ThinkSystem Broadcom 57412/57414 10/25GbE SFP28 Ethernet Adapters

Product Guide

The ThinkSystem Broadcom 57412 and 57414 10/25GbE SFP28 Ethernet Adapters are high-performance 25 Gb Ethernet adapters that offers TruFlow intelligent flow processing and support advanced networking technologies including RoCE, SDN, NFV and virtualization. Both 1-port (57412) and 2-port (57414) adapters are offered.

The following figure shows the 2-port adapter.

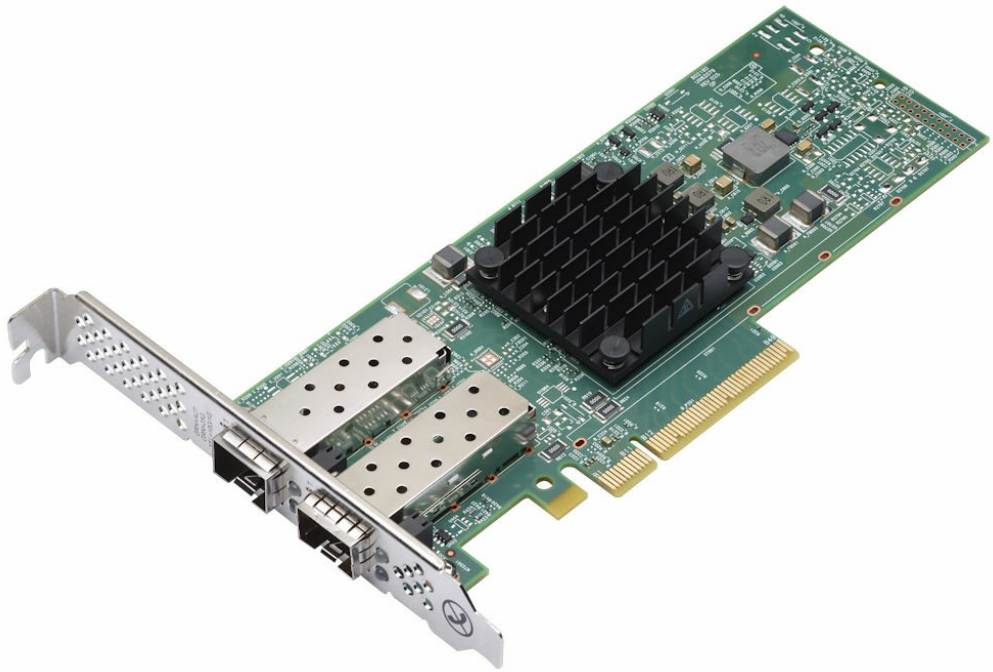

Figure 1. ThinkSystem Broadcom 57414 10/25GbE SFP28 2-port PCIe Ethernet Adapter

Did you know?

These adapters support 10 Gb or 25 Gb Ethernet switches, including the ThinkSystem NE2572 RackSwitch 25 Gb Ethernet switch. Alternatively, with suitable breakout cables, you can connect four 25 Gb adapters or ports to a single 100 GbE switch port such as the ThinkSystem NE10032 RackSwitch to maximize the investment of your 100Gb switch.

Part number information

The ordering information is listed in the following table.

Table 1. Ordering information

Part number	Feature code	Description
PCIe adapters		
7ZT7A00505	AUKS	ThinkSystem Broadcom 57412 10/25GbE SFP28 1-Port PCIe Ethernet Adapter*
4XC7A08238	B5T0	ThinkSystem Broadcom 57414 10/25GbE SFP28 2-port PCIe Ethernet Adapter
OCP adapters		
4XC7A08237	B5SZ	ThinkSystem Broadcom 57414 10/25GbE SFP28 2-port OCP Ethernet Adapter

***** The 1-port adapter was previously named ThinkSystem Broadcom NX-E PCIe 25Gb 1-Port SFP28 Ethernet Adapter.

The PCIe adapters, when shipped as a stand-alone option part number, include the following items:

- One Broadcom adapter
- An attached full-height (3U) bracket, and a low-profile (2U) bracket that can be substituted if needed
- Documentation flyer

The following figure shows the 1-port adapter.

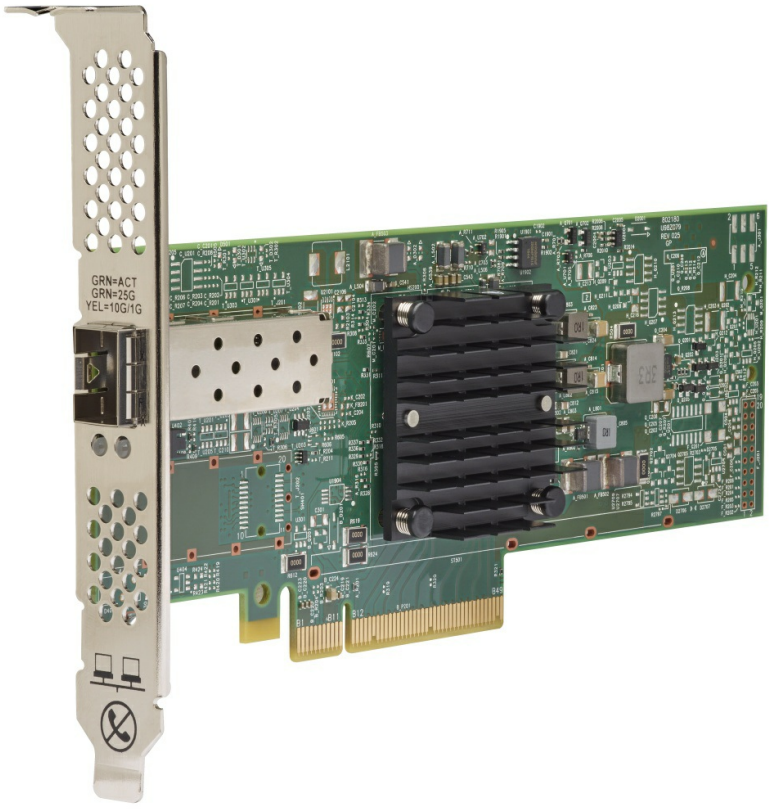

Figure 2. ThinkSystem Broadcom 57412 10/25GbE SFP28 1-Port PCIe Ethernet Adapter

Supported transceivers and cables

The adapters have one or two empty SFP28 cages for connectivity. The adapters either support a connection to a 10 Gb or 25 Gb switch or can share a connection to a 100 Gb switch using a 4:1 breakout cable.

The following table lists the supported transceivers.

Table 2. Transceivers

Part number	Feature code	Description
1Gb transceivers		
00FE333	A5DL	SFP 1000Base-T (RJ-45) Transceiver
10Gb transceivers		
46C3447	5053	SFP+ SR Transceiver
49Y4218	0064	QLogic 10Gb SFP+ SR Optical Transceiver
49Y4216	0069	Brocade 10Gb SFP+ SR Optical Transceiver
90Y9412	A1PM	SFP+ LR Transceiver
00FE331	B0RJ	10GBASE-LR SFP+Transceiver
25Gb transceivers		
7G17A03537	AV1B	Lenovo 25GBase-SR SFP28 Transceiver

The following table lists the supported fiber optic cables and Active Optical Cables.

Table 3. Optical cables

Part number	Feature code	Description
LC-LC OM3 Fiber Optic Cables (these cables require a transceiver)		
00MN499	ASR5	Lenovo 0.5m LC-LC OM3 MMF Cable
00MN502	ASR6	Lenovo 1m LC-LC OM3 MMF Cable
00MN505	ASR7	Lenovo 3m LC-LC OM3 MMF Cable
00MN508	ASR8	Lenovo 5m LC-LC OM3 MMF Cable
00MN511	ASR9	Lenovo 10m LC-LC OM3 MMF Cable
00MN514	ASRA	Lenovo 15m LC-LC OM3 MMF Cable
00MN517	ASRB	Lenovo 25m LC-LC OM3 MMF Cable
00MN520	ASRC	Lenovo 30m LC-LC OM3 MMF Cable
MTP-4xLC OM3 MMF Breakout Cables (these cables require a transceiver)		
00FM412	A5UA	Lenovo 1m MPO-4xLC OM3 MMF Breakout Cable
00FM413	A5UB	Lenovo 3m MPO-4xLC OM3 MMF Breakout Cable
00FM414	A5UC	Lenovo 5m MPO-4xLC OM3 MMF Breakout Cable
SFP+ 10Gb Active Optical Cables		
00YL634	ATYX	Lenovo 1M SFP+ to SFP+ Active Optical Cable
00YL637	ATYY	Lenovo 3M SFP+ to SFP+ Active Optical Cable
00YL640	ATYZ	Lenovo 5M SFP+ to SFP+ Active Optical Cable
00YL643	ATZ0	Lenovo 7M SFP+ to SFP+ Active Optical Cable
00YL646	ATZ1	Lenovo 15M SFP+ to SFP+ Active Optical Cable

Part number	Feature code	Description
00YL649	ATZ2	Lenovo 20M SFP+ to SFP+ Active Optical Cable
SFP28 25Gb Active Optical Cables		
7Z57A03541	AV1F	Lenovo 3m 25G SFP28 Active Optical Cable
7Z57A03542	AV1G	Lenovo 5m 25G SFP28 Active Optical Cable
7Z57A03543	AV1H	Lenovo 10m 25G SFP28 Active Optical Cable
7Z57A03544	AV1J	Lenovo 15m 25G SFP28 Active Optical Cable
7Z57A03545	AV1K	Lenovo 20m 25G SFP28 Active Optical Cable
100G Breakout OM4 MPO Cables (these cables require a transceiver)		
7Z57A03573	AV2B	Lenovo 1m MPO to 4x LC Breakout OM4 MMF Cable
7Z57A03574	AV2C	Lenovo 3m MPO to 4x LC Breakout OM4 MMF Cable
7Z57A03575	AV2D	Lenovo 5m MPO to 4x LC Breakout OM4 MMF Cable
QSFP28 100Gb Breakout Active Optical Cables		
7Z57A03551	AV1R	Lenovo 3m 100G to 4x25G Breakout Active Optical Cable
7Z57A03552	AV1S	Lenovo 5m 100G to 4x25G Breakout Active Optical Cable
7Z57A03553	AV1T	Lenovo 10m 100G to 4x25G Breakout Active Optical Cable
7Z57A03554	AV1U	Lenovo 15m 100G to 4x25G Breakout Active Optical Cable
7Z57A03555	AV1V	Lenovo 20m 100G to 4x25G Breakout Active Optical Cable

The following table lists the supported direct-attach copper (DAC) cables.

Table 4. Copper cables

Part number	Feature code	Description
SFP+ 10Gb Passive DAC Cables		
00D6288	A3RG	0.5m Passive DAC SFP+ Cable
90Y9427	A1PH	1m Passive DAC SFP+ Cable
00AY764	A51N	1.5m Passive DAC SFP+ Cable
00AY765	A51P	2m Passive DAC SFP+ Cable
90Y9430	A1PJ	3m Passive DAC SFP+ Cable
90Y9433	A1PK	5m Passive DAC SFP+ Cable
00D6151	A3RH	7m Passive DAC SFP+ Cable
SFP+ 10Gb Active DAC Cables		
00VX111	AT2R	Lenovo 1m Active DAC SFP+ Cables
00VX114	AT2S	Lenovo 3m Active DAC SFP+ Cables
00VX117	AT2T	Lenovo 5m Active DAC SFP+ Cables
SFP28 25Gb Passive DAC Cables		
7Z57A03557	AV1W	Lenovo 1m Passive 25G SFP28 DAC Cable
7Z57A03558	AV1X	Lenovo 3m Passive 25G SFP28 DAC Cable
7Z57A03559	AV1Y	Lenovo 5m Passive 25G SFP28 DAC Cable
QSFP28 100G-to-4x25G Breakout Cables		
7Z57A03564	AV22	Lenovo 1m 100G QSFP28 to 4x25G SFP28 Breakout DAC Cable
7Z57A03565	AV23	Lenovo 3m 100G QSFP28 to 4x25G SFP28 Breakout DAC Cable
7Z57A03566	AV24	Lenovo 5m 100G QSFP28 to 4x25G SFP28 Breakout DAC Cable

Features

The adapters have the following features:

- Broadcom TruFlow technology integrates flow processing to provide hardware assisted processing of traffic flows with data path Acceleration. TruFlow enables efficient network flow processing, increases Virtual Machine density by offloading the server CPU to improve application performance.
- Broadcom adapters are the industry's most secure PCIe Ethernet solution, leveraging Broadcom's BroadSAFE® technology to provide unparalleled platform security via Silicon Root of Trust. Broadcom is the first Ethernet Adapter vendor to store authentication key and code in silicon to protect clients from maliciously modified firmware.
- The adapters support both RoCEv1 and RoCEv2 simultaneously. RoCE (RDMA over Converged Ethernet), which allows Remote Direct Memory Access (RDMA) traffic to be communicated over Converged Ethernet using DCB. Broadcom's Smart Congestion Control provides consistent and predictable performance for real world workloads plus scaling for heavily loaded network traffic making it ideal for clients looking for deterministic low latency.
- Support for Data Center Bridging (DCB), including IEEE 802.1Qbb Priority based Flow Control (PFC), 802.1Qaz Enhanced Transmission Selection (ETS), and 802.1Qau Quantized Congestion Notification (QCN) capabilities. DCB technology allows the device to provide lossless data delivery, prioritize low latency traffic, and share bandwidth among data center physical links.
- Support for SR-IOV which bypasses the hypervisor, reducing the latency by removing data copies and context switches between VM address space and hypervisor address space, when transmitting or receiving data over the network. The implementation supports 802.1Qbg Edge Virtual Bridging (EVB)

Specifications

The adapter has the following technical specifications:

- Based on the Broadcom BCM57412 (1-port) and BCM957414 (2-port) controllers
- PCIe 3.0 x8 host interface
- Supports Message Signal Interrupt (MSI-X)
- One or two SFP28 external connectors supporting a transceiver, direct-attach copper (DAC) cable or active optical cable (AOC).
- Support for PXE boot, iSCSI boot and Wake-on-LAN (WOL)
- Networking Features
  - Jumbo frames (up to 9600-Byte)
  - 802.3x flow control
  - Link Aggregation (802.3ad)
  - Virtual LANs-802.1q VLAN tagging
  - Configurable Flow Acceleration
  - Advanced Congestion Avoidance
  - IEEE 1588 and Time Sync
  - Forward Error Correction Clause 74, Clause 91 support over 25 Gbps
- Performance Features
  - Max. 30M Packet Per Second
  - Low latency
  - Bidirectional wire speed throughput
- Stateless Offload Features
  - TCP, UDP, IPv4, IPv6 checksum offload
  - Large Send Offload
  - Receive Segment Coalescing
  - TCP Segmentation offload
  - Large Receive Offload
  - Generic Receive Offload
  - Receive Side Scaling (RSS)
  - Transmit Side Scaling (TSS)
  - Header-Payload Split
  - Accelerated Received Flow Steering (RFS)
- Virtualization
  - vSwitch Acceleration
  - NetQueue, VMQueue, and Multiqueue
  - PCI SIG SR-IOV compliant with support for 128 Virtual Functions
  - Virtual NIC (vNIC) / Network Partitioning (NPAR) with support for up to 16 physical functions
  - VXLAN-aware stateless offloads
  - NVGRE-aware stateless offloads
  - Geneve-aware stateless offloads
  - IP-in-IP-aware stateless offloads
  - GRE-aware (encap/decap) stateless offloads
  - Stateless Transport Tunneling
  - Edge Virtual Bridging (EVB)
  - Per Virtual Function (VF) statistics
  - VF Receive-Side Scaling (RSS)/Transmit-Side Scaling (TSS)

- RDMA over Converged Ethernet (RoCE)
  - RoCEv1 and RoCEv2
  - Data Center Bridging with RoCE
  - Reliable Connection Queue Pair
  - Unreliable Datagram Queue Pair
  - Raw Ethertype Queue Pair
  - Up to 1 million Queue Pairs
  - Up to 64K Shared Receive Queues
  - Up to 1 million Completion Queues
  - Up to 1 million Memory Regions and Memory Windows
  - Up to 1 million Protection Domains
  - Up to 250 outstanding RDMA Reads or Atomics per Queue Pair
  - Congestion Avoidance (hardware-based flows tracking and rate adjustment)
  - Fast Memory Register
  - Linux OFED 3.5 and later
  - MS-Windows Network Direct Kernel Provider Interface and SMBDirect
  - MS-Windows Network Direct Service Provider Interface
- Integrated Flow Processing
  - 1 million+ Exact Match Flows
  - Exact Match Flow Lookup
  - Wildcard Match Flow Lookup
  - VLAN insertion/deletion
  - NAT/NAPT
  - Tunnel Encapsulation/De-capsulation
  - Flow tracking and aging
  - Mirroring
  - Metering
  - Flow counters/statistics
  - Custom tunnel header support
- Data Center Bridging
  - Priority-based flow control (PFC; IEEE 802.1Qbb)
  - Enhanced transmission selection (ETS; IEEE 802.1Qaz)
  - Quantized Congestion Notification (QCN; IEEE 802.1Qau)
  - Data Center Bridging Capability eXchange (DCBX; IEEE 802.1Qaz)
  - Up to 8 traffic classes per port; fully DCB compliant per 802.1Qbb
- Manageability
  - TruManage Technology based on Distributed Management Task Force (DMTF) standards and protocols, support for SMASH2.0, WS-Man, and IPMI2.0/DCMI1.5
  - Management Component Transport Protocol (MCTP) - MCTP over SMBus and MCTP over PCIe VDM
- Power Saving
  - ACPI compliant power management
  - PCI Express Active State Power Management (ASPM)
  - PCI Express eCLKREQ support
  - PCI Express unused lane powered down
  - Ultra low-power mode
  - Energy Efficient Ethernet (IEEE Std 802.3az-2010)
  - Power Management (PM) Offload

Server support

The following tables list the ThinkSystem servers that are compatible.

Table 5. Server support (Part 1 of 2)

Part Number	Description	E	1S Intel				2S Intel								AMD			
		SE350 (7Z46 / 7D1X)	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)	SR635 (7Y98 / 7Y99)	SR655 (7Y00 / 7Z01)	SR645 (7D2Y / 7D2X)	SR665 (7D2W / 7D2V)
7ZT7A00505	ThinkSystem Broadcom 57412 25GbE SFP28 1-Port PCIe Ethernet Adapter	N	N	Y	N	Y	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N
4XC7A08238	ThinkSystem Broadcom 57414 10/25GbE SFP28 2-port PCIe Ethernet Adapter	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
4XC7A08237	ThinkSystem Broadcom 57414 10/25GbE SFP28 2-port OCP Ethernet Adapter	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y

Table 6. Server support (Part 2 of 2)

Part Number	Description	4S			8S	4S V2		Dense/Blade			
		SR850 (7X18 / 7X19)	SR850P (7D2F / 2D2G)	SR860 (7X69 / 7X70)	SR950 (7X11 / 7X12)	SR850 V2 (7D31 / 7D32)	SR860 V2 (7Z59 / 7Z60)	SD530 (7X21)	SD650 (7X58)	SN550 (7X16)	SN850 (7X15)
7ZT7A00505	ThinkSystem Broadcom 57412 25GbE SFP28 1-Port PCIe Ethernet Adapter	Y	Y	Y	Y	N	N	Y	N	N	N
4XC7A08238	ThinkSystem Broadcom 57414 10/25GbE SFP28 2-port PCIe Ethernet Adapter	Y	Y	Y	Y	Y	Y	N	N	N	N
4XC7A08237	ThinkSystem Broadcom 57414 10/25GbE SFP28 2-port OCP Ethernet Adapter	N	N	N	N	Y	Y	N	N	N	N

Operating system support

The following tables list the supported operating systems:

- ThinkSystem Broadcom 57412 10/25GbE SFP28 1-Port PCIe Ethernet Adapter, 7ZT7A00505
- ThinkSystem Broadcom 57414 10/25GbE SFP28 2-port PCIe Ethernet Adapter, 4XC7A08238
- ThinkSystem Broadcom 57414 10/25GbE SFP28 2-port OCP Ethernet Adapter, 4XC7A08237

Tip: These tables are automatically generated based on data from Lenovo ServerProven.

Table 7. Operating system support for ThinkSystem Broadcom 57412 10/25GbE SFP28 1-Port PCIe Ethernet Adapter, 7ZT7A00505 (Part 1 of 2)

Operating systems	SR250	ST250	SD530 (Gen 2)	SR530 (Gen 2)	SR550 (Gen 2)	SR570 (Gen 2)	SR590 (Gen 2)	SR630 (Gen 2)	SR650 (Gen 2)	SR850 (Gen 2)	SR850P	SR860 (Gen 2)	SR950 (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	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	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 Server x64 Edition	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	N	N	N	N	N	N	N	N	N	N	N
Red Hat Enterprise Linux 7.6	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.8	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.3	Y	Y	Y	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 11 for AMD64/EM64T	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 11 with Xen for AMD64/EM64T	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12	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	Y	N	N
SUSE Linux Enterprise Server 12 SP3 with Xen	Y	Y	N	N	N	N	N	N	N	N	Y	N	N
SUSE Linux Enterprise Server 12 SP4	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP4 with Xen	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP5 with Xen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 with Xen	N	N	N	N	N	N	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 15	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Operating systems	SR250	ST250	SD530 (Gen 2)	SR530 (Gen 2)	SR550 (Gen 2)	SR570 (Gen 2)	SR590 (Gen 2)	SR630 (Gen 2)	SR650 (Gen 2)	SR850 (Gen 2)	SR850P	SR860 (Gen 2)	SR950 (Gen 2)
SUSE Linux Enterprise Server 15 SP1 with Xen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP2 with Xen	Y	Y	Y	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	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.0	N	N	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	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	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.5 U3	Y	Y	Y	Y	Y	Y	Y	Y	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	Y	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	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.7 U3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0 U1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Table 8. Operating system support for ThinkSystem Broadcom 57412 10/25GbE SFP28 1-Port PCIe Ethernet Adapter, 7ZT7A00505 (Part 2 of 2)

Operating systems	SD530 (Gen 1)	SR530 (Gen 1)	SR550 (Gen 1)	SR570 (Gen 1)	SR590 (Gen 1)	SR630 (Gen 1)	SR650 (Gen 1)	SR850 (Gen 1)	SR860 (Gen 1)	SR950 (Gen 1)
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	Y	N	N	N	N	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 6 Server x64 Edition	N	N	Y	N	N	N	N	N	N	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	N	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.3	Y	Y	N	N	N	Y	Y	Y	N	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
Red Hat Enterprise Linux 7.7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.8	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Operating systems	SD530 (Gen 1)	SR530 (Gen 1)	SR550 (Gen 1)	SR570 (Gen 1)	SR590 (Gen 1)	SR630 (Gen 1)	SR650 (Gen 1)	SR850 (Gen 1)	SR860 (Gen 1)	SR950 (Gen 1)
Red Hat Enterprise Linux 7.9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 11 SP4	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 11 SP4 with Xen	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 11 for AMD64/EM64T	N	N	Y	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 11 with Xen for AMD64/EM64T	N	N	Y	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12	N	N	Y	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 12 SP2	Y	Y	N	N	N	Y	Y	Y	N	Y
SUSE Linux Enterprise Server 12 SP2 with Xen	Y	Y	N	N	N	Y	Y	Y	N	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 12 SP5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP5 with Xen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 with Xen	N	N	Y	N	N	N	N	N	N	N
SUSE Linux Enterprise Server 15	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP1 with Xen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 15 SP2 with Xen	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	N	Y	N	N	N	N	N	N	N
VMware vSphere Hypervisor (ESXi) 6.0 U3	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.5	Y	Y	Y	N	N	Y	Y	Y	N	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) 6.5 U3	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
VMware vSphere Hypervisor (ESXi) 6.7 U3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0 U1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Table 9. Operating system support for ThinkSystem Broadcom 57414 10/25GbE SFP28 2-port PCIe Ethernet Adapter, 4XC7A08238 (Part 1 of 2)

Operating systems	SR635	SR645	SR655	SR665	SR530 (Gen 2)	SR550 (Gen 2)	SR570 (Gen 2)	SR590 (Gen 2)	SR630 (Gen 2)	SR650 (Gen 2)	SR850 (Gen 2)	SR850P	SR860 (Gen 2)	SR950 (Gen 2)	ST550 (Gen 2)	SR850 V2	SR860 V2
Microsoft Windows Server 2016	Y	Y	Y	Y	Y	Y	Y	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	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Red Hat Enterprise Linux 7.7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Red Hat Enterprise Linux 7.8	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Red Hat Enterprise Linux 7.9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.0	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Red Hat Enterprise Linux 8.1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Red Hat Enterprise Linux 8.2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.3	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
SUSE Linux Enterprise Server 12 SP4	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
SUSE Linux Enterprise Server 12 SP5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP5 with Xen	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.7 U1	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
VMware vSphere Hypervisor (ESXi) 6.7 U3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
VMware vSphere Hypervisor (ESXi) 7.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
VMware vSphere Hypervisor (ESXi) 7.0 U1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Table 10. Operating system support for ThinkSystem Broadcom 57414 10/25GbE SFP28 2-port PCIe Ethernet Adapter, 4XC7A08238 (Part 2 of 2)

Operating systems	SR530 (Gen 1)	SR550 (Gen 1)	SR570 (Gen 1)	SR590 (Gen 1)	SR630 (Gen 1)	SR650 (Gen 1)	SR850 (Gen 1)	SR860 (Gen 1)	SR950 (Gen 1)	ST550 (Gen 1)
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
Red Hat Enterprise Linux 7.6	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.7	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.8	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 7.9	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.2	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Red Hat Enterprise Linux 8.3	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 SP5	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP5 with Xen	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 U3	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0 U1	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Table 11. Operating system support for ThinkSystem Broadcom 57414 10/25GbE SFP28 2-port OCP Ethernet Adapter, 4XC7A08237

Operating systems	SR635	SR645	SR655	SR665
Microsoft Windows Server 2016	Y	Y	Y	Y
Microsoft Windows Server 2019	Y	Y	Y	Y
Red Hat Enterprise Linux 7.6	Y	Y	Y	Y
Red Hat Enterprise Linux 7.7	Y	Y	Y	Y
Red Hat Enterprise Linux 7.8	Y	Y	Y	Y
Red Hat Enterprise Linux 7.9	Y	Y	Y	Y
Red Hat Enterprise Linux 8.0	Y	N	Y	N
Red Hat Enterprise Linux 8.1	Y	Y	Y	Y
Red Hat Enterprise Linux 8.2	Y	Y	Y	Y
Red Hat Enterprise Linux 8.3	Y	N	Y	N
SUSE Linux Enterprise Server 12 SP4	Y	N	Y	N
SUSE Linux Enterprise Server 12 SP5	Y	Y	Y	Y
SUSE Linux Enterprise Server 12 SP5 with Xen	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 6.7 U3	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0	Y	Y	Y	Y
VMware vSphere Hypervisor (ESXi) 7.0 U1	Y	Y	Y	Y

Physical specifications

The PCIe adapters have the following dimensions:

- Length: 167 mm (6.6 in.)
- Height: 63 mm (2.5 in)

Operating environment

The adapters are supported in the following environment:

- Temperature (operating): 0 to 55 °C (32 to 131 °F)
- Temperature (storage): -40 to 65 °C (-40 to 149 °F)
- Humidity: 5 to 95% non-condensing

Warranty

One-year limited warranty. When installed in a supported server, these adapters assume the server’s base warranty and any warranty upgrade.

Agency approvals

The adapters conform to the following standards:

- EN 55022:2010 + AC:2011 Class B (CE EU)
- EN 55024 Class B (EU)
- CFR47, Part 15 Class B (USA FCC)
- ICES-003 Class B (Canada)
- CNS13438 Class B (BSMI Taiwan)
- RRL KN22 Class B (S. Korea)
- KN24 (ESD) (S. Korea)
- V-3 / 2014 / 04 (VCCI Japan)
- EN 60950-1
- UL 60950-1
- CTUVus UL
- CSA 22.2 No. 950
- CNS14336 Class B
- ICES 003
- UL 1977 (connector safety)
- UL 796 (PCB wiring safety)
- UL 94 (flammability of parts)

Related publications

For more information, see the following resources:

- Networking Options for ThinkSystem Servers
  https://lenovopress.com/lp0765-networking-options-for-thinksystem-servers
- Lenovo ServerProven compatibility information:
  http://www.lenovo.com/us/en/serverproven/

Related product families

Product families related to this document are the following:

- 25 Gb Ethernet Connectivity
- Ethernet Adapters

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