

Oracle Server X5-4

Frequently Asked Questions

Overview

Oracle Server X5-4 is co-engineered to work with Oracle software, making it the most compact four-socket platform for running Oracle operating systems, Oracle Database, Oracle Fusion Middleware, and Oracle Applications. With the highest reliability, availability, and serviceability features in the four-socket space, Oracle Server X5-4 is the ideal x86 virtualization platform for enterprise applications and in-memory databases that require large amounts of memory and I/O. Oracle Server X5-4 packs 20 percent more cores, simultaneously increasing memory bandwidth. Oracle's unique industry-leading 3U form factor allows for 40 percent higher rack-level core and dual inline memory module (DIMM) slot density than the competition.

Best Virtualization Server for Business Applications

Many organizations utilize virtualization strategies to host multiple workloads on the same platform, delivering benefits such as increased resource utilization, reduced cost, and better manageability of the data center. In order to support the execution of multiple workloads without starving applications of vital compute resources, a virtualization server needs to offer high-performance processors, large memory footprint, superior I/O bandwidth, and expandability. Oracle Server X5-4, with its well balanced and highly expandable design, delivers outstanding virtualization capacity to increase server utilization and reduce data center footprint.

Oracle Server X5-4 supports two or four Intel® Xeon® processor E7-8895 v3 processors and has 20 percent more processor cores and threads, producing better performance compared to the previous-generation server. Complementing the high-performance processors are exceptionally high-memory capacity, large storage capacity, and remarkable I/O capability—making this the densest and fastest virtualization server in its class. By offering superior scalability with up to 3 TB of memory capacity and 20 percent

faster memory access, Oracle Server X5-4 is an ideal server to deploy the Oracle Database In-Memory option.

Oracle Server X5-4 averages more than 40 GB of memory capacity, more than 5 GB/sec of memory bandwidth, and more than 3 GB/sec I/O bandwidth per core, enabling consolidation of both small and large virtual machines (VMs). This enables IT managers to deploy more and larger VMs, resulting in increased productivity with fewer physical servers. Consolidating applications from multiple servers onto one powerful server reduces administration overhead, energy consumption, cooling, and precious data center real estate costs.

Customer Benefits

Oracle Server X5-4 is the perfect building block to create a high-performance and efficient virtualized business application infrastructure. It combines leading performance, outstanding expandability, superior density, and advanced manageability, all in a single system. Oracle Server X5-4 is the IT manager's answer to achieving savings in time, energy, space, and administration.

Save Time, Save Space, Save Power

Oracle Server X5-4 features two low-latency flash storage options—400 GB solid-state drive (SSD) and 1.6 TB NVM Express (NVMe) SSD, a high-performance and high-endurance write-optimized flash option that delivers the I/O performance of more than 400 hard disk drives (HDDs). Utilizing flash storage options will turbo-charge Oracle Database, accelerate application performance, increase reliability, and reduce energy and cooling costs.

With an advanced cooling system unique to Oracle, Oracle Server X5-4 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.

Oracle Server X5-4 Frequently Asked Questions

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.

Each Oracle Server X5-4 can be shipped from the factory with the option of Oracle Linux, Oracle VM Server, or Oracle Solaris preinstalled, reducing server setup time. With Oracle System Assistant inside each server, initial setup and configuration is fast and simple. In addition, Oracle Server X5-4 servers can be provisioned quickly with Oracle software using Oracle VM Templates. Oracle VM Templates provides an efficient approach to deploying a fully configured software stack by offering preinstalled and preconfigured software images.

Maximize Uptime, Minimize Administration

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. The integrated Oracle System Assistant guides system administrators through rapid server deployment, firmware updates, hardware configuration, and operating system installation with hardware drivers certified by Oracle.

Because Oracle Server X5-4 is designed with mission-critical applications in mind, it supports hot-swappable and redundant RAID-enabled disks, cooling fans and power supply units. Combining these enterprise-class reliability, availability, and serviceability (RAS) capabilities with Oracle ILOM, Oracle Server X5-4 is designed to maximize uptime, simplify system management, and minimize administration cost.

Further Advancements in the x86 Enterprise Market

Oracle Server X5-4 builds on the innovation introduced in the previous generation with an all new flexible processor, the Intel Xeon processor E7-8895 v3, which allows a server to be reconfigured and repurposed remotely for varying workloads, without any change to the physical configuration of the server. The Intel Xeon processor E7-8895 v3, combined with Oracle innovations in the system BIOS and operating system kernel software, enable a unique elastic feature that allows this processor to run up to 900 MHz faster than the standard Intel Xeon processor E7-8890 v3. This flexible processor technology simplifies infrastructure requirements and enables greater server reuse. The ability to change the characteristics of the server for varying workloads offers cost savings and power efficiencies to customers.

Frequently Asked Questions

What is Oracle Server X5-4?

Oracle Server X5-4 is the industry's leading compact and expandable four-socket enterprise-class x86 server that comes in a compact 3U form factor. It is powered by up to four Intel Xeon processor E7-8895 v3 processors.

What kind of applications and workloads is Oracle Server X5-4 best suited to run?

With its industry-leading performance, dense memory footprint, ultra compact form factor, extreme I/O bandwidth, and expandability, Oracle Server X5-4 is the ideal x86 virtualization platform for enterprise applications and in-memory databases that require large amounts of memory and I/O.

What is included with the Oracle Server X5-4 base chassis package?

The 3U base chassis includes the motherboard; 11 low-profile PCIe 3.0 slots (two with 16 lanes and nine with 8 lanes; 12Gb SAS RAID HBA; Oracle Integrated Lights Out Manager (Oracle ILOM) service processor; four onboard 10GBase-T ports; six USB 2.0 ports (two front, two rear, and two internal; and one can be preloaded for Oracle System Assistant); two 2,060 watt gold-rated power supplies; one tool-less slide rail kit; and one cable management arm. DVD-RW is an option. Processors, dual in-line memory modules (DIMMs), drives and PCIe cards are configurable via Oracle's assemble to order process.

How does Oracle Server X5-4 compare with Oracle's Sun Server X4-4?

When compared with the previous-generation system, Oracle Server X5-4 supports an increase of 20 percent in processor cores and threads while simultaneously increasing memory bandwidth by 20 percent, producing better performance at the same maximum system power, making this server the densest and fastest performing in its class. Oracle Server X5-4 also supports new low-latency, high-bandwidth, hot-swappable NVMe SSDs for application and database acceleration.

What flash storage options are available on Oracle Server X5-4?

Oracle Server X5-4 supports two flash storage options: the 1.6 TB 2.5-inch NVMe PCIe 3.0 SSD, and the 400 GB 2.5-inch serial-attached SCSI (SAS) SSD. Once turbo-charged with these flash

storage options, the server runs I/O-intensive applications more rapidly and efficiently while consuming vastly less power.

Oracle Server X5-4 can be configured with a total internal flash capacity of up to 7.2 TB. These flash storage options provide more than 500K IOPS for accelerating Oracle Database.

What memory, internal storage, and expansion options are supported on Oracle Server X5-4?

Oracle Server X5-4 supports up to 96 DDR3 memory DIMMs (16 GB or 32 GB), six hard disk drives or solid-state drives including up to four NVMe drives plus two additional drives, and 11 low-profile PCI-Express slots. This results in up to 3 TB of memory, up to 7.2 TB of SSD flash, or up to 7.2 TB of hard disk drive storage.

What operating systems and virtualization software are certified to run on Oracle Server X5-4?

Oracle Server X5-4 is certified to run Oracle Linux, Oracle VM, Oracle Solaris, Red Hat Enterprise Linux, VMware, and Microsoft Windows.

What software is preinstalled on Oracle Server X5-4?

Factory preinstall options are available for Oracle Solaris, Oracle Linux, and Oracle VM.

What system management tools are available for Oracle Server X5-4?

Oracle Server X5-4 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.

Each Oracle Server X5-4 also includes another embedded tool called Oracle System Assistant, which assists with each step of configuring the server and provisioning the operating system. Using a graphic wizard, Oracle System Assistant checks for firmware and driver updates from Oracle, applies those updates, and then ensures that the operating system is installed correctly with the latest drivers. In addition, Oracle System Assistant can be used to configure RAID, BIOS settings, and Oracle ILOM settings.

Oracle Hardware Management Pack is a set of command-line tools and agents that assist with automating server configuration through

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.

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 managing virtual machines.

For more information on Oracle Enterprise Manager Ops Center, visit:

[Enterprise Manager Ops Center12c](#)

What high-availability features are available in Oracle Server X5-4?

This enterprise-class x86 server is designed with reliability, availability, and serviceability (RAS) in mind. It offers hot-swappable and redundant RAID-enabled disks, cooling fans, and power supply units. Combining these RAS capabilities with Oracle ILOM, Oracle Server X5-4 is designed to maximize uptime, simplify system management, and reduce administration costs.

Where can I find more information about Oracle Server X5-4?

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

For more information visit:

[Oracle Server X5-4](#)

Please go to <http://www.oracle.com/goto/x86> to see all of Oracle's x86 rack servers.

What are the power and cooling requirements for Oracle Server X5-4?

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

[Oracle Server X5-4 power calculator](#)

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

Automated service request (ASR) is one of the capabilities 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 Premier Support customers who use Oracle's x86 systems.

What is included with Oracle Premier Support for Systems?

For more information, please see:

[Oracle Premier Support](#)



Oracle Corporation
Worldwide Headquarters
500 Oracle Parkway
Redwood Shores, CA 94065
U.S.A.
Worldwide Inquiries
Phone: +1.650.506.7000
+1.800.ORACLE1
Fax: +1.650.506.7200
oracle.com



Copyright © 2015, Oracle and/or its affiliates. All rights reserved.

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 and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners. Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group. 0114

Hardware and Software, Engineered to Work Together