

N2125 6Gb SAS/SATA External HBA

Product Guide (withdrawn product)

The N2125 SAS/SATA HBA is a low-cost, high-performance 8-port host bus adapter for connectivity to external storage enclosures (JBODs), tapes, and RAID storage systems. With a low-profile form-factor design, the N2125 SAS/SATA HBA offers two x4 external mini-SAS connectors.

Figure 1 shows the N2125 SAS/SATA HBA.



Figure 1. N2125 SAS/SATA HBA

Did you know?

The N2125 SAS/SATA HBA provides high performance for storage connectivity for servers by integrating the latest enhancements in PCI Express and SAS technology, offering eight lanes of 6 Gbps SAS matched with eight lanes of PCIe 3.0 to eliminate performance bottlenecks and provide high data transfer rates for medium-to-large capacity server storage applications.

The N2125 SAS/SATA HBA supports SAS and SATA data transfer rates of 1.5, 3, and 6 Gbps per lane, and it enables maximum connectivity and performance in a low-profile form factor.

Rigorous testing of the N2125 SAS/SATA HBA by Lenovo through the ServerProven® program ensures a high degree of confidence in storage subsystem compatibility and reliability. Providing an additional peace of mind, the controller is covered under Lenovo warranty.

Part number information

Table 1 provides the ordering part numbers and feature codes.

Withdrawn: This adapter is now withdrawn from marketing.

Table 1. Ordering part numbers and feature codes

Description	Part number	Feature code
N2125 SAS/SATA HBA	46C9010	A3MV

The N2125 option part number includes the following items:

- One N2125 adapter with a full-height (3U) bracket
- One low-profile (2U) bracket
- Documentation package

Features and specifications

The N2125 SAS/SATA HBA has the following features and specifications:

- LSI SAS2308 6 Gbps I/O controller
- PCIe low profile, half-length form factor
- PCI Express 3.0 x8 host interface
- Eight external 6 Gbps SAS/SATA ports (support for 6, 3, or 1.5 Gbps speeds)
- Up to 6 Gbps throughput per port
- Two external x4 mini-SAS connectors (SFF-8088)
- Supports connectivity to the external storage systems
- High-performance IOPS LSI Fusion-MPT architecture
- Advanced power management support
- Support for SSP, SMP, STP, and SATA protocols
- End-to-End CRC with Advanced Error Reporting
- T-10 Protection Model for early detection of and recovery from data corruption
- Spread Spectrum Clocking for EMI reductions

Server support

The following tables list the servers that support the N2125 HBA.

Support for System x and dense servers with Xeon E5/E7 v4 and E3 v5 processors

Table 2. Support for System x and dense servers with Xeon E5/E7 v4 and E3 v5 processors

Part number	Description	x3250 M6 (3943)	x3250 M6 (3633)	x3550 M5 (8869)	x3650 M5 (8871)	x3850 X6/x3950 X6 (6241, E7 v4)	nx360 M5 (5465, E5-2600 v4)	sd350 (5493)
46C9010	N2125 SAS/SATA HBA	N	N	N	N	Y	N	N

Support for servers with Intel Xeon v3 processors

Table 3. Support for servers with Intel Xeon v3 processors

Part number	Description	x3100 M5 (5457)	x3250 M5 (5458)	x3500 M5 (5464)	x3550 M5 (5463)	x3650 M5 (5462)	x3850 X6/x3950 X6 (6241, E7 v3)	nx360 M5 (5465)
46C9010	N2125 SAS/SATA HBA	Y	Y	N	N	N	Y	N

Support for servers with Intel Xeon v2 processors

Table 4. Support for servers with Intel Xeon v2 processors

Part number	Description	x3500 M4 (7383, E5-2600 v2)	x3530 M4 (7160, E5-2400 v2)	x3550 M4 (7914, E5-2600 v2)	x3630 M4 (7158, E5-2400 v2)	x3650 M4 (7915, E5-2600 v2)	x3650 M4 BD (5466)	x3650 M4 HD (5460)	x3750 M4 (8752)	x3750 M4 (8753)	x3850 X6/x3950 X6 (3837)	x3850 X6/x3950 X6 (6241, E7 v2)	dx360 M4 (E5-2600 v2)	nx360 M4 (5455)
46C9010	N2125 SAS/SATA HBA	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y

For more information about the System x servers that support each adapter, see the ServerProven website:

<http://www.lenovo.com/us/en/serverproven/xseries/controllers/matrix.shtml>

Storage system support

The N2125 SAS/SATA HBA supports connectivity to the external storage systems listed in the following table.

Table 5. External SAS disk storage systems

Part number	Description
Lenovo Storage S2200	
64112B1	Lenovo Storage S2200 LFF Chassis SAS Single Controller, Rack Kit, 9x5NBD
64112B2	Lenovo Storage S2200 LFF Chassis SAS Dual Controller, Rack Kit, 9x5NBD
64112B3	Lenovo Storage S2200 SFF Chassis SAS Single Controller, Rack Kit, 9x5NBD
64112B4	Lenovo Storage S2200 SFF Chassis SAS Dual Controller, Rack Kit, 9x5NBD
Lenovo Storage S3200	
64113B1	Lenovo Storage S3200 LFF Chassis SAS Single Controller, Rack Kit, 9x5NBD
64113B2	Lenovo Storage S3200 LFF Chassis SAS Dual Controller, Rack Kit, 9x5NBD
64113B3	Lenovo Storage S3200 SFF Chassis SAS Single Controller, Rack Kit, 9x5NBD
64113B4	Lenovo Storage S3200 SFF Chassis SAS Dual Controller, Rack Kit, 9x5NBD
IBM Storwize	
6096CU2	IBM Storwize V3500 3.5-inch Dual Control Storage Controller Unit
6096CU3	IBM Storwize V3500 2.5-inch Dual Control Storage Controller Unit
6099L2C	IBM Storwize V3700 3.5-inch Storage Controller Unit
6099S2C	IBM Storwize V3700 2.5-inch Storage Controller Unit
6099T2C	IBM Storwize V3700 2.5-inch DC Storage Controller Unit
6194L2C	IBM Storwize V5000 LFF Control Enclosure
6194S2C	IBM Storwize V5000 SFF Control Enclosure
6195SC5	IBM Storwize V7000 2.5-inch Storage Controller Unit

For more information, see the list of Product Guides in the following categories:

- IBM Storage: <https://lenovopress.com/storage/san/ibm>
- Lenovo Storage: <https://lenovopress.com/storage/san/lenovo>

Operating system support

The N2125 SAS/SATA HBA supports the following operating systems:

- Microsoft Windows Server 2008, Datacenter x64 Edition
- Microsoft Windows Server 2008, Datacenter x86 Edition
- Microsoft Windows Server 2008, Enterprise x64 Edition
- Microsoft Windows Server 2008, Enterprise x86 Edition
- Microsoft Windows Server 2008, Standard x64 Edition
- Microsoft Windows Server 2008, Standard x86 Edition
- Microsoft Windows Server 2008, Web x64 Edition
- Microsoft Windows Server 2008, Web x86 Edition
- Microsoft Windows Server 2008 R2
- Microsoft Windows Server 2012
- Microsoft Windows Server 2012 R2
- Red Hat Enterprise Linux 5 Server Edition
- Red Hat Enterprise Linux 5 Server with Xen x64 Edition
- Red Hat Enterprise Linux 5 Server x64 Edition
- Red Hat Enterprise Linux 6 Server Edition
- Red Hat Enterprise Linux 6 Server x64 Edition
- SUSE LINUX Enterprise Server 10 for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 for x86
- SUSE LINUX Enterprise Server 11 with Xen for AMD64/EM64T
- VMware ESX 4.1
- VMware ESXi 4.1
- VMware vSphere 5.0 (ESXi)
- VMware vSphere 5.1 (ESXi)
- VMware vSphere 5.5 (ESXi)

For more information about the specific versions and service levels that are supported and any other prerequisites, see the following ServerProven web page:

<http://www.lenovo.com/us/en/serverproven/xseries/controllers/matrix.shtml>

Warranty

The N2125 SAS/SATA HBA carries a one-year limited warranty. When installed in a supported System x server, the adapter assumes your system's base warranty and any Lenovo warranty service upgrade.

Physical specifications

The N2125 SAS/SATA HBA has the following physical specifications.

Dimensions and weight (approximate):

- Height: 17 mm (0.7 in.)
- Width: 69 mm (2.5 in.)
- Depth: 168 mm (6.0 in.)
- Weight: 220 g (0.5 lb)

Shipping dimensions and weight (approximate):

- Height: 51 mm (2.0 in.)
- Width: 143 mm (5.6 in.)
- Depth: 238 mm (9.4 in.)
- Weight: 315 g (0.7 lb)

Operating environment

The N2125 SAS/SATA HBA is supported in the following environment:

- Temperature (operational): 5 - 40 °C (41 - 104 °F) at 0 - 5,000 m (0 - 16,404 ft)
- Temperature (non-operational): -40 - 60 °C (-40 - 140 °F) at 10,700 m (35,105 ft)
- Relative humidity: 8% - 93% (non-condensing)
- Maximum altitude: 10,700 m (35,105 ft)

Agency approvals

The N2125 SAS/SATA HBA conforms to the following regulations:

- UL
- cUL
- IEC60950
- EMC
- FCC
- TUV
- CE
- VCCI
- BSMI
- C-tick
- KC

Related publications and links

For more information, see the following documents:

- US Announcement Letter
<http://ibm.com/common/ssi/cgi-bin/ssialias?infotype=dd&subtype=ca&&htmlfid=897/ENUS113-052>
- 6 Gb and 12 Gb MPT2SAS Controller documentation
<http://ibm.com/support/entry/portal/docdisplay?indocid=MIGR-5088601>
- N2125 support and downloads
http://ibm.com/support/entry/portal/search_results?q=N2125
- System x Configuration and Options Guide
<http://www.lenovo.com/us/en/cog/>
- ServerProven
<http://www.lenovo.com/us/en/serverproven/>

Related product families

Product families related to this document are the following:

- [Host Bus Adapters](#)

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, TIPS1062, was created or updated on August 21, 2018.

Send us your comments in one of the following ways:

- Use the online Contact us review form found at:
<https://lenovopress.lenovo.com/TIPS1062>
- Send your comments in an e-mail to:
comments@lenovopress.com

This document is available online at <https://lenovopress.lenovo.com/TIPS1062>.

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®

ServerProven®

System x®

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.

Microsoft®, Windows Server®, and Windows® are trademarks of Microsoft Corporation in the United States, other countries, or both.

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