

# Lenovo ThinkSystem RAID 730-8i Internal RAID Adapters

## Product Guide

The ThinkSystem RAID 730-8i family is a 12 Gb SAS/SATA internal RAID adapter that offers a cost-effective RAID solution for small to medium business customers. The 730-8i is available either as a 1GB cache adapter without flash backup, or a 2GB cache adapter with flash backup. The adapters support RAID levels 0, 1, 10, 5, and 50 (the 2GB adapter also supports 6 and 60), and include an extensive list of RAS and management features.

The ThinkSystem RAID 730-8i 1GB Cache adapter is shown in the following figure.

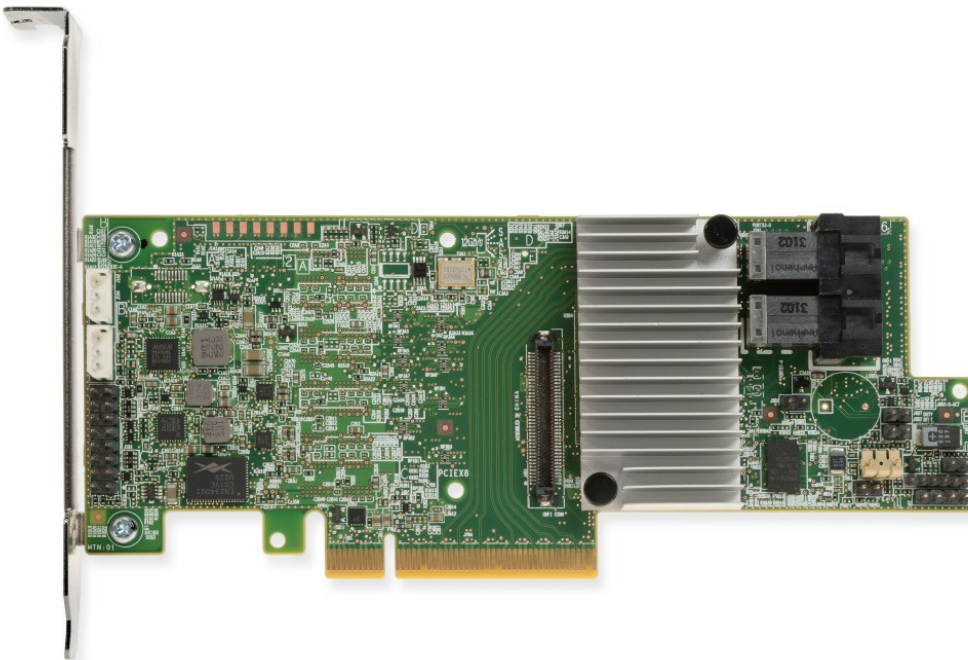


Figure 1. ThinkSystem RAID 730-8i 1GB Cache PCIe 12Gb Adapter

### Did you know?

RAID on Chip-based controllers such as the RAID 730-8i adapters have a dedicated processor that offloads RAID functions from the server's CPU. With hardware acceleration for RAID operations plus dedicated cache memory, the 730-8i is a cost-effective storage solution for ThinkSystem servers.

## Part number information

The following table provides the ordering part numbers for the adapters.

**Product availability:** The ThinkSystem RAID 730-8i 1GB Cache adapter is available world-wide, except for USA and Canada. Other adapters are available world-wide.

Table 1. Part numbers and feature codes

Part number	Feature code	Description
7Y37A01083	AUNH	ThinkSystem RAID 730-8i 1GB Cache PCIe 12Gb Adapter
4Y37A16226	B5MQ	ThinkSystem SR670 RAID 730-8i 1GB Cache Adapter
4Y37A09722	B4RQ	ThinkSystem RAID 730-8i 2GB Flash PCIe 12Gb Adapter

The following figure shows the ThinkSystem RAID 730-8i 2GB Flash PCIe 12Gb Adapter with the included external power module.



Figure 2. ThinkSystem RAID 730-8i 2GB Flash PCIe 12Gb Adapter

## Technical specifications

The ThinkSystem RAID 730-8i Adapter family has the following specifications:

- PCIe 3.0 x8 host interface
- 12 Gbps SAS/SATA RAID controller
- Cache options (neither are upgradable):
  - 730-8i 1GB Cache adapter: 1GB cache without flash-based backup
  - 730-8i 2GB Flash adapter: 2GB cache with flash-based backup
- Flash backup (2GB Flash adapter only):
  - MegaRAID flash cache protection with NAND flash memory
  - Powered by an externally mounted CacheVault Power Module supercapacitor
- Connectivity for up to 8 internal SAS or SATA drives

- Support for intermixing SAS and SATA HDDs and SSDs. Mixing SAS and SATA drives in the same array is not supported. Mixing of HDDs and SSDs in the same array is not supported.
- Support for intermixing of 12 Gbps and 6 Gbps drives.
- RAID levels supported:
  - 730-8i 1GB Cache adapter: RAID 0, 1, 10, 5, and 50
  - 730-8i 2GB Flash adapter: RAID 0, 1, 10, 5, 50, 6, and 60
- Support for JBOD (non-RAID) drive state
- Support for up to 64 virtual disks, up to 128 arrays, up to 16 virtual disks per array
- Support for logical drive sizes greater than 2 TB.
- Configurable stripe size from 64 KB up to 1 MB
- Supports 512e, 512n and 4K sector formatted drives
- Support for SafeStore for self-encrypting drives (SEDs) (2GB Flash adapter only)
- 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)

Note: CacheCade is not supported by these adapters

The following table lists the specifications of the RAID 730-8i adapters.

Table 2. Specifications

<b>Feature</b>	<b>RAID 730-8i 1GB</b>	<b>RAID 730-8i 2GB</b>
Part number	7Y37A01083 4Y37A16226	4Y37A09722
Form factor	PCIe low profile	PCIe low profile
Controller chip	LSI SAS3108	LSI SAS3108
Broadcom equivalent	MegaRAID 9361-8i	MegaRAID 9361-8i
Host interface	PCIe 3.0 x8	PCIe 3.0 x8
Port interface	12 Gb SAS	12 Gb SAS
Number of ports	8	8
Port connectors	2x Mini-SAS HD x4 (SFF-8643)	2x Mini-SAS HD x4 (SFF-8643)
Drive interface	SAS, SATA	SAS, SATA
Drive type	HDD, SSD	HDD, SSD, SED
Hot-swap drives	Yes	Yes
Max devices	8	8
RAID levels	0, 1, 10, 5, 50	0, 1, 10, 5, 50, 6, 60
JBOD mode	Yes	Yes
Cache	1GB (Standard)	2GB (Standard)
CacheVault cache protection with Flash	No	Yes
Performance Accelerator (FastPath)	No	Yes
SSD Caching (CacheCade Pro 2.0)	No	No
SED support (SafeStore)	No	Yes

## Features

The ThinkSystem RAID 730-8i adapter has the following standard features:

- Global and dedicated hot spare with revertible hot spare support

A hot spare rebuilds data from all virtual disks within the disk group in which it is configured. You can define a physical disk as a hot spare to replace a failed drive. Hot spares can be configured as either global or dedicated. A global hot spare allows any physical drive to be designated as a hot spare. A dedicated hot spare allows the user to assign a hot spare drive to a particular array of the same drive type.

- Drive roaming

Drive roaming occurs when the physical disks are changed to different ports on the same controller. When the drives are placed on different channels, the controller detects the RAID configuration from the configuration data on the drives.

- Auto-resume on array rebuild or array reconstruction after the loss of system power

Auto-resume uses non-volatile RAM (NVRAM) to save the rebuild progress during a host reboot or power failure to automatically resume from the last checkpoint. Auto-resume ensures that data integrity is maintained throughout the process. The card supports a number of features that can be implemented without rebooting the server. Applications, such as email and web server, benefit from avoiding downtime during the transition.

- Online Capacity Expansion

Online Capacity Expansion (OCE) allows the capacity of a virtual disk to be expanded by adding new physical disks or making use of unused space on existing disks, without requiring a reboot.

- Online RAID Level Migration

Online RAID Level Migration (RLM), which is also known as logical drive migration, can migrate a virtual disk from any RAID level to any other RAID level without requiring a reboot. System availability and application functionality remain unaffected.

- Fast initialization for quick array setup

Fast initialization quickly writes zeros to the first and last sectors of the virtual drive. This feature allows you to immediately start writing data to the virtual drive while the initialization is running in the background.

- Consistency check for background data integrity

Consistency check verifies that all stripes in a virtual disk with a redundant RAID level are consistent. The consistency check mirrors data when an inconsistent stripe is detected for RAID 1 and re-creates the parity from the peer disks for RAID 5 or RAID 6. Consistency checks can be scheduled to take place periodically.

- Extensive online configuration options and advanced monitoring and event notification

Management tools provide convenience for the configuration of logical volumes and alerting when errors have occurred or are about to occur.

- Patrol read for media scanning and repairing

Patrol read is a background sentry service that pro-actively discovers and corrects media defects (bad sectors) that arise normally as a disk drive ages. The service issues a series of verify commands, and if a bad block is discovered, the card's firmware uses RAID algorithms to re-create the missing data and remap the sector to a good sector. The task is interruptible based on controller activity and host operations. The firmware also provides an interface where the patrol read task can be initiated, set up for continuous operation, and terminated from a management application. Patrol read can be activated by a manual command or automatically.

- MegaRAID FastPath SSD performance acceleration (2GB Flash adapter only)

MegaRAID FastPath software provides high-performance I/O acceleration for SSD-based virtual drives by using a low latency I/O path to increase the maximum I/O per second (IOPS) capability of the controller. This feature boosts the performance of applications with a highly random data storage access pattern, such as transactional databases.

- MegaRAID flash cache protection (2GB Flash adapter only)

MegaRAID flash cache protection uses NAND flash memory, which is powered by a CacheVault Power Module supercapacitor, to protect data that is stored in the controller cache. This module eliminates the need for a lithium-ion battery, which is commonly used to protect DRAM cache memory on PCI RAID controllers. To avoid the possibility of data loss or corruption during a power or server failure, flash cache protection technology transfers the contents of the DRAM cache to NAND flash using power from the offload power module. After the power is restored to the RAID controller, the content of the NAND flash is transferred back to the DRAM, which is flushed to disk.

- MegaRAID SafeStore support for self-encrypting drive (SED) services (2GB Flash adapter only)

MegaRAID SafeStore encryption services offer instant secure erase and local key management for self-encrypting drives. This technology represents a step forward in securing data on a disk drive from any unauthorized access or modification resulting from theft, loss, or repurposing of drives. Instant secure erase permanently removes data when repurposing or decommissioning SEDs. SafeStore local key management provides the necessary management and protection of SEDs by using a simple pass phrase, security key identifier, and security key file that can be set and applied to all SEDs that are assigned to a RAID adapter. This feature removes the complexity of managing each SED's unique encryption key, and it essentially relieves the administrator of most of the daily tasks of securing data.

- XClarity Provisioning Manager for pre-boot array configuration and management

Provisioning Manager is the ThinkSystem UEFI-based application that includes a RAID setup wizard to help you configure drive groups and virtual disks before installing or booting the operating system.

- XClarity Controller web interface for remote storage management

XClarity Controller (XCC) is the systems management processor integrated in all ThinkSystem servers. The XCC web interface allows you to perform storage inventory, create and edit virtual disks, view events, import a new controller configuration, and perform firmware updates on the adapter.

Note: MegaRAID CacheCade and MegaRAID Storage Manager are not supported.

## Server support

The following table lists the ThinkSystem servers that are compatible.

Table 3. ThinkSystem server support

Part number	Description	1S Rack & Tower				2S Rack & Tower								4S Rack			Dense/ Blade			
		ST50 (7Y48/7Y50)	ST250 (7Y45/7Y46)	SR150 (7Y54)	SR250 (7Y51/7Y52)	ST550 (7X09/7X10)	SR530 (7X07/7X08)	SR550 (7X03/7X04)	SR570 (7Y02/7Y03)	SR590 (7X98/7X99)	SR630 (7X01/7X02)	SR650 (7X05/7X06)	SR670 (7Y36/7Y37/7Y38)	SR850 (7X18/7X19)	SR860 (7X69/7X70)	SR950 (7X11/12/13)	SD530 (7X21)	SD650 (7X58)	SN550 (7X16)	SN850 (7X15)
7Y37A01083	ThinkSystem RAID 730-8i 1GB Cache PCIe 12Gb Adapter	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N	N
4Y37A16226	ThinkSystem SR670 RAID 730-8i 1GB Cache Adapter	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N
4Y37A09722	ThinkSystem RAID 730-8i 2GB Flash PCIe 12Gb Adapter	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N	N

## Operating system support

The following tables list the supported operating systems for the adapters:

- [ThinkSystem RAID 730-8i 1GB Cache PCIe 12Gb Adapter, 7Y37A01083](#)
- [ThinkSystem RAID 730-8i 2GB Flash PCIe 12Gb Adapter, 4Y37A09722](#)

Table 4. Operating system support for ThinkSystem RAID 730-8i 1GB Cache PCIe 12Gb Adapter, 7Y37A01083 (Part 1 of 2)

Operating systems	SR250	ST250	ST50	SR530 (Xeon SP Gen 2)	SR550 (Xeon SP Gen 2)	SR570 (Xeon SP Gen 2)	SR590 (Xeon SP Gen 2)	SR630 (Xeon SP Gen 2)	SR650 (Xeon SP Gen 2)	SR850 (Xeon SP Gen 2)	SR860 (Xeon SP Gen 2)	SR950 (Xeon SP Gen 2)	ST550 (Xeon SP Gen 2)
Microsoft Windows Server 2012 R2	N	N	N	N	N	N	N	N	N	N	N	N	N
Microsoft Windows Server 2016	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server 2019	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server version 1709	N	N	N	N	N	N	N	N	N	N	N	N	N
Microsoft Windows Server version 1803	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 6.10	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 6.9	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.3	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.4	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.5	Y	Y	Y	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.6	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 11 SP4	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 11 SP4 with Xen	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP2	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP2 with Xen	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP3	Y	Y	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP3 with Xen	Y	Y	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP4	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP4 with Xen	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 with Xen	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.0 U3	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.5	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.5 U1	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.5 U2	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.7	Y	Y	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.7 U1	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.7 U2	Y	Y	Y	N	N	N	N	N	N	N	N	N	N



Table 5. Operating system support for ThinkSystem RAID 730-8i 1GB Cache PCIe 12Gb Adapter, 7Y37A01083 (Part 2 of 2)

	SR530 (Xeon SP Gen 1)	SR550 (Xeon SP Gen 1)	SR570 (Xeon SP Gen 1)	SR590 (Xeon SP Gen 1)	SR630 (Xeon SP Gen 1)	SR650 (Xeon SP Gen 1)	SR670 (Xeon SP Gen 1)	SR850 (Xeon SP Gen 1)	SR860 (Xeon SP Gen 1)	SR950 (Xeon SP Gen 1)	ST550 (Xeon SP Gen 1)
<b>Operating systems</b>											
Microsoft Windows Server 2012 R2	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Microsoft Windows Server 2016	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Microsoft Windows Server 2019	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Microsoft Windows Server version 1709	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Microsoft Windows Server version 1803	N	N	N	N	Y	Y	N	Y	Y	Y	N
Red Hat Enterprise Linux 6.10	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Red Hat Enterprise Linux 6.9	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Red Hat Enterprise Linux 7.3	Y	Y	N	N	Y	Y	N	Y	N	Y	Y
Red Hat Enterprise Linux 7.4	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Red Hat Enterprise Linux 7.5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.6	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
SUSE Linux Enterprise Server 11 SP4	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
SUSE Linux Enterprise Server 11 SP4 with Xen	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP2	Y	Y	N	N	Y	Y	N	Y	N	Y	Y
SUSE Linux Enterprise Server 12 SP2 with Xen	Y	Y	N	N	Y	Y	N	Y	N	Y	Y
SUSE Linux Enterprise Server 12 SP3	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP3 with Xen	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP4	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP4 with Xen	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
SUSE Linux Enterprise Server 15	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 with Xen	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.0 U3	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.5	Y	Y	N	N	Y	Y	N	Y	N	Y	Y
VMware vSphere Hypervisor (ESXi) 6.5 U1	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.5 U2	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.7	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.7 U1	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.7 U2	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y

Table 6. Operating system support for ThinkSystem RAID 730-8i 2GB Flash PCIe 12Gb Adapter, 4Y37A09722 (Part 1 of 2)

	ST250	SR530 (Xeon SP Gen 2)	SR550 (Xeon SP Gen 2)	SR570 (Xeon SP Gen 2)	SR590 (Xeon SP Gen 2)	SR630 (Xeon SP Gen 2)	SR650 (Xeon SP Gen 2)	SR850 (Xeon SP Gen 2)	SR860 (Xeon SP Gen 2)	SR950 (Xeon SP Gen 2)	ST550 (Xeon SP Gen 2)
<b>Operating systems</b>											
Microsoft Windows Server 2012 R2	N	N	N	N	N	N	N	N	N	N	N
Microsoft Windows Server 2016	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server version 1709	N	N	N	N	N	N	N	N	N	N	N
Microsoft Windows Server version 1803	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 6.10	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 6.9	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.3	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.4	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.5	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.6	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 11 SP4	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 11 SP4 with Xen	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP2	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP2 with Xen	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP3	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP3 with Xen	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP4	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP4 with Xen	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 with Xen	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.0	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.0 U3	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.5	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.5 U1	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.5 U2	N	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.7	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.7 U1	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.7 U2	N	N	N	N	N	N	N	N	N	N	N

Table 7. Operating system support for ThinkSystem RAID 730-8i 2GB Flash PCIe 12Gb Adapter, 4Y37A09722 (Part 2 of 2)

	SR530 (Xeon SP Gen 1)	SR550 (Xeon SP Gen 1)	SR570 (Xeon SP Gen 1)	SR590 (Xeon SP Gen 1)	SR630 (Xeon SP Gen 1)	SR650 (Xeon SP Gen 1)	SR850 (Xeon SP Gen 1)	SR860 (Xeon SP Gen 1)	SR950 (Xeon SP Gen 1)	ST550 (Xeon SP Gen 1)
<b>Operating systems</b>										
Microsoft Windows Server 2012 R2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server 2016	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server 2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server version 1709	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server version 1803	N	N	N	N	Y	Y	Y	Y	Y	N
Red Hat Enterprise Linux 6.10	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 6.9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.3	Y	Y	N	N	Y	Y	Y	N	Y	Y
Red Hat Enterprise Linux 7.4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 11 SP4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 11 SP4 with Xen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP2	Y	Y	N	N	Y	Y	Y	N	Y	Y
SUSE Linux Enterprise Server 12 SP2 with Xen	Y	Y	N	N	Y	Y	Y	N	Y	Y
SUSE Linux Enterprise Server 12 SP3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP3 with Xen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP4 with Xen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 with Xen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.0	N	Y	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.0 U3	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.5	Y	Y	N	N	Y	Y	Y	N	Y	Y
VMware vSphere Hypervisor (ESXi) 6.5 U1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.5 U2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.7 U1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.7 U2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

## Warranty

The adapters carry a 1-year limited warranty. When installed in a supported ThinkSystem server, the adapter assumes the server's base warranty and any warranty upgrades.

## Operating environment

The adapter is 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 adapter has 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 documents:

- Lenovo ThinkSystem product publications:  
<http://thinksystem.lenovofiles.com/help/index.jsp>
- ServerProven hardware compatibility:  
<http://www.lenovo.com/us/en/serverproven>
- Lenovo RAID Management Tools and Resources:  
<https://lenovopress.com/lp0579-lenovo-raid-management-tools-and-resources>
- Lenovo RAID Introduction  
<https://lenovopress.com/lp0578-lenovo-raid-introduction>

## Related product families

Product families related to this document are the following:

- [RAID Adapters](#)

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