

Frequently Asked Questions Oracle Server X6-2L

Overview

Oracle Server X6-2L 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 and delivers extreme compute density in a compact 2U enclosure. Oracle Server X6-2L is the perfect integration of compute and storage in a single two-rack unit (2U) enclosure for deploying Oracle Database as a data mart and for other single-node database solutions.

Organizations today are faced with limited budgets, resources, and capacity. Global initiatives to go green increase the pressure to operate at the highest efficiencies. Database deployments in remote offices/branch offices benefit significantly from having a large amount of direct-attached storage to deploy single-instance database servers.

Another common use case involves customers who are increasingly deploying storage servers based on Oracle Solaris and ZFS file system. In these scenarios, the data center infrastructure benefits by taking advantage of systems that have easy deployment, high performance, and continued expandability and efficiency. Oracle Server X6-2L fits ideally into this scenario, offering superior scalability in compute performance, memory capacity, storage density, and network and I/O bandwidth, and featuring flash storage options for the acceleration of I/O-intensive applications. This server packs extensive expandability and ultimate storage flexibility.

In order to achieve accelerated performance for Oracle Database, Oracle Server X6-2L includes hot-swappable, high-bandwidth flash that is ideal for implementations of Database Smart Flash Cache, a feature of Oracle Database. This high-bandwidth flash also accelerates performance by functioning as a target for ZFS intent logs and second-level adaptive replacement caches in Oracle Solaris environments. Using

Oracle's unique NVM Express (NVMe) design, Oracle Server X6-2L supports up to four small form factor (SFF) NVMe drives in the 8- and 24-disk chassis options, for a total capacity of 12.8 TB. In the all-flash configuration, Oracle Server X6-2L supports up to nine SFF NVMe drives for a total capacity of 28.8 TB.

Oracle Server X6-2L offers outstanding flexibility in four chassis configurations and offers superior scalability, up to 98.4 TB of disk storage or 28.8 TB of flash storage, and six PCIe 3.0 I/O expansion slots.

Oracle's x86 systems are the best x86 platforms for running Oracle software. Not only do they provide optimal performance and reliability based on an integrated and fully supported Oracle stack, they also include everything needed for a cloud deployment. With the purchase of Oracle Premier Support, every x86 system from Oracle comes complete with virtualization, choice of operating system, cloud provisioning, and Oracle's unique application-to-disk system management environment—all at no extra charge. As a result, Oracle's x86 systems deliver up to 50 percent cost savings over a three-year TCO when compared to similarly configured multivendor configurations¹. Oracle's x86 systems serve as a key building block for Oracle engineered systems, such as Oracle Exadata, which have achieved a 10x performance gain through integration and optimization.

Customer Benefits

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

Security in Depth

As the industry leader for building secure software and systems, Oracle believes that security should be built in, not bolted on. In order to build x86 servers with end-to-end

¹ Source: Edison Group, "The Oracle x86 Portfolio: Competitive Advantages in Total Cost of Ownership." First publication July 2012.

security, Oracle owns 100 percent of the design and controls 100 percent of the supply chain and firmware source code. Oracle's x86 servers enable only secure protocols out of the box to prevent unauthorized access at point of install. For even greater security, customers running Oracle Ksplice on Oracle's x86 servers will benefit greatly from zero downtime patching of the Oracle Linux kernel.

Superior Application and Database Performance

Oracle Server X6-2L can easily harness the required horsepower to run storage resource-intensive, single-instance databases, made possible by flash storage options and the highest performing Intel Xeon processor E5-2600 v4 product family CPUs.

Abundant Storage

Similar to the previous-generation server, Oracle Server X6-2L offers flexibility in storage options, eight or twenty-four 2.5-inch or twelve 3.5-inch front-accessible disk bays plus two additional rear-accessible 2.5-inch drive bays. This new server is able to support up to 98.4 TB disk capacities and up to 28.8 TB flash capacities in a 2U enclosure.

Energy Efficiencies

With an advanced cooling system unique to Oracle, Oracle Server X6-2L 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 appropriate fan usage in zones that include power supply units, PCIe slots, Ethernet ports, exiting air, entering air, and thermal diodes. Oracle Advanced System Cooling helps reduce energy consumption in a way that other servers cannot.

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 management. Oracle ILOM features also include power management and monitoring, fault detection, and notification.

Oracle Server X6-2L offers hot-swappable and redundant RAID-enabled cooling fans, disks, and power supply units. Combining these enterprise-class reliability, availability, and

serviceability (RAS) capabilities with integrated and cloud-ready management tools, Oracle Server X6-2L is designed to maximize uptime, simplify system management, and reduce operational expenses.

Frequently Asked Questions

Q: What is Oracle Server X6-2L?

A: Oracle Server X6-2L is a two-socket, 2U enterprise-class x86 rackmount server based on the Intel Xeon processor E5-2600 v4 product family.

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

A: Compared to Oracle Server X5-2L, Oracle Server X6-2L offers 20 percent more cores (up to 22 cores per processor). It is based on the Intel Xeon Processor E5-2600 v4 product family and supports up to 1.5 TB memory at a full 2,400 MHz bandwidth. In addition, each Oracle Server X6-2 includes choice of either a RAID-capable SAS-3 (12 Gb/sec) controller or a SAS-3 (12 Gb/sec) HBA in one of the eight-lane PCIe slots.

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

A: With superior scalability in compute performance, memory capacity, I/O bandwidth, and expandability, as well as flexibility in storage configurations, Oracle Server X6-2L is ideal for the following:

- Single-node Oracle Database
- Storage server with Oracle Solaris and ZFS
- Compute server in environments with power and cooling delivery challenges

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

A: Oracle Server X6-2L supports 400 GB, eMLC SATA-3 solid-state drives (SSDs). In the all-flash configuration, Oracle Server X6-2L supports up to nine SFF NVMe drives for a total capacity of 28.8 TB. These flash storage options turbo charge the server to run I/O-intensive applications rapidly and efficiently.

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

A: Oracle Server X6-2L 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

10GBase-T ports are included with the server, as well as six low-profile PCIe 3.0 slots.

For more information on supported PCIe card support, visit the [Oracle Server X6-2L Option Card Support](#).

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

A: Yes.

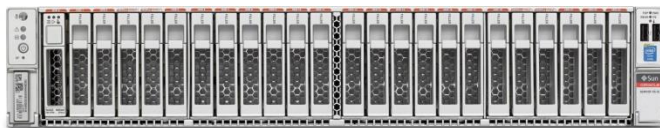
Q: What disk cage options are supported on Oracle Server X6-2L?

A: This server comes in four disk cage options:

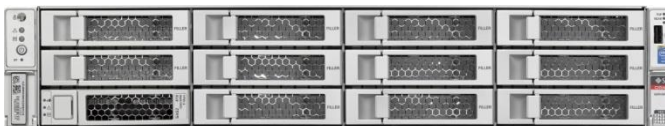
Eight 2.5-inch SAS disk bays (HDDs or SSDs) plus DVD-R/W drive



Twenty-four 2.5-inch SAS disk bays (HDDs or SSDs)



Twelve 3.5-inch SAS disk bays (HDDs or SSDs)



Nine 2.5-inch NVMe disk bays (NVMe SSDs only)



Q: Can I mix SAS-2 and SAS-3 in the same chassis?

A: Yes, it is allowed.

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

A: Yes, it is allowed in three of the four disk cage options. The disk cage that supports nine NVMe-only disk bays cannot be populated with HDDs and SAS SSDs.

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

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

For a list of supported operating system versions, visit the [Oracle X6-2L OS Support](#).

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

A: Oracle Server X6-2L 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 lifecycle management by providing a rich set of management interfaces for monitoring the health of the server and for remote management.

Oracle Hardware Management Pack is a set of command-line tools and agents that assist 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. 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 [Oracle Enterprise Manager Ops Center 12c](#).

Q: Can the server configuration options be customized?

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

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

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

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

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

For more information, visit: [Oracle Server X6-2L](#).

Q: What are the power requirements for Oracle Server X5-2L?

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

[Oracle Server X6-2L Power Calculator](#)

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 Oracle's x86 Oracle Premier Support customers.

Q: What is included with Oracle Premier Support for x86 systems?

A: For more information, please see:

[Oracle Premier Support for Systems](#)

Q: What is included with the Oracle Server X6-2L base chassis package?

A: The 2U base chassis includes the motherboard, six low-profile PCIe 3.0 slots (two with 16 lanes and four with 8 lanes), 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 1,000 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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