

Leadership SPECvirt Benchmark Result for System x3950 X6

Performance Benchmark Result (withdrawn product)

Lenovo System x3950 X6 demonstrates leadership enterprise class performance for virtualization environments with the world-record SPECvirt_sc2013 result.

November 8, 2016 ... Lenovo delivers leadership server consolidation performance on the SPECvirt_sc2013 virtualization benchmark with the publication of the leadership 8-socket score.

The Lenovo System x3950 X6 delivered the following overall SPECvirt_sc2013 performance score:

- **8284 @ 462 VMs**

SPECvirt_sc2013 is the second-generation SPEC benchmark for evaluating the virtualization performance of datacenter server consolidation, including enterprise class workloads such as virtualized SMP application server VMs and SMP database VMs, as well as dynamic workload levels across many workload types and VM instances.



The Lenovo System x3950 X6 server was configured with the new generation Intel Xeon Processor E7-8890 v4 (2.2 GHz with 60 MB L3 cache per processor—8 chips/192 cores/24 cores per chip), 4096 GB (4 TB) of TruDDR4 memory, and 8 Intel X520 Dual Port 10GbE SFP+ Ethernet adapters. The operating system was Red Hat Enterprise Linux 7.2 and Kernel-based Virtual Machine (KVM) hypervisor.

The Lenovo System x3950 X6 is a flagship 8-socket 8U rack server designed for maximum performance and uptime for business-critical applications and cloud deployments. The x3950 X6 solution provides a powerful infrastructure platform for running enterprise class VMs in a datacenter environment - one that is ideal for customers who are looking for reliability, manageability, and scalability with the flexibility to run Windows or Linux. Integrating hardware, software and memory advancements, the X6 enterprise servers are designed to be FAST, AGILE AND RESILIENT.

With system support for up to 192 CPU cores, 12 TB of system memory, and greater than 200 TB of flash storage, the x3950 X6 is designed to deliver leadership performance and scalability to power traditional databases as well as new in memory database and analytic solutions. Its scalable design enables customers to virtualize both high performance databases and applications on the same server to deliver leadership solution performance.

X6 servers deliver FAST application performance – with the latest generation Intel Xeon processors and TruDDR4 memory, X6 system consistently deliver world record and leadership performance across multiple recognized industry benchmarks.

The adaptive modular rack design of x3950 X6 is AGILE. It enables the design of fit-for-purpose solutions and the ability to realize infrastructure cost savings by hosting multiple generations of technology in a single platform—without compromising performance or capacity.

X6 platforms enable customers to:

- Configure the server to fit the unique requirements of specific applications and workloads and add, modify or upgrade X6 platforms easily with selectable modular book components;
- Scale capacity and performance from 4-socket to 8-socket to deliver nearly twice the performance for growing applications without creating IT sprawl;
- Capitalize on agile system design that provides the ability to host multiple generations of technology in a single server.

X6 enterprise platforms are RESILIENT. Through differentiated X6 self-healing technology, the x3950 X6 maximizes uptime by proactively identifying potential failures and transparently taking necessary corrective actions. Unique Lenovo features proactively protect applications from corrupt pages in memory; allow the platform to maintain access to networking and storage and server management during a processor failure; enable concurrent updating of the system firmware with no impact on application performance or availability; and enable the creation and management of policies to maintain high availability of virtual machines. These built-in technologies drive the outstanding system availability and help ensure the uninterrupted application performance needed to host business-critical applications.

The result of more than 15 years of innovation beyond industry standards, X6 platforms help reduce costs and complexity and deliver the breakthrough performance and capacity that enterprise applications demand.

Results referenced are current as of September 15, 2016. Result summary available at https://www.spec.org/virt_sc2013/results/res2016q3/virt_sc2013-20160830-00062-perf.html

To view all SPECvirt_sc2013 performance results visit the SPEC results page at http://www.spec.org/virt_sc2013/results/specvirt_sc2013_perf.html

Related product families

Product families related to this document are the following:

- [8-Socket Rack Servers](#)
- [Mission Critical Servers](#)
- [SPECvirt Benchmark Results](#)

Notices

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area. Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any other product, program, or service. Lenovo may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

Lenovo (United States), Inc.
8001 Development Drive
Morrisville, NC 27560
U.S.A.
Attention: Lenovo Director of Licensing

LENOVO PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. Lenovo may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

The products described in this document are not intended for use in implantation or other life support applications where malfunction may result in injury or death to persons. The information contained in this document does not affect or change Lenovo product specifications or warranties. Nothing in this document shall operate as an express or implied license or indemnity under the intellectual property rights of Lenovo or third parties. All information contained in this document was obtained in specific environments and is presented as an illustration. The result obtained in other operating environments may vary. Lenovo may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Any references in this publication to non-Lenovo Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk. Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

© Copyright Lenovo 2024. All rights reserved.

This document, LP0574, was created or updated on November 8, 2016.

Send us your comments in one of the following ways:

- Use the online Contact us review form found at:
<https://lenovopress.lenovo.com/LP0574>
- Send your comments in an e-mail to:
comments@lenovopress.com

This document is available online at <https://lenovopress.lenovo.com/LP0574>.

Trademarks

Lenovo and the Lenovo logo are trademarks or registered trademarks of Lenovo in the United States, other countries, or both. A current list of Lenovo trademarks is available on the Web at <https://www.lenovo.com/us/en/legal/copytrade/>.

The following terms are trademarks of Lenovo in the United States, other countries, or both:

Lenovo®
TruDDR4

The following terms are trademarks of other companies:

Intel® and Xeon® are trademarks of Intel Corporation or its subsidiaries.

Linux® is the trademark of Linus Torvalds in the U.S. and other countries.

Windows® is a trademark of Microsoft Corporation in the United States, other countries, or both.

SPEC® is a trademark of the Standard Performance Evaluation Corporation (SPEC).

Other company, product, or service names may be trademarks or service marks of others.