating server configuration through tools running on the host operating system. These tools provide a means for scripting RAID, BIOS, and Oracle ILOM configuration as well as updating all embedded firmware. In addition, Oracle Hardware Management Pack provides agents that monitor the health of the storage subsystem and provide remote SNMP monitoring.
Finally, Oracle Enterprise Manager Ops Center is an enterprise tool that can discover and manage all Oracle servers installed in a data center. This tool provides complete lifecycle control of servers by configuring the server, installing the operating system, and configuring virtual machines.

For more information on Oracle Enterprise Manager Ops Center, visit Enterprise Manager Ops Center 12c.

Q: Can the server configuration options be customized?

A: Oracle Server X6-2 can be customized to the specified configuration through the Oracle factory's assemble-to-order (ATO) process.

Q: What high-availability features are available in Oracle Server X6-2?

A: Oracle Server X6-2 offers hot-swappable and redundant RAID-enabled cooling fans, disks, and power supply units. Combining these enterprise-class RAS capabilities with Oracle ILOM, Oracle Solaris, or Oracle Linux, fault isolation and management enables Oracle Server X6-2 to maximize uptime, simplify system management, and reduce operational expenses.

Q: What are the power requirements for Oracle Server X6-2?

A: The online power calculator provides an estimate of the idle and operating power level of the server.

Oracle Server X6-2 Power Calculator

Q: Where can I find more information about Oracle Server X6-2?

A: Contact an Oracle sales representative directly or call 1-800-Oracle1.

For more information, visit Oracle Server X6-2

Q: What is the automated service request support for Oracle Premier Support customers?

A: Automated service request is one of the features available in Oracle Enterprise Manager Ops Center, whereby potential issues are detected and reported to the Oracle support center without user intervention, ensuring maximum service levels and simplifying support. Oracle Enterprise Manager Ops Center is included at no extra charge for x86 customers with Oracle Premier Support.

Q: What is included with Oracle Premier Support?

A: For more information, please see Oracle Premier Support.

Q: What is included in the Oracle Server X6-2 base chassis?

A: Oracle Server X6-2 1U base chassis includes the motherboard, four low-profile PCIe 3.0 slots (two with 16 lanes and two with 8 lanes; one of the four is internal and is occupied by the SAS HBA), Oracle ILOM service processor, Trusted Platform Module (TPM) version 1.2, four onboard 10GBase-T ports, six USB 2.0 ports (two front, two rear, and two internal, two 600 W platinum-rated power supplies with up to 91 percent efficiency, one tool-less slide rail kit, and one cable management arm.

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