

ThinkSystem RAID 5350-8i Adapters

Product Guide

The ThinkSystem RAID 5350-8i adapter is an entry-level 12 Gb SAS/SATA internal RAID adapter manufactured by Lenovo that offers a cost-effective RAID solution for small to medium business customers. This cacheless adapter supports RAID levels 0/1/10/5, and include support for Lenovo management tools.

The ThinkSystem RAID 5350-8i supports up to eight internal SAS and SATA drives and is shown in the following figure.

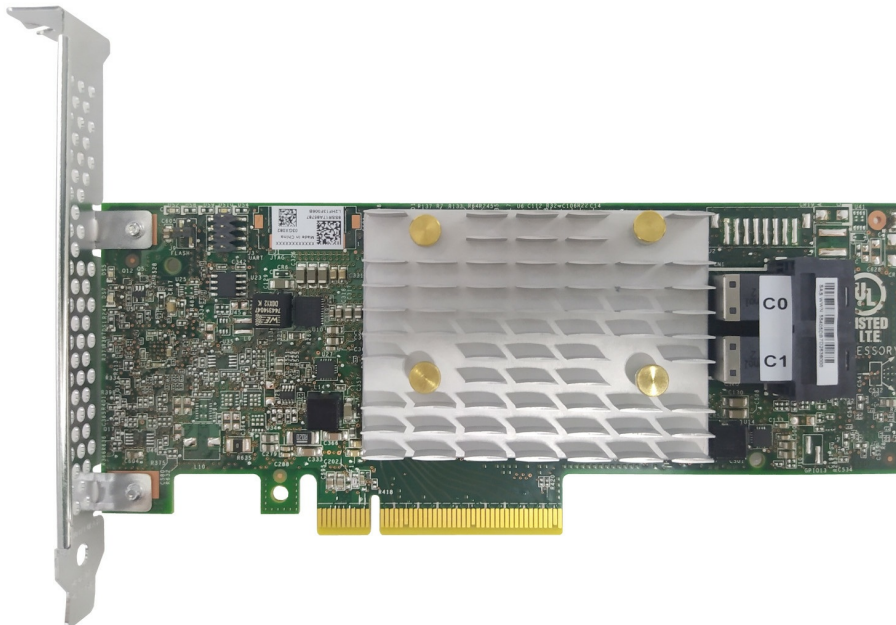


Figure 1. ThinkSystem RAID 5350-8i PCIe 12Gb Adapter

Did you know?

The ThinkSystem RAID 5350-8i combines uncompromised HBA functionality with basic RAID support in hardware using the PM8222 SmartIO 2100 controller. The adapter provides high levels of storage performance and scalability. The 8-port adapter can achieve up to 1.5M IOPS (random read using 4KB blocks).

Rigorous testing of the ThinkSystem RAID adapters 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 provides the ordering part numbers for the adapter.

Table 1. Ordering information

Part number	Feature code	Description
Low-profile adapters installed in a regular PCIe slot		
4Y37A72482	BJHK	ThinkSystem RAID 5350-8i PCIe 12Gb Adapter
Custom form-factor (CFF) adapters installed in a dedicated internal bay (no PCIe slot required)		
4Y37A84028	BRQV	ThinkSystem RAID 5350-8i PCIe 12Gb Internal Adapter

The part number for the regular PCIe adapter includes:

- RAID adapter with 3U full-height bracket attached
- 2U low-profile bracket

The following figure shows the ThinkSystem RAID 5350-8i PCIe 12Gb Internal Adapter.

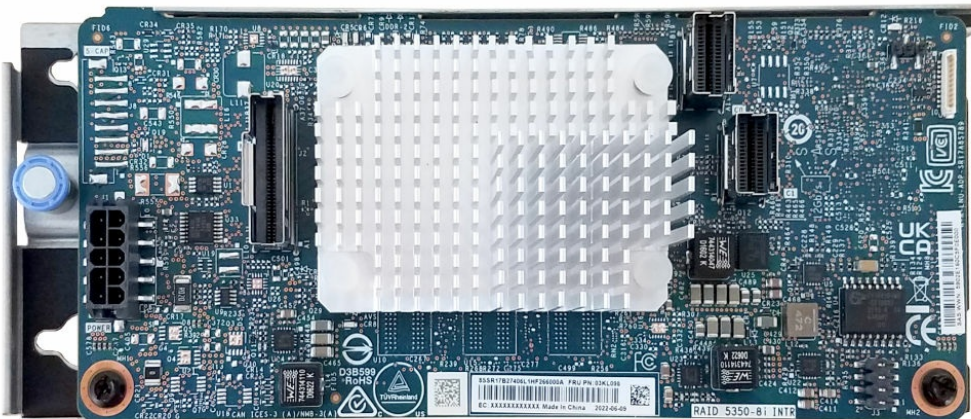


Figure 2. ThinkSystem RAID 5350-8i PCIe 12Gb Internal Adapter

Technical specifications

The ThinkSystem RAID 5350 Series internal RAID adapters have the following specifications:

- PCIe 3.0 x8 host interface
- Two adapter form factors:
 - Low-profile PCIe adapter with broad server compatibility
 - Custom form factor (CFF), designed to not consume a standard PCIe slot
- 12 Gbps SAS/SATA RAID controller, based on the Microsemi Adaptec SmartHBA 2100-8i
- Cacheless (not upgradeable)
- 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 24 Gb/s, 12 Gb/s, and 6 Gb/s drives; 24 Gb/s drives operate at 12 Gb/s
- Support for RAID 0, 1, 10, and 5
- Support for JBOD (non-RAID, known as “raw” or “HBA mode” in Adaptec parlance) drive state

- Support for up to 64 arrays and 64 logical drives (virtual drives)
- Support for logical drive sizes greater than 2 TB.
- Configurable stripe size from 16 KB up to 1 MB
- Hot spares—global, dedicated, and pooled
- Automatic/manual rebuild of hot spares
- Supports 512e, 512n and 4K sector formatted drives
- S.M.A.R.T. support
- Performance of up to 1.7M random read IOPS with extremely low-latency 4 KB I/Os

The following table lists the specifications of the RAID 5350 adapter.

Table 2. Specifications

Feature	RAID 5350-8i
Form factors	PCIe low profile or custom form factor (CFF)
Controller chip	Adaptec PM8222 SmartIOC 2100
Adaptec equivalent	Adaptec SmartHBA 2100-8i
Host interface	PCIe 3.0 x8
Port interface	12 Gb SAS
Number of ports	8
Port connectors	2x Mini-SAS HD x4 (SFF-8643)
Drive interface	SAS, SATA
Drive type	HDD, SSD
Hot-swap drives	Yes
Max devices	8
RAID levels	0, 1, 10, 5
JBOD mode (HBA mode / Raw)	Yes
Cache	None
SED support	Yes

To compare these adapters to others in the ThinkSystem portfolio, see the ThinkSystem RAID Adapter and HBA Reference:

<https://lenovopress.com/lp1288-thinksystem-raid-adapter-and-hba-reference>

Features

Smart Storage, Connectivity and Hardware RAID

Today's data centers and enterprises need storage solutions that can keep pace with rapid data expansion. The RAID 5350 Series is the newest product in the Smart Storage solutions family, forged through the convergence of SAS/SATA protocol controller expertise, more than 30 years of Microchip board innovation and the Smart Storage stack.

The RAID 5350 Series, combines the capabilities of a full-featured HBA like the 4350 SAS/SATA HBA series with those of a basic RAID adapter using hardware RAID. With an optimal mix of resiliency, efficiency, and ease of use, it adds the robustness of true host-offloading hardware RAID, offers open-source driver compatibility and comes with a full set of storage management tools. The RAID 5350 Series offers the flexibility of internal and external connectivity in a low-profile/MD2 form factor.

Resiliency, Efficiency and Data Availability

The RAID 5350-8i is an ideal solution for server-based storage systems that require maximum bandwidth and I/O connectivity, low-power consumption, high reliability, plus options for data availability. The Smart Software stack even allows a combination of RAID and raw devices. This is useful in SDS environments where hardware RAID significantly increases OS boot reliability, but full HBA features and performance are otherwise needed.

The RAID 5350-8i also provides enhanced enclosure management capabilities to both RAID and raw devices, and enables enclosure services by providing a virtual SEP to software stacks if needed. The RAID 5350-8i offers over 40 percent power savings compared to prior generations and significant power advantages versus competing solutions, giving it the lowest Total Cost of Ownership (TCO) for an HBA/basic RAID solution. It delivers a robust and scalable solution that can handle the toughest system workloads and configurations, from an array of high-performance SSDs to high-capacity HDDs.

Maximum Performance

The RAID 5350 Series provides the highest levels of storage performance and scalability for next-generation data centers. The RAID 5350 provides connectivity to large numbers of storage devices, including HDDs and, SSDs. These storage devices can aggregate the performance of devices to the limits of the PCIe Gen3 host bus at 6.6 Gbps, and achieve up to 1.7M IOPS and 60 percent higher IOPS performance with SATA devices without additional overhead or latency.

Entry-Level RAID Functionality

The RAID 5350 combines uncompromised HBA functionality with basic RAID support in hardware using the PM8222 SmartIOC 2100 silicon. Robust RAID support is the same for all platforms and operating systems, providing a consistent user experience. Metadata compatibility with RAID 9350 Series products allows customers to upgrade to a full-feature hardware RAID solution with caching for acceleration if needed. The RAID 5350-8i supports up to 8 HDDs or SSDs in RAID configurations using RAID levels 0, 1, 10, or even RAID 5, and can simultaneously use RAID arrays and raw devices in mixed mode (default).

Consistency Check

Consistency check automatically checks your logical drives for bad or inconsistent data, and then fixes any problems. Enabling consistency check ensures that you can recover data if a drive fails. The scanning process checks physical drives in fault-tolerant logical drives for bad sectors. It also verifies the consistency of parity data, if applicable.

Unified Storage Management Utilities

maxView provides both server and remote administration, including proactive failure notification, and supports all 4350, 5350 and 9350 Series products. This browser-based tool suite supports all standard browsers, and is also available as an offline USB boot image. maxView adapter management components include the maxView GUI, an ARCCONF command-line tool, and an event monitor for logging and email alerts.

Support for Lenovo system management tools is listed in the following table.

Table 3. Support for key management features

Function	Lenovo XClarity Controller	Lenovo XClarity Provisioning Manager	Lenovo XClarity Essentials OneCLI (out-of-band)	Lenovo XClarity Essentials OneCLI (in-band)	Lenovo XClarity Administrator	Bare Metal Update / Bootable Media Creator
Adapter FRU Inventory Details	Supported	Supported	Supported	Supported	Supported	No support
Disk Inventory Details	Supported	Supported	Supported	Supported	Supported	No support
RAID Configuration	Supported	Supported	Supported	Supported	Support planned for 3Q/2023	No support
Firmware Update	Supported	No support	Supported	Supported	Supported	Supported
Monitoring/ Events/ Log Capture	Supported*	Supported	Supported*	Supported	Supported*	No support

* No capture of controller firmware log

Server support

The following tables list the ThinkSystem servers that are compatible.

Table 4. Server support (Part 1 of 4)

Part Number	Description	2S AMD V3				2S Intel V3		4S 8S Intel V3				Multi Node	GPU Rich	1S V3			
		SR635 V3 (7D9H / 7D9G)	SR655 V3 (7D9F / 7D9E)	SR645 V3 (7D9D / 7D9C)	SR665 V3 (7D9B / 7D9A)	ST650 V3 (7D7B / 7D7A)	SR630 V3 (7D72 / 7D73)	SR650 V3 (7D75 / 7D76)	SR850 V3 (7D97 / 7D96)	SR860 V3 (7D94 / 7D93)	SR950 V3 (7DC5 / 7DC4)	SD535 V3 (7DD8 / 7DD1)	SD530 V3 (7DDA / 7DD3)	SD550 V3 (7DD9 / 7DD2)	SR670 V2 (7Z22 / 7Z23)	SR675 V3 (7D9Q / 7D9R)	ST250 V3 (7DCF / 7DCE)
4Y37A72482	ThinkSystem RAID 5350-8i PCIe 12Gb Adapter	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y
4Y37A84028	ThinkSystem RAID 5350-8i PCIe 12Gb Internal Adapter	Y	Y	Y	Y	Y	Y	N	N	N	Y	N	Y	N	N	N	Y

Table 5. Server support (Part 2 of 4)

Part Number	Description	Edge					Super Computing					1S Intel V2			2S Intel V2		
		SE350 (7Z46 / 7D1X)	SE350 V2 (7DA9)	SE360 V2 (7DAM)	SE450 (7D8T)	SE455 V3 (7DBY)	SD665 V3 (7D9P)	SD665-N V3 (7DAZ)	SD650 V3 (7D7M)	SD650-I V3 (7D7L)	SD650-N V3 (7D7N)	ST50 V2 (7D8K / 7D8J)	ST250 V2 (7D8G / 7D8F)	SR250 V2 (7D7R / 7D7Q)	ST650 V2 (7Z75 / 7Z74)	SR630 V2 (7Z70 / 7Z71)	SR650 V2 (7Z72 / 7Z73)
4Y37A72482	ThinkSystem RAID 5350-8i PCIe 12Gb Adapter	N	N	N	Y	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y
4Y37A84028	ThinkSystem RAID 5350-8i PCIe 12Gb Internal Adapter	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y

Table 6. Server support (Part 3 of 4)

Part Number	Description	AMD V1					Dense V2				4S V2	8S	4S V1		1S Intel V1					
		SR635 (7Y98 / 7Y99)	SR655 (7Y00 / 7Z01)	SR655 Client OS	SR645 (7D2Y / 7D2X)	SR665 (7D2W / 7D2V)	SD630 V2 (7D1K)	SD650 V2 (7D1M)	SD650-N V2 (7D1N)	SN550 V2 (7Z69)	SR850 V2 (7D31 / 7D32)	SR860 V2 (7Z59 / 7Z60)	SR950 (7X11 / 7X12)	SR850 (7X18 / 7X19)	SR850P (7D2F / 2D2G)	SR860 (7X69 / 7X70)	ST50 (7Y48 / 7Y50)	ST250 (7Y45 / 7Y46)	SR150 (7Y54)	SR250 (7Y52 / 7Y51)
4Y37A72482	ThinkSystem RAID 5350-8i PCIe 12Gb Adapter	N	N	N	Y ¹	Y ¹	N	N	N	N	Y	Y	N	N	N	N	N	N	N	N
4Y37A84028	ThinkSystem RAID 5350-8i PCIe 12Gb Internal Adapter	N	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N

1. Supported in the SR645 and SR665 only with an EPYC 7003 "Milan" processor. Not supported with an EPYC 7002 "Rome" processor.

Table 7. Server support (Part 4 of 4)

Part Number	Description	2S Intel V1							Dense V1				
		ST550 (7X09 / 7X10)	SR530 (7X07 / 7X08)	SR550 (7X03 / 7X04)	SR570 (7Y02 / 7Y03)	SR590 (7X98 / 7X99)	SR630 (7X01 / 7X02)	SR650 (7X05 / 7X06)	SR670 (7Y36 / 7Y37)	SD530 (7X21)	SD650 (7X58)	SN550 (7X16)	SN850 (7X15)
4Y37A72482	ThinkSystem RAID 5350-8i PCIe 12Gb Adapter	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N
4Y37A84028	ThinkSystem RAID 5350-8i PCIe 12Gb Internal Adapter	N	N	N	N	N	N	N	N	N	N	N	N

Note: The use of both an Intel E810 network adapter and an X350 HBA/RAID adapter (9350, 5350 and 4350) is currently not supported in ThinkSystem servers. For details see [Support Tip HT513226](#). Planned support for this combination of adapters is 2Q/2024.

Operating system support

The following tables list the supported operating systems for the adapters

- [ThinkSystem RAID 5350-8i PCIe 12Gb Adapter, 4Y37A72482](#)
- [ThinkSystem RAID 5350-8i PCIe 12Gb Internal Adapter, 4Y37A84028](#)

Table 8. Operating system support for ThinkSystem RAID 5350-8i PCIe 12Gb Adapter, 4Y37A72482 (Part 1 of 3)

Operating systems	SE450	SE455 V3	SR250 V3	ST250 V3	SR630 V3 (4th Gen Xeon)	SR630 V3 (5th Gen Xeon)	SR635 V3	SR645 V3	SR650 V3 (4th Gen Xeon)	SR650 V3 (5th Gen Xeon)	SR655 V3	SR665 V3	SR675 V3	SR850 V3	SR860 V3	ST650 V3	SR250 V2	ST250 V2	ST50 V2
Microsoft Windows 10	N	N	N	N	N	Y	Y	Y	Y ¹	Y	Y	Y	N	N	N	N	N	N	N
Microsoft Windows 11	N	N	N	N	N	Y	Y	Y	Y ¹	Y	Y	Y	N	N	N	N	N	N	N
Microsoft Windows Server 2016	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Microsoft Windows Server 2019	Y	Y	N	N	Y ¹	Y	Y	Y	Y ¹	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server 2022	Y	Y	Y	Y	Y ¹	Y	Y	Y	Y ¹	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.7	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.8	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.9	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 8.0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 8.1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 8.2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 8.3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Operating systems	SE450	SE455 V3	SR250 V3	ST250 V3	SR630 V3 (4th Gen Xeon)	SR630 V3 (5th Gen Xeon)	SR635 V3	SR645 V3	SR650 V3 (4th Gen Xeon)	SR650 V3 (5th Gen Xeon)	SR655 V3	SR665 V3	SR675 V3	SR850 V3	SR860 V3	ST650 V3	SR250 V2	ST250 V2	ST50 V2
Red Hat Enterprise Linux 8.4	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y
Red Hat Enterprise Linux 8.5	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y
Red Hat Enterprise Linux 8.6	Y	Y	N	N	Y ¹	N	Y	Y	Y ¹	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.7	Y	N	N	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.8	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.0	Y	Y	N	N	Y ¹	N	Y	Y	Y ¹	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.1	Y	N	N	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP5	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 15 SP1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 15 SP2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 15 SP3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y
SUSE Linux Enterprise Server 15 SP4	Y	Y	N	N	Y ¹	N	Y	Y	Y ¹	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ubuntu 18.04.5 LTS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 18.04.6 LTS	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 20.04 LTS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 20.04.5 LTS	Y	Y	N	N	N	N	Y	Y	N	N	Y	Y	Y	Y	Y	N	N	N	N
Ubuntu 22.04 LTS	Y	N	N	N	Y ¹	N	Y	Y	Y ¹	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ubuntu 22.04.2 LTS	N	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.7 U2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.7 U3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 7.0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 7.0 U1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 7.0 U2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 7.0 U3	Y	Y	N	N	Y ¹	Y	Y	Y	Y ¹	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 8.0	Y	N	N	N	Y ¹	N	Y	Y	Y ¹	N	Y	Y	N	N	N	N	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 8.0 U1	Y	Y	N	N	Y ²	N	Y	Y	Y ²	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 8.0 U2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

¹ For limitation, please refer [Support Tip 103500](#)

² For limitation, please refer [Support Tip 104278](#)

Table 9. Operating system support for ThinkSystem RAID 5350-8i PCIe 12Gb Adapter, 4Y37A72482 (Part 2 of 3)

Operating systems	SR630 V2	SR650 V2	SR670 V2	SR850 V2	SR860 V2	ST650 V2	SR645	SR665	SR530 (Xeon Gen 2)	SR550 (Xeon Gen 2)	SR570 (Xeon Gen 2)	SR590 (Xeon Gen 2)	SR630 (Xeon Gen 2)	SR650 (Xeon Gen 2)	ST550 (Xeon Gen 2)
Microsoft Windows 10	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Microsoft Windows 11	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Microsoft Windows Server 2016	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server 2019	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server 2022	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.7	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.8	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.9	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.0	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.1	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.2	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.3	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.4	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.5	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.6	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.7	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.8	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.9	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.0	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.1	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.2	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.3	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP4	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP5	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP1	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP2	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP3	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP4	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP5	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
Ubuntu 18.04.5 LTS	Y	Y	Y	N	N	Y	N	N	N	N	N	N	N	N	N
Ubuntu 18.04.6 LTS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

	SR630 V2	SR650 V2	SR670 V2	SR850 V2	SR860 V2	ST650 V2	SR645	SR665	SR530 (Xeon Gen 2)	SR550 (Xeon Gen 2)	SR570 (Xeon Gen 2)	SR590 (Xeon Gen 2)	SR630 (Xeon Gen 2)	SR650 (Xeon Gen 2)	ST550 (Xeon Gen 2)
Operating systems															
Ubuntu 20.04 LTS	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 20.04.5 LTS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 22.04 LTS	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
Ubuntu 22.04.2 LTS	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.7 U2	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.7 U3	Y	Y	Y	N	N	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0 U1	N	N	N	Y	Y	N	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0 U2	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0 U3	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 8.0	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 8.0 U1	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 8.0 U2	Y	Y	Y	Y	Y	Y	Y ¹	Y ¹	Y	Y	Y	Y	Y	Y	Y

¹ HW is not supported with EPYC 7002 processors.

Table 10. Operating system support for ThinkSystem RAID 5350-8i PCIe 12Gb Adapter, 4Y37A72482 (Part 3 of 3)

	SR530 (Xeon Gen 1)	SR550 (Xeon Gen 1)	SR570 (Xeon Gen 1)	SR590 (Xeon Gen 1)	SR630 (Xeon Gen 1)	SR650 (Xeon Gen 1)	ST550 (Xeon Gen 1)
Operating systems							
Microsoft Windows 10	N	N	N	N	N	N	N
Microsoft Windows 11	N	N	N	N	N	N	N
Microsoft Windows Server 2016	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server 2019	Y	Y	Y	Y	Y	Y	Y
Microsoft Windows Server 2022	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.7	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.8	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.9	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.0	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.1	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.2	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.3	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.4	Y	Y	Y	Y	Y	Y	Y

	SR530 (Xeon Gen 1)	SR550 (Xeon Gen 1)	SR570 (Xeon Gen 1)	SR590 (Xeon Gen 1)	SR630 (Xeon Gen 1)	SR650 (Xeon Gen 1)	ST550 (Xeon Gen 1)
Operating systems							
Red Hat Enterprise Linux 8.5	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.6	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.7	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.8	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.9	N	N	N	N	N	N	N
Red Hat Enterprise Linux 9.0	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.1	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.2	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 9.3	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP3	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP4	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP5	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP1	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP2	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP3	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP4	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP5	Y	Y	Y	Y	Y	Y	Y
Ubuntu 18.04.5 LTS	N	N	N	N	N	N	N
Ubuntu 18.04.6 LTS	N	N	N	N	N	N	N
Ubuntu 20.04 LTS	N	N	N	N	N	N	N
Ubuntu 20.04.5 LTS	N	N	N	N	N	N	N
Ubuntu 22.04 LTS	Y	Y	Y	Y	Y	Y	Y
Ubuntu 22.04.2 LTS	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.7 U2	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.7 U3	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0 U1	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0 U2	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0 U3	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 8.0	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 8.0 U1	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 8.0 U2	Y	Y	Y	Y	Y	Y	Y

Table 11. Operating system support for ThinkSystem RAID 5350-8i PCIe 12Gb Internal Adapter, 4Y37A84028

Operating systems	SR250 V3	SD550 V3	SR630 V3 (4th Gen Xeon)	SR630 V3 (5th Gen Xeon)	SR635 V3	SR645 V3	SR650 V3 (4th Gen Xeon)	SR650 V3 (5th Gen Xeon)	SR655 V3	SR665 V3	ST650 V3	SR630 V2	SR650 V2	ST650 V2	SR645	SR665
Microsoft Windows 10	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N
Microsoft Windows 11	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N
Microsoft Windows Server 2019	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y ²	Y ²
Microsoft Windows Server 2022	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y ²	Y ²
Red Hat Enterprise Linux 8.1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y ³	N
Red Hat Enterprise Linux 8.2	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y ⁴	N
Red Hat Enterprise Linux 8.3	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y ²
Red Hat Enterprise Linux 8.4	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y ²
Red Hat Enterprise Linux 8.5	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y ²
Red Hat Enterprise Linux 8.6	N	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y ²	Y ²
Red Hat Enterprise Linux 8.7	N	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y ²	Y ²
Red Hat Enterprise Linux 8.8	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y ²	Y ²
Red Hat Enterprise Linux 8.9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y ²
Red Hat Enterprise Linux 9.0	N	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y ²	Y ²
Red Hat Enterprise Linux 9.1	N	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y ²	Y ²
Red Hat Enterprise Linux 9.2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y ²	Y ²
Red Hat Enterprise Linux 9.3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y ²
SUSE Linux Enterprise Server 12 SP5	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y ²	Y ²
SUSE Linux Enterprise Server 15 SP3	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y ²	Y ²
SUSE Linux Enterprise Server 15 SP4	N	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y ²	Y ²
SUSE Linux Enterprise Server 15 SP5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y ²	Y ²
Ubuntu 18.04.5 LTS	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	N	N
Ubuntu 20.04 LTS	N	N	N	N	N	N	N	N	N	N	N	Y	Y	N	N	N
Ubuntu 22.04 LTS	N	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y ²	Y ²
Ubuntu 22.04.2 LTS	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ubuntu 22.04.3 LTS	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 7.0 U3	N	Y	Y ¹	Y	Y	Y	Y ¹	Y	Y	Y	Y	Y	Y	Y	Y ²	Y ²
VMware vSphere Hypervisor (ESXi) 8.0	N	N	Y ¹	N	Y	Y	Y ¹	N	Y	Y	N	Y	Y	Y	Y ²	Y ²
VMware vSphere Hypervisor (ESXi) 8.0 U1	N	N	Y ¹	N	Y	Y	Y ¹	N	Y	Y	Y	Y	Y	Y	Y ²	Y ²
VMware vSphere Hypervisor (ESXi) 8.0 U2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y ²	Y ²

¹ For limitation, please refer [Support Tip 104278](#)

² HW is not supported with EPYC 7002 processors.

³ Not support with EPYC 7002 processors; RHEL8.1 Not support with EPYC 7003 processors

⁴ Not support with EPYC 7002 processors; RHEL8.2 Not support with EPYC 7003 processors

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.

Physical specification

The adapters have the following dimensions:

- Height: 64 mm (2.5 inches)
- Length: 167 mm (6.6 inches)

Operating environment

The ThinkSystem RAID 5350-8i adapter is supported in the following environment:

- Operating:
 - Temperature: 0°C to 55°C (32°F to 131°F)
 - Relative humidity: 20% to 80% (non-condensing)
 - Altitude: Up to 3,000 meters

Agency approvals

The ThinkSystem RAID 5350 adapters have the following agency approvals:

- FCC Part 15 Class A
- Australia/New Zealand (AS/NZS 3548)
- Canada (ICES-003 Class B)
- Europe (EN55032/EN55024)
- Japan VCCI
- Korea KCC
- RoHS compliant
- EN/IEC/UL 60950
- USA (FCC 47 CFR part 15 Subpart B class B)

Related publications and links

For more information, see the following documents:

- Product publications:
 - [Adapter Hardware Installation Guide](#)
 - [Adapter Software User Guide](#)
 - [maxView Storage Manager User Guide](#)
- 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>
- Lenovo ThinkSystem RAID Adapter and HBA Reference
<https://lenovopress.com/lp1288-thinksystem-raid-adapter-and-hba-reference>

Related product families

Product families related to this document are the following:

- [RAID 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, LP1438, was created or updated on November 10, 2023.

Send us your comments in one of the following ways:

- Use the online Contact us review form found at:
<https://lenovopress.lenovo.com/LP1438>
- Send your comments in an e-mail to:
comments@lenovopress.com

This document is available online at <https://lenovopress.lenovo.com/LP1438>.

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®

Bootable Media Creator

ServerProven®

ThinkSystem®

XClarity®

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.