

Lenovo ThinkSystem 430-8i and 430-16i Internal SAS HBAs

Product Guide

The Lenovo ThinkSystem 430-8i and 430-16i SAS/SATA 12Gb HBA are high performance host bus adapters for internal storage connectivity in ThinkSystem servers. They integrate the latest enhancements SAS technology and offer eight or 16 lanes of 12 Gbps SAS. With a low-profile form-factor design, these adapters offers two or four x4 internal mini-SAS HD connectors.

The following figure shows the ThinkSystem 430-16i SAS/SATA 12Gb HBA.

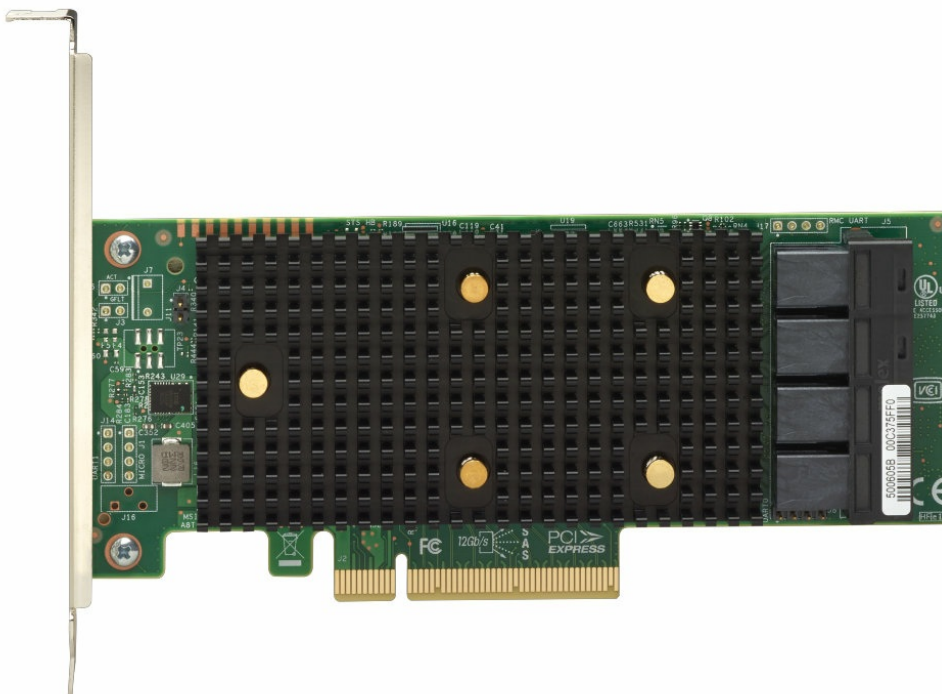


Figure 1. ThinkSystem 430-16i SAS/SATA 12Gb HBA

Did you know?

The 430-8i and 430-16i internal HBAs offer improved performance over the previous generation N2215 HBA for System x servers, with a faster processor and more memory.

Rigorous testing of the ThinkSystem HBAs 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

The following table lists the part numbers and feature codes.

Table 1. Ordering information

Part number	Feature code	Description
7Y37A01088	AUNL	ThinkSystem 430-8i SAS/SATA 12Gb HBA
7Y37A01089	AUNM	ThinkSystem 430-16i SAS/SATA 12Gb HBA

The option part numbers includes the following items:

- Adapter with a full-height (3U) bracket attached
- Low-profile (2U) bracket
- Documentation flyer

The following figure shows the ThinkSystem 430-8i SAS/SATA 12Gb HBA.

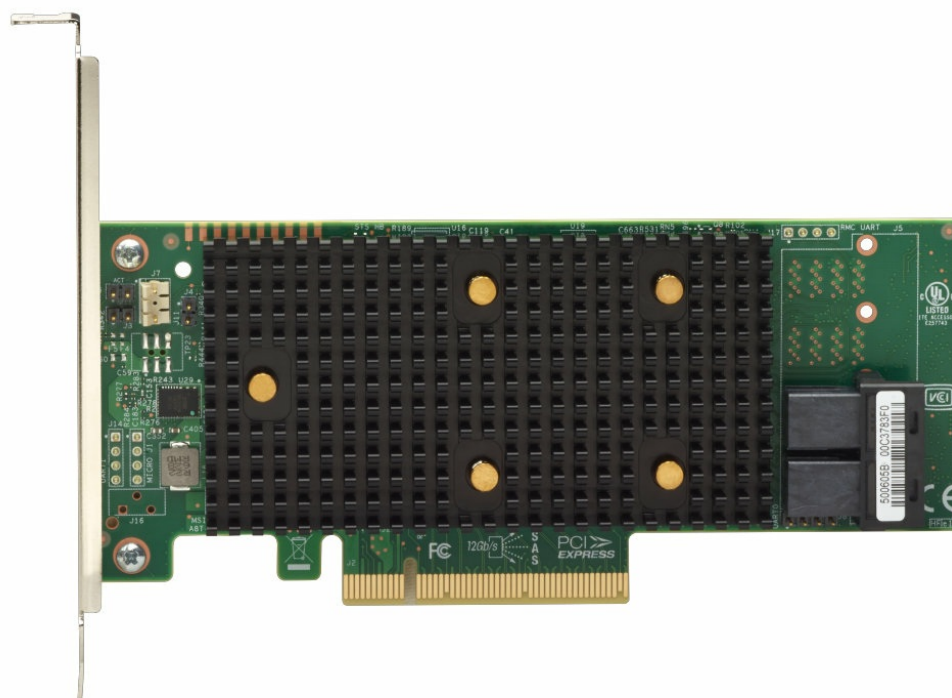


Figure 2. ThinkSystem 430-8i SAS/SATA 12Gb HBA

Features and specifications

The 430 internal HBAs have the following features and specifications:

- PCIe 3.0 x8 host interface
- 12 Gbps SAS/SATA host bus adapter, based on the Broadcom SAS3408 and SAS3416 IOC design
- PCI low profile, half-length form factor
- 8 or 16 internal 12 Gbps SAS/SATA ports
 - 430-8i support connectivity to 8 internal drives
 - 430-16i support connectivity to 16 internal drives

- Up to 12 Gbps throughput per port
 - Supports 12, 6, or 3 Gbps SAS speeds
 - Supports 6 or 3 Gbps SATA speeds
- Two internal x4 HD Mini-SAS connectors (SFF-8643)
- Non-RAID (JBOD mode) support for SAS and SATA HDDs and SSDs (RAID not supported)
- Support internal SAS tape drives
- Optimized for SSD performance
- High performance architecture with very deep queue depth
- Advanced power management support
- Support for SSP, SMP, STP, and SATA protocols
- End-to-End CRC with Advanced Error Reporting
- Spread Spectrum Clocking for EMI reductions
- Supports 512e, 512n and 4K (when available) formatted drives
- Compliant with Disk Data Format (DDF) configuration on disk (CoD).
- S.M.A.R.T. support.
- Configuration through
 - XClarity Provisioning Manager UEFI interface
 - XClarity Controller web interface
 - XClarity Administrator Configuration Patterns
 - StorCLI command-line interface
 - LSI Storage Authority (LSA) GUI interface
 - UEFI Human Interface Infrastructure (HII)

The specifications of the adapters are listed in the following table.

Table 2. Specifications

Feature	430-8i	430-16i
Form factor	PCIe low profile	PCIe low profile
Controller chip	LSI SAS3408	LSI SAS3416
Host interface	PCIe 3.0 x8	PCIe 3.0 x8
Port interface	12 Gb SAS	12 Gb SAS
Number of ports	8	16
Port connectors	2x Mini-SAS HD x4 (SFF-8643)	4x Mini-SAS HD x4 (SFF-8643)
Drive interface	SAS, SATA	SAS, SATA
Drive type	HDD, SSD, SED*	HDD, SSD, SED*
Maximum devices	8	16
RAID levels	No RAID	No RAID
JBOD mode	Yes	Yes
Cache	No	No
SED support	Yes*	Yes*

** SED support is by using software on the server (SED commands are passed through the HBA to the drives).

Server support

The following tables list the ThinkSystem servers that are compatible.

Table 3. ThinkSystem server support

Part number	Description													
		ST550 (7X09 / 7X10)	SR530 (7X07 / 7X08)	SR550 (7X03 / 7X04)	SR570 (7Y03 / 7Y04)	SR590 (7X98 / 7X99)	SR630 (7X01 / 7X02)	SR650 (7X05 / 7X06)	SR850 (7X18 / 7X19)	SR860 (7X69 / 7X70)	SR950 (7X11 / 7X12 / 7X13)	SD530 (7X21)	SN550 (7X16)	SN850 (7X15)
7Y37A01088	ThinkSystem 430-8i SAS/SATA 12Gb HBA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N
7Y37A01089	ThinkSystem 430-16i SAS/SATA 12Gb HBA	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N

Operating system support

The HBAs support the following operating systems:

- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2016
- Red Hat Enterprise Linux 6 Server x64 Edition
- Red Hat Enterprise Linux 7
- SUSE Linux Enterprise Server 11 for AMD64/EM64T
- SUSE Linux Enterprise Server 11 with Xen for AMD64/EM64T
- SUSE Linux Enterprise Server 12
- SUSE Linux Enterprise Server 12 with XEN
- VMware vSphere ESXi 6.0
- VMware vSphere ESXi 6.5

For more information about the specific versions and service levels that are supported and any other prerequisites, see the ServerProven website: <http://www.lenovo.com/us/en/serverproven>

Warranty

The adapters carry a 1-year limited warranty. When installed in a supported ThinkSystem server, the adapters assume the server's base warranty and any warranty service upgrade.

Operating environment

The adapters are supported in the following environment:

- Operating:
 - Temperature: 10°C to 55°C (50°F to 131°F)
 - Relative humidity: 20% to 90% (non-condensing)
- Storage
 - Temperature with package: -40°C to 70°C (-40°F to 158°F)
 - Relative humidity: 5% to 95% (non-condensing)

Agency approvals

The adapters have the following agency approvals:

- FCC Part 15 Class A
- Australia/New Zealand (AS/NZS CISPR 22)
- Canada (ICES-003 Class B)
- Europe (EN55022/EN55024)
- Japan (VCCI V-3)
- Korea (RRA no 2013-24 & 25)
- RoHS compliant
- EN/IEC/UL 60950
- Taiwan (CNS 13438)
- USA (FCC 47 CFR part 15 Subpart B class B)
- WEEE

Related publications and links

For more information, see the following websites:

- Lenovo ThinkSystem product publications:
<http://thinksystem.lenovofiles.com/help/index.jsp>
- ServerProven hardware compatibility:
<http://www.lenovo.com/us/en/serverproven>

Related product families

Product families related to this document are the following:

- [Host Bus Adapters](#)

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