



*Personal Systems Reference
Lenovo® ThinkServer® Servers
2013 to present - withdrawn*

June 2014 - Version 455 (Western Europe)



Lenovo ThinkServer 200 Series Family

lenovo.com

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Summary of Changes

This section describes the withdrawn products which are added in this edition and in previous editions.

June 18, 2014 - Version 455

► Withdrawn product(s)

ThinkServer RD330 is withdrawn and added in the book
ThinkServer RD430 is withdrawn and added in the book
ThinkServer RD530 is withdrawn and added in the book
ThinkServer RD630 is withdrawn and added in the book

ThinkServer RD330 Photography - 3.5" Disk Bays



ThinkServer RD330 Photography - 2.5" Disk Bays



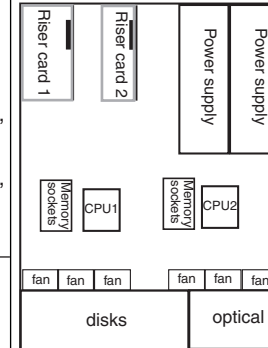
ThinkServer RD330 with 3.5" Disk Bay (4304) - TopSeller

Product Specifications Reference (PSREF)

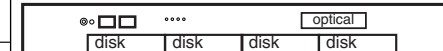
Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Memory Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
4304-E1G	1xE5-2407	1333MHz RDIMM	1x4GB	No	300	None	4xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	No	1
4304-E3G	1xE5-2420	1333MHz RDIMM	1x8GB	No	500	None	4xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	No	1
4304-E5G	1xE5-2450	1333MHz RDIMM	1x8GB	No	500+Upgrade	None	4xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	No	2
4304-E8G	1xE5-2403	1333MHz RDIMM	1x4GB	No	500+Upgrade	None	4xHS	SATA/SAS DVD±RW	No	TPM	iKVM	No	No	No	1

Limited warranty	3-year parts and labor														
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2403 processor (4C/4T, 1.8GHz, 10MB, 6.4 GT/s QPI x1), 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1), 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1), Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1), Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)														
Implementation	Two LGA1356 sockets														
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)														
Additional memory disclaimers	<ul style="list-style-type: none"> Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported 														
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200 @60Hz														
Disk bays	Four 3.5" hot-swap SATA/SAS disk bays (see right)														
Disk controller	RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI® SAS 9240-8i), PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5 support RAID 700: ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10 support Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700														
RAID Support	Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter														
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm														
Tape drive	None														
Optical	DVD±RW or DVD ROM, slim														
Diskette	None (use USB port)														
Chipset	Intel C606 Chipset														
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2														
Riser card	Two USB 2.0														
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector														
Rear ports	Supports IDM on selected models; Basic: IDM LED lights indicate failing component category														
Intelligent Diagnostics Module (IDM)	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions														
Systems mgmt	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant														
Security chip	SATA/SAS disk, OS														
Prerequisites	None (use USB port)														
Keyboard/mouse	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies														
Power supply	Includes rack kit														
Rack kit	Optional cable management arm on selected models														
Cable management	Six fans, non-hot swap														
Cooling															

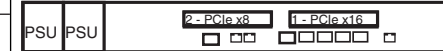
1U Rack top



Front



Rear



Mechanical

- 1U rack
- 19"W x 28.9"D x 1.72"H (with rack handles)
- 482.4mm W x 734mm D x 43.6mm H (with rack handles)
- 17kg (37.5 lb) when fully configured

Disk Bays

Bay 1	5.25", 0.5" high, external,	for optical
Bay 2-5	3.5", 1" high, external,	for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
 Slot 2: Low Profile, PCI Express 3.0 x8 (x4 elec)

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

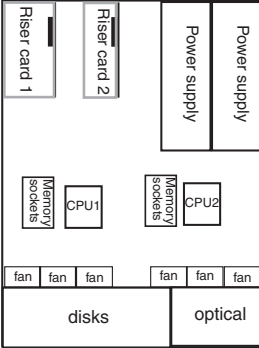
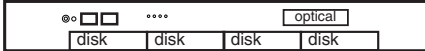
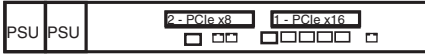
- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
 RoHS-compliant

ThinkServer RD330 with 3.5" Disk Bay (4304) - TopSeller (Sep 2012)

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory Pre-conf DIMMs	RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
4304-F1G	1xE5-2450	1600MHz RDIMM	1x8GB	No	500+Upgrade	No	4xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	2

Limited warranty	3-year parts and labor		1U Rack top											
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)													
Implementation	Two LGA1356 sockets		Front  Rear 											
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)													
Additional memory disclaimers	<ul style="list-style-type: none">Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMsOver six DIMMs requires dual processorsMixing of UDIMM, RDIMM, or LV RDIMM is not supported													
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz													
Disk bays	Four 3.5" hot-swap SATA/SAS disk bays (see right)		Mechanical <ul style="list-style-type: none">1U rack19"W x 28.9"D x 1.72"H (with rack handles)482.4mm W x 734mm D x 43.6mm H (with rack handles)17kg (37.5 lb) when fully configured Disk Bays <table><tr><td>Bay 1</td><td>5.25"</td><td>0.5" high,</td><td>external,</td><td>for optical</td></tr><tr><td>Bay 2-5</td><td>3.5"</td><td>1" high,</td><td>external,</td><td>for disk</td></tr></table> Expansion Slots <p>Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: Low Profile, PCI Express 3.0 x8 (x4 elec)</p> Security <ul style="list-style-type: none">Security chip (selected models, see information on left)Administrator passwordUser passwordBoot sequence controlBoot without keyboard, mouse, disketteSerial port I/O controlUSB port disablement (all) Software Management Tools <ul style="list-style-type: none">ThinkServer EasyStartupThinkServer EasyManage Energy Management Technology <ul style="list-style-type: none">Lenovo® SmartGrid Manager ENERGY STAR® Server 1.1-compliant RoHS-compliant		Bay 1	5.25"	0.5" high,	external,	for optical	Bay 2-5	3.5"	1" high,	external,	for disk
Bay 1	5.25"	0.5" high,			external,	for optical								
Bay 2-5	3.5"	1" high,			external,	for disk								
Disk controller	RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5 support RAID 700: ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10 support Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700													
RAID Support	Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter													
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm													
Tape drive	None													
Optical	DVD±RW or DVD ROM, slim													
Diskette	None (use USB port)													
Chipset	Intel C606 Chipset													
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2													
Riser card	Two USB 2.0													
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector													
Rear ports														
Intelligent Diagnostics Module (IDM)	Supports IDM on selected models; Basic: IDM LED lights indicate failing component category													
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions													
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant													
Prerequisites	SATA/SAS disk, OS													
Keyboard/mouse	None (use USB port)													
Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies													
Rack kit	Includes rack kit													
Cable management	Optional cable management arm on selected models													
Cooling	Six fans, non-hot swap													

ThinkServer RD330 with 2.5" Disk Bay (3073) - TopSeller

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	System mgmt	Cable mgmt	Preload OS	PSU qty
3073-C3G	1xE5-2420	1333MHz RDIMM	1x8GB	No	500	None	6xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	1
3073-C4G	1xE5-2450	1333MHz RDIMM	1x8GB	No	500+Upgrade	None	6xHS	SATA/SAS DVD±RW	No	TPM	IPMI	No	No	2
3073-C5G	2xE5-2420	1333MHz RDIMM	2x8GB	No	500+Upgrade	None	6xHS	SATA/SAS DVD±RW	No	TPM	iKVM	No	No	1

Limited warranty	3-year parts and labor													
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1), Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1), Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz) Two LGA1356 sockets													
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)													
Additional memory disclaimers	<ul style="list-style-type: none"> Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported 													
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz													
Disk bays	Six 2.5" hot-swap SATA/SAS disk bays (see right)													
Disk controller	RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10, 50 support Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700													
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50 via ThinkServer RAID 700 adapter													
Disk(s)	2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"													
Tape drive	None													
Optical	DVD±RW or DVD ROM, slim													
Diskette	None (use USB port)													
Chipset	Intel C606 Chipset													
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2													
Riser card	One analog VGA DB-15 connector, two USB 2.0													
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector													
Rear ports														
Intelligent Diagnostics Module (IDM)	Supports IDM on selected models; Basic: IDM LED lights indicate failing component category													
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions													
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant													
Prerequisites	SATA/SAS disk, OS													
Keyboard/mouse	None (use USB port)													
Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies													
Rack kit	Includes rack kit													
Cable management	Optional cable management arm on selected models													
Cooling	Six fans, non-hot swap													

1U Rack top

Front

Rear

Mechanical

- 1U rack
- 19"W x 28.9"D x 1.72"H (with rack handles)
- 482.4mm W x 734mm D x 43.6mm H (with rack handles)
- 17kg (37.5 lb) when fully configured

Disk Bays

Bay 1	5.25", 0.5" high, external,	for optical
Bay 2-7	2.5", 0.6" high, external,	for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
Slot 2: Low Profile, PCI Express 3.0 x8 (x4 elec)

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant

RoHS-compliant

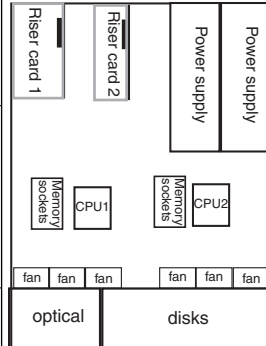
ThinkServer RD330 with 2.5" Disk Bay (3073) - TopSeller (Sep 2012)

Product Specifications Reference (PSREF)

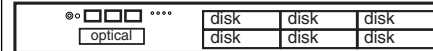
Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	System TPM	Cable mgmt	mgmt OS	Preload OS	PSU qty
3073-C9G	1xE5-2450	1600MHz RDIMM	1x8GB	No	500+Upgrade	No	6xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	2

Limited warranty	3-year parts and labor														
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)														
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Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)														
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Disk bays	Six 2.5" hot-swap SATA/SAS disk bays (see right)														
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RAID Support	Up to RAID 0, 1, 5, 6, 10, 50 via ThinkServer RAID 700 adapter														
Disk(s)	2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"														
Tape drive	None														
Optical	DVD±RW or DVD ROM, slim														
Diskette	None (use USB port)														
Chipset	Intel C606 Chipset														
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2														
Riser card	One analog VGA DB-15 connector, two USB 2.0														
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector														
Rear ports															
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Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant														
Prerequisites	SATA/SAS disk, OS														
Keyboard/mouse	None (use USB port)														
Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies														
Rack kit	Includes rack kit														
Cable management	Optional cable management arm on selected models														
Cooling	Six fans, non-hot swap														

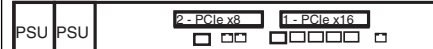
1U Rack top



Front



Rear



Mechanical

- 1U rack
- 19"W x 28.9"D x 1.72"H (with rack handles)
- 482.4mm W x 734mm D x 43.6mm H (with rack handles)
- 17kg (37.5 lb) when fully configured

Disk Bays

Bay 1	5.25",	0.5" high, external,	for optical
Bay 2-7	2.5",	0.6" high, external,	for disk

Expansion Slots

Slot 1:	half-length, full-height, PCI Express 3.0 x16
Slot 2:	Low Profile, PCI Express 3.0 x8 (x4 elec)

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant

RoHS-compliant

ThinkServer RD430 Photography - 8 x 3.5" Disk Bays

ThinkServer™



ThinkServer RD430 Photography - 12 x 3.5" Disk Bays

ThinkServer



ThinkServer RD430 Photography - 2.5" Disk Bays

ThinkServer™

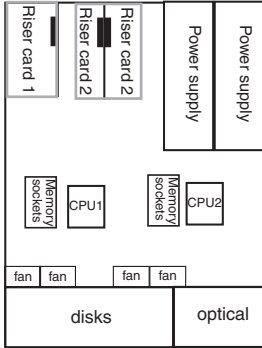




** Some models in pictures above contain optional add-in ethernet adapter or RAID adapter;
some RD430 with 2.5" disk bay models may come with 8 disk bays*

ThinkServer RD430 with eight 3.5" Disk Bays (3064) - TopSeller

Product Specifications Reference (PSREF)

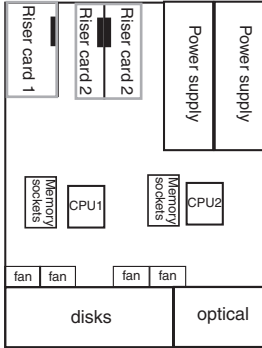


Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
3064-G2G	1xE5-2407	1333MHz RDIMM	1x4GB	No	300	No	8xHS	SATA/SAS	DVD±RW	Basic	TPM	IPMI	No	No	1
3064-G4G	1xE5-2420	1333MHz RDIMM	1x8GB	No	300	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	IPMI	No	No	1
3064-G5G	1xE5-2450	1333MHz RDIMM	1x8GB	No	500+Upgrade	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor					2U Rack top 									
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1), 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1), Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1), Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)					Front 									
Implementation	Two LGA1356 sockets					Rear  <p>Slot 4, 5 are available on dual processors models only</p>									
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)					Mechanical <ul style="list-style-type: none"> • 2U rack • 19"W x 28.9"D x 3.45"H (with rack handles) • 482.4mm W x 734mm D x 87.6mm H (with rack handles) • 26.5 kg (58.42 lb) when fully configured 									
Additional memory disclaimers	<ul style="list-style-type: none"> • Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs • Over six DIMMs requires dual processors • Mixing of UDIMM, RDIMM, or LV RDIMM is not supported 					Disk Bays <p>Bay 1 5.25", 0.5" high, external, for optical Bay 2-9 3.5", 1" high, external, for disk</p>									
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz					Expansion Slots <p>Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec) Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec) <i>Slot 4-5 are available on dual processors models:</i> Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec) Slot 5: half-length, full-height, PCI Express 3.0 x8</p>									
Disk bays	Eight 3.5" hot-swap SATA/SAS disk bays (see right)					Security <ul style="list-style-type: none"> • Security chip (selected models, see information on left) • Administrator password • User password • Boot sequence control • Boot without keyboard, mouse, diskette • Serial port I/O control • USB port disablement (all) 									
Disk controller	RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10, 50, 60 support Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700					Software Management Tools <ul style="list-style-type: none"> • ThinkServer EasyStartup • ThinkServer EasyManage 									
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter					Energy Management Technology <ul style="list-style-type: none"> • Lenovo® SmartGrid Manager 									
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm					ENERGY STAR® Server 1.1-compliant RoHS-compliant									
Tape drive	None														
Optical	DVD±RW or DVD ROM, slim														
Diskette	None (use USB port)														
Chipset	Intel C606 Chipset														
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5														
Riser card	One analog VGA DB-15 connector, two USB 2.0														
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector														
Rear ports															
Intelligent Diagnostics Module (IDM)	Supports IDM or IDM Premium on selected models; Basic: IDM LED lights indicate failing component category Premium: IDM Premium LED lights indicate individual failing part														
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions														
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant														
Prerequisites	SATA/SAS disk, OS														
Keyboard/mouse	None (use USB port)														
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies														
Rack kit	Includes rack kit														
Cable management	Optional cable management arm on selected models														
Cooling	Four fans, hot-swap														

ThinkServer RD430 with eight 3.5" Disk Bays (3064) - TopSeller (Sep 2012)

Product Specifications Reference (PSREF)

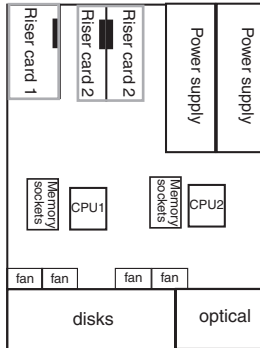
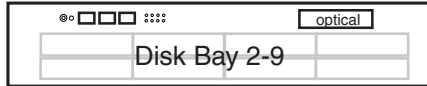

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
3064-A1G	1xE5-2450	1600MHz RDIMM	1x8GB	No	500+Upgrade	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor					2U Rack top 									
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)					Front 									
Implementation	Two LGA1356 sockets					Rear 									
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)					<i>Slot 4, 5 are available on dual processors models only</i>									
Additional memory disclaimers	<ul style="list-style-type: none"> Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported 					Mechanical <ul style="list-style-type: none"> 2U rack 19"W x 28.9"D x 3.45"H (with rack handles) 482.4mm W x 734mm D x 87.6mm H (with rack handles) 26.5 kg (58.42 lb) when fully configured 									
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz					Disk Bays <p>Bay 1 5.25", 0.5" high, external, for optical Bay 2-9 3.5", 1" high, external, for disk</p>									
Disk bays	Eight 3.5" hot-swap SATA/SAS disk bays (see right)					Expansion Slots <p>Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec) Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec) <i>Slot 4-5 are available on dual processors models:</i> Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec) Slot 5: half-length, full-height, PCI Express 3.0 x8</p>									
Disk controller	Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 300:</i> Additional upgrade key for RAID 300, add RAID 5 support RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 500:</i> Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10, 50, 60 support <i>Battery for 700:</i> Intelligent Battery Backup Unit (iBBU08) for RAID 700					Security <ul style="list-style-type: none"> Security chip (selected models, see information on left) Administrator password User password Boot sequence control Boot without keyboard, mouse, diskette Serial port I/O control USB port disablement (all) 									
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter					Software Management Tools <ul style="list-style-type: none"> ThinkServer EasyStartup ThinkServer EasyManage 									
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm					Energy Management Technology <ul style="list-style-type: none"> Lenovo® SmartGrid Manager 									
Tape drive	None					ENERGY STAR® Server 1.1-compliant RoHS-compliant									
Optical	DVD±RW or DVD ROM, slim														
Diskette	None (use USB port)														
Chipset	Intel C606 Chipset														
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5														
Riser card	One analog VGA DB-15 connector, two USB 2.0														
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector														
Rear ports															
Intelligent Diagnostics Module (IDM)	Supports IDM or IDM Premium on selected models; <i>Basic:</i> IDM LED lights indicate failing component category <i>Premium:</i> IDM Premium LED lights indicate individual failing part														
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions														
Security chip	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant														
Prerequisites	SATA/SAS disk, OS														
Keyboard/mouse	None (use USB port)														
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies														
Rack kit	Includes rack kit														
Cable management	Optional cable management arm on selected models														
Cooling	Four fans, hot-swap														

ThinkServer RD430 with eight 3.5" Disk Bays (3065)

Product Specifications Reference (PSREF)

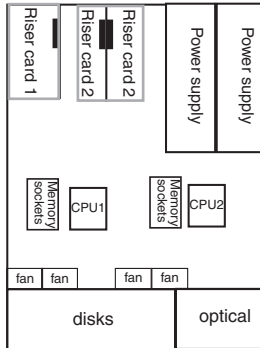
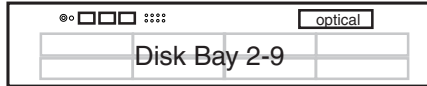

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
3065-B4G	1xE5-2450	1333MHz RDIMM	1x16GB	No	700+Battery	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
3065-B5G	1xE5-2420	1333MHz RDIMM	1x8GB	No	700+Battery	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor					2U Rack top									
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2420 processor (6C/12T, 1.9GHz, 15MB, 7.2 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.4GHz), 3-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)														
Implementation	Two LGA1356 sockets														
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)														
Additional memory disclaimers	<ul style="list-style-type: none">Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMsOver six DIMMs requires dual processorsMixing of UDIMM, RDIMM, or LV RDIMM is not supported														
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz					Front 									
Disk bays	Eight 3.5" hot-swap SATA/SAS disk bays (see right)					Rear 									
Disk controller	<p>RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support</p> <p>Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support</p> <p>RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support</p> <p>Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support</p> <p>RAID 700: ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10, 50, 60 support</p> <p>Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700</p>					Slot 4, 5 are available on dual processors models only									
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter														
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm														
Tape drive	None														
Optical	DVD±RW or DVD ROM, slim														
Diskette	None (use USB port)														
Chipset	Intel C606 Chipset														
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5														
Riser card	One analog VGA DB-15 connector, two USB 2.0														
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector														
Rear ports															
Intelligent Diagnostics Module (IDM)	Supports IDM or IDM Premium on selected models; <i>Basic:</i> IDM LED lights indicate failing component category <i>Premium:</i> IDM Premium LED lights indicate individual failing part														
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions					Disk Bays Bay 1 5.25", 0.5" high, external, for optical Bay 2-9 3.5", 1" high, external, for disk									
Security chip	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant					Expansion Slots Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec) Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec) <i>Slot 4-5 are available on dual processors models:</i> Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec) Slot 5: half-length, full-height, PCI Express 3.0 x8									
Prerequisites	SATA/SAS disk, OS					Security <ul style="list-style-type: none">Security chip (selected models, see information on left)Administrator passwordUser passwordBoot sequence controlBoot without keyboard, mouse, disketteSerial port I/O controlUSB port disablement (all)									
Keyboard/mouse	None (use USB port)					Software Management Tools <ul style="list-style-type: none">ThinkServer EasyStartupThinkServer EasyManage									
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies					Energy Management Technology <ul style="list-style-type: none">Lenovo® SmartGrid Manager									
Rack kit	Includes rack kit					ENERGY STAR® Server 1.1-compliant									
Cable management	Optional cable management arm on selected models					RoHS-compliant									
Cooling	Four fans, hot-swap														

ThinkServer RD430 with eight 3.5" Disk Bays (3065) - Sep 2012

Product Specifications Reference (PSREF)

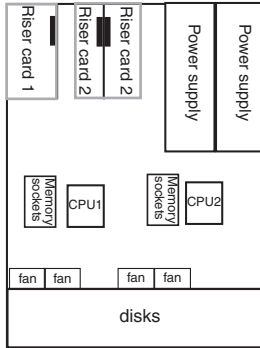
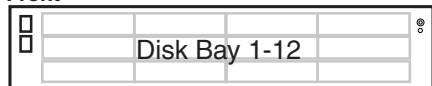
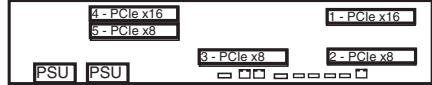
Type-model	Processor(s)	Memory (MHz/type)	Memory Pre-conf DIMMs	RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
3065-B6G	1xE5-2450	1600MHz RDIMM	1x16GB	No	700+Battery	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor		<div>2U Rack top</div> <div></div> <div>Front</div> <div></div> <div>Rear</div> <div></div> <div>Slot 4, 5 are available on dual processors models only</div> <div>Mechanical</div> <div><ul style="list-style-type: none">2U rack19"W x 28.9"D x 3.45"H (with rack handles)482.4mm W x 734mm D x 87.6mm H (with rack handles)26.5 kg (58.42 lb) when fully configured</div> <div>Disk Bays</div> <div><table><tr><td>Bay 1</td><td>5.25",</td><td>0.5" high, external,</td><td>for optical</td></tr><tr><td>Bay 2-9</td><td>3.5",</td><td>1" high, external,</td><td>for disk</td></tr></table></div> <div>Expansion Slots</div> <div><p>Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec) Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec) <i>Slot 4-5 are available on dual processors models:</i> Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec) Slot 5: half-length, full-height, PCI Express 3.0 x8</p></div> <div>Security</div> <div><ul style="list-style-type: none">Security chip (selected models, see information on left)Administrator passwordUser passwordBoot sequence controlBoot without keyboard, mouse, disketteSerial port I/O controlUSB port disablement (all)</div> <div>Software Management Tools</div> <div><ul style="list-style-type: none">ThinkServer EasyStartupThinkServer EasyManage</div> <div>Energy Management Technology</div> <div><ul style="list-style-type: none">Lenovo® SmartGrid Manager</div> <div>ENERGY STAR® Server 1.1-compliant RoHS-compliant</div>		Bay 1	5.25",	0.5" high, external,	for optical	Bay 2-9	3.5",	1" high, external,	for disk
Bay 1	5.25",	0.5" high, external,			for optical							
Bay 2-9	3.5",	1" high, external,			for disk							
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)											
Implementation	Two LGA1356 sockets											
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)											
Additional memory disclaimers	<ul style="list-style-type: none">Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMsOver six DIMMs requires dual processorsMixing of UDIMM, RDIMM, or LV RDIMM is not supported											
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz											
Disk bays	Eight 3.5" hot-swap SATA/SAS disk bays (see right)											
Disk controller	<p>RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1, 10 support</p> <p>Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support</p> <p>RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support</p> <p>Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support</p> <p>RAID 700: ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10, 50, 60 support</p> <p>Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700</p>											
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter											
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm											
Tape drive	None											
Optical	DVD±RW or DVD ROM, slim											
Diskette	None (use USB port)											
Chipset	Intel C606 Chipset											
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5											
Riser card	One analog VGA DB-15 connector, two USB 2.0											
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector											
Rear ports												
Intelligent Diagnostics Module (IDM)	Supports IDM or IDM Premium on selected models; <i>Basic:</i> IDM LED lights indicate failing component category <i>Premium:</i> IDM Premium LED lights indicate individual failing part											
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions											
Security chip	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant											
Prerequisites	SATA/SAS disk, OS											
Keyboard/mouse	None (use USB port)											
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies											
Rack kit	Includes rack kit											
Cable management	Optional cable management arm on selected models											
Cooling	Four fans, hot-swap											

ThinkServer RD430 with twelve 3.5" Disk Bays (3059)

Product Specifications Reference (PSREF)

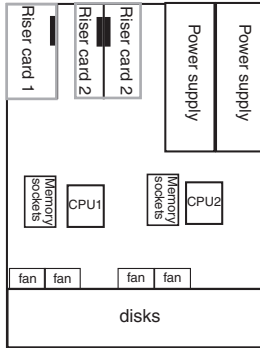
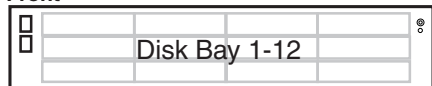
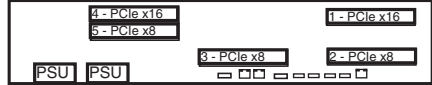
Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
3059-F4G	2xE5-2450	1333MHz RDIMM	2x8GB	No	700+Battery	None	12xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor		2U Rack top	
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)			
Implementation	Two LGA1356 sockets			
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)			
Additional memory disclaimers	<ul style="list-style-type: none">Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMsOver six DIMMs requires dual processorsMixing of UDIMM, RDIMM, or LV RDIMM is not supported			
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz			
Disk bays	Twelve 3.5" hot-swap SATA/SAS disk bays (see right)		Front 	
Disk controller	<p>RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support</p> <p>Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support</p> <p>RAID 700: ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10, 50, 60 support</p> <p>Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700</p>		Rear 	
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter		Slot 4, 5 are available on dual processors models only	
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm			
Tape drive	None			
Optical	None (use USB port)			
Diskette	None (use USB port)			
Chipset	Intel C606 Chipset			
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5			
Riser card	Two USB 2.0			
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector			
Rear ports				
Intelligent Diagnostics Module (IDM)	None		Mechanical <ul style="list-style-type: none">2U rack19"W x 28.9"D x 3.45"H (with rack handles)482.4mm W x 734mm D x 87.6mm H (with rack handles)26.5 kg (58.42 lb) when fully configured	
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions		Disk Bays Bay 1-12 3.5", 1" high, external, for disk	
Security chip	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant		Expansion Slots Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec) Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec) <i>Slot 4-5 are available on dual processors models:</i> Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec) Slot 5: half-length, full-height, PCI Express 3.0 x8	
Prerequisites	SATA/SAS disk, OS		Security <ul style="list-style-type: none">Security chip (selected models, see information on left)Administrator passwordUser passwordBoot sequence controlBoot without keyboard, mouse, disketteSerial port I/O controlUSB port disablement (all)	
Keyboard/mouse	None (use USB port)		Software Management Tools <ul style="list-style-type: none">ThinkServer EasyStartupThinkServer EasyManage	
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies		Energy Management Technology <ul style="list-style-type: none">Lenovo® SmartGrid Manager	
Rack kit	Includes rack kit		ENERGY STAR® Server 1.1-compliant	
Cable management	Optional cable management arm on selected models		RoHS-compliant	
Cooling	Four fans, hot-swap			

ThinkServer RD430 with twelve 3.5" Disk Bays (3059) - Sep 2012

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
3059-F5G	2xE5-2450	1600MHz RDIMM	2x8GB	No	700+Battery	None	12xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor		<div>2U Rack top</div> <div></div> <div>Front</div> <div></div> <div>Rear</div> <div></div> <div>Slot 4, 5 are available on dual processors models only</div>
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2450 processor (8C/16T, 2.1GHz, 20MB, 8.0 GT/s QPI x1) , Turbo Boost 2.0 (up to 2.9GHz), 3-channel DDR3 memory controller (up to 1600MHz)		
Implementation	Two LGA1356 sockets		
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)		
Additional memory disclaimers	<ul style="list-style-type: none">Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMsOver six DIMMs requires dual processorsMixing of UDIMM, RDIMM, or LV RDIMM is not supported		
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz		
Disk bays	Twelve 3.5" hot-swap SATA/SAS disk bays (see right)		
Disk controller	RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10, 50, 60 support Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700		
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter		
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm		
Tape drive	None		
Optical	None (use USB port)		
Diskette	None (use USB port)		
Chipset	Intel C606 Chipset		
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5		
Riser card	Two USB 2.0		
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector		
Rear ports			
Intelligent Diagnostics Module (IDM)	None		
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions		
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant		
Prerequisites	SATA/SAS disk, OS		
Keyboard/mouse	None (use USB port)		
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies		
Rack kit	Includes rack kit		
Cable management	Optional cable management arm on selected models		
Cooling	Four fans, hot-swap		
Mechanical			
<ul style="list-style-type: none">2U rack19"W x 28.9"D x 3.45"H (with rack handles)482.4mm W x 734mm D x 87.6mm H (with rack handles)26.5 kg (58.42 lb) when fully configured			
Disk Bays			
Bay 1-12 3.5", 1" high, external, for disk			
Expansion Slots			
Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: half-length, full-height, PCI Express 2.0 x8 (x4 elec) Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec) <i>Slot 4-5 are available on dual processors models:</i> Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec) Slot 5: half-length, full-height, PCI Express 3.0 x8			
Security			
<ul style="list-style-type: none">Security chip (selected models, see information on left)Administrator passwordUser passwordBoot sequence controlBoot without keyboard, mouse, disketteSerial port I/O controlUSB port disablement (all)			
Software Management Tools			
<ul style="list-style-type: none">ThinkServer EasyStartupThinkServer EasyManage			
Energy Management Technology			
<ul style="list-style-type: none">Lenovo® SmartGrid Manager			
ENERGY STAR® Server 1.1-compliant RoHS-compliant			

ThinkServer RD530 Photography - 3.5" Disk Bay *

* Some models in pictures below contain optional add-in ethernet adapter, please see O-RDS for more RD530 accessories



- Up to two Intel® Xeon® E5-2600 series processors, up to 8 cores/16 threads per processor
- Up to 320GB ECC RDIMM memory (20x16GB) or 256GB ECC LV RDIMM memory (16x16GB)
- Up to four 3.5" hot-swap disk bays
- Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter
- Up to two power supplies with redundant, hot-swap, 80 PLUS® Gold qualified
- Up to eight fans (7+1 redundant), non hot-swap

ThinkServer RD530 Photography - 2.5" Disk Bay *

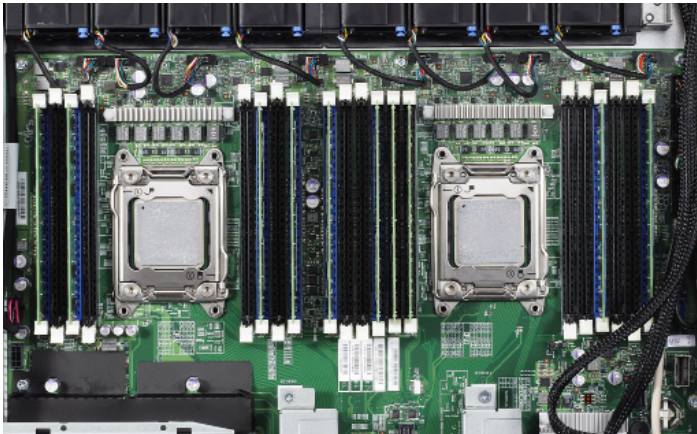
** Some models in pictures below contain optional add-in ethernet adapter, please see O-RDS for more RD530 accessories*



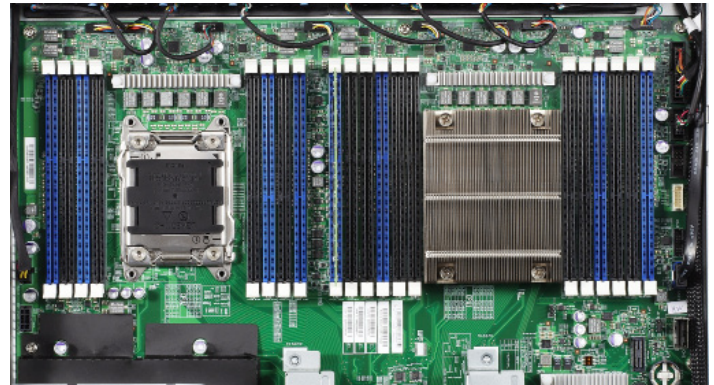
- Up to two Intel® Xeon® E5-2600 series processors, up to 8 cores/16 threads per processor
- Up to 320GB ECC RDIMM memory (20x16GB) or 256GB ECC LV RDIMM memory (16x16GB)
- Up to eight 2.5" hot-swap disk bays
- Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
- Up to two power supplies with redundant, hot-swap, 80 PLUS® Gold qualified
- Up to eight fans (7+1 redundant), non hot-swap

ThinkServer RD530 Photography - Detail

ThinkServer™



Dual processors



Single processor



ThinkServer 800W Hot-Swap power supply
for ThinkServer RD530/RD630
(80 PLUS® Gold qualified,
redundant with two power supplies)



2.5" Hot-swap disk bay

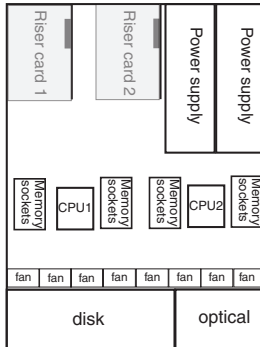
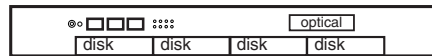
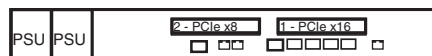


ThinkServer RD530 rear I/O ports

ThinkServer RD530 with 3.5" Disk Bay (2570) - TopSeller

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2570-A2G	1xE5-2620	1333MHz RDIMM	1x8GB	No	700	None	4xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1
2570-A6G	1xE5-2670	1333MHz RDIMM	2x8GB	No	700	None	4xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor					1U Rack top																			
Processor	Up to two processors, one or two processors standard, Intel® Xeon® E5-2620 processor (6C/12T, 2.0GHz, 15MB, 7.2 GT/s QPI x2) , Turbo Boost 2.0 (up to 2.5GHz), 4-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2670 processor (8C/16T, 2.6GHz, 20MB, 8.0 GT/s QPI x2) , Turbo Boost 2.0 (up to 3.3GHz), 4-channel DDR3 memory controller (up to 1600MHz)																								
Implementation	Two LGA2011 sockets																								
Memory	RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin; <i>RDIMM:</i> twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB) <i>LV RDIMM:</i> sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)																								
Additional memory disclaimers	<ul style="list-style-type: none">Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMsOver twelve RDIMMs requires dual processorsOver eight LV RDIMMs requires dual processorsMixing of RDIMM and LV RDIMM is not supported																								
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz					Front 																			
Disk bays	Four 3.5" hot-swap SATA/SAS disk bays					Rear 																			
Disk controller	<i>RAID 500:</i> ThinkServer RAID 500 adapter (LSI® SAS 9240-8i), PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 500:</i> Additional upgrade key for RAID 500 adapter, add RAID 5 support <i>RAID 700:</i> ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10 support <i>Battery for 700:</i> Intelligent Battery Backup Unit (iBBU08) for RAID 700																								
RAID Support	Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter																								
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm																								
Tape drive	None																								
Optical	DVD±RW or DVD ROM, slim																								
Diskette	None (use USB port)																								
Chipset	Intel C602J Chipset																								
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2																								
Riser card	Two USB 2.0																								
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector																								
Rear ports	Supports IDM on selected models <i>Basic:</i> IDM LED lights indicate failing component category																								
Intelligent Diagnostics Module (IDM)	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions																								
Systems mgmt	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant																								
Security chip																									
Prerequisites	SATA/SAS disk, OS																								
Keyboard/mouse	None (use USB port)																								
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies																								
Rack kit	Includes rack kit																								
Cable management	Optional cable management arm on selected models																								
Cooling	Up to eight fans (7+1 redundant), non-hot swap					Mechanical <ul style="list-style-type: none">1U rack19"W x 28.9"D x 1.72"H (with rack handles)482.4mm W x 734mm D x 43.6mm H (with rack handles)17kg (37.5 lb) when fully configured Disk Bays <table><tr><td>Bay 1</td><td>5.25", 0.5" high, external,</td><td>for optical</td></tr><tr><td>Bay 2-5</td><td>3.5", 1" high, external,</td><td>for disk</td></tr></table> Expansion Slots <table><tr><td>Slot 1:</td><td>half-length, full-height, PCI Express 3.0 x16</td></tr><tr><td>Slot 2:</td><td>Low Profile, PCI Express 3.0 x8</td></tr></table> Security <ul style="list-style-type: none">Security chip (selected models, see information on left)Administrator passwordUser passwordBoot sequence controlBoot without keyboard, mouse, disketteSerial port I/O controlUSB port disablement (all) Software Management Tools <ul style="list-style-type: none">ThinkServer EasyStartupThinkServer EasyManage Energy Management Technology <ul style="list-style-type: none">Intel Power Node ManagerLenovo® SmartGrid Manager ENERGY STAR® Server 1.1-compliant RoHS-compliant										Bay 1	5.25", 0.5" high, external,	for optical	Bay 2-5	3.5", 1" high, external,	for disk	Slot 1:	half-length, full-height, PCI Express 3.0 x16	Slot 2:	Low Profile, PCI Express 3.0 x8
Bay 1	5.25", 0.5" high, external,	for optical																							
Bay 2-5	3.5", 1" high, external,	for disk																							
Slot 1:	half-length, full-height, PCI Express 3.0 x16																								
Slot 2:	Low Profile, PCI Express 3.0 x8																								

ThinkServer RD530 with 3.5" Disk Bay (2570) - TopSeller (January 2013)

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2570-A8G	1xE5-2609	1600MHz RDIMM	1x4GB	No	500	No	4xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1

Limited warranty	3-year parts and labor														
Processor	Up to two processors, one or two processors standard, Intel® Xeon® E5-2609 processor (4C/4T, 2.4GHz, 10MB, 6.4 GT/s QPI x2) , 4-channel DDR3 memory controller (up to 1066MHz) Two LGA2011 sockets														
Implementation	Two LGA2011 sockets														
Memory	RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin; <i>RDIMM:</i> twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB) <i>LV RDIMM:</i> sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)														
Additional memory disclaimers	<ul style="list-style-type: none"> Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Over twelve RDIMMs requires dual processors Over eight LV RDIMMs requires dual processors Mixing of RDIMM and LV RDIMM is not supported 														
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz														
Disk bays	Four 3.5" hot-swap SATA/SAS disk bays														
Disk controller	RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 500:</i> Additional upgrade key for RAID 500 adapter, add RAID 5 support RAID 700: ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10 support <i>Battery for 700:</i> Intelligent Battery Backup Unit (iBBU08) for RAID 700														
RAID Support	Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter														
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm														
Tape drive	None														
Optical	DVD±RW or DVD ROM, slim														
Diskette	None (use USB port)														
Chipset	Intel C602J Chipset														
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2														
Riser card	Two USB 2.0														
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector														
Rear ports	Supports IDM on selected models <i>Basic:</i> IDM LED lights indicate failing component category														
Intelligent Diagnostics Module (IDM)	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions														
Systems mgmt	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant														
Security chip	SATA/SAS disk, OS														
Prerequisites	None (use USB port)														
Keyboard/mouse	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies														
Power supply	Includes rack kit														
Rack kit	Optional cable management arm on selected models														
Cable management	Up to eight fans (7+1 redundant), non-hot swap														
Cooling															

1U Rack top

Front

Rear

Mechanical

- 1U rack
- 19"W x 28.9"D x 1.72"H (with rack handles)
- 482.4mm W x 734mm D x 43.6mm H (with rack handles)
- 17kg (37.5 lb) when fully configured

Disk Bays

Bay 1	5.25", 0.5" high, external,	for optical
Bay 2-5	3.5", 1" high, external,	for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
Slot 2: Low Profile, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Intel Power Node Manager
- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant

RoHS-compliant

ThinkServer RD530 with 3.5" Disk Bay (2569) - TopSeller

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2569-A1G	2xE5-2640	1333MHz RDIMM	2x8GB	5	700+Battery	3x500GB 3.5" SATA	4xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	2

Limited warranty	1-year parts and labor														
Processor	Up to two processors, one or two processors standard, Intel® Xeon® E5-2640 processor (6C/12T, 2.5GHz, 15MB, 7.2 GT/s QPI x2) , Turbo Boost 2.0 (up to 3.0GHz), 4-channel DDR3 memory controller (up to 1333MHz)														
Implementation	Two LGA2011 sockets														
Memory	RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin; RDIMM: twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB) LV RDIMM: sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)														
Additional memory disclaimers	<ul style="list-style-type: none"> Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Over twelve RDIMMs requires dual processors Over eight LV RDIMMs requires dual processors Mixing of RDIMM and LV RDIMM is not supported 														
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz														
Disk bays	Four 3.5" hot-swap SATA/SAS disk bays														
Disk controller	RAID 500: ThinkServer RAID 500 adapter (LSI® SAS 9240-8i), PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5 support RAID 700: ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10 support Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700														
RAID Support	Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter														
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm														
Tape drive	None														
Optical	DVD±RW or DVD ROM, slim														
Diskette	None (use USB port)														
Chipset	Intel C602J Chipset														
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2														
Riser card	Two USB 2.0														
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector														
Rear ports	Supports IDM on selected models Basic: IDM LED lights indicate failing component category Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions														
Intelligent Diagnostics Module (IDM)	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant														
Systems mgmt	SATA/SAS disk, OS														
Prerequisites	None (use USB port)														
Keyboard/mouse	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies														
Power supply	Includes rack kit														
Rack kit	Optional cable management arm on selected models														
Cable management	Up to eight fans (7+1 redundant), non-hot swap														
Cooling															

Front

Rear

Mechanical

- 1U rack
- 19"W x 28.9"D x 1.72"H (with rack handles)
- 482.4mm W x 734mm D x 43.6mm H (with rack handles)
- 17kg (37.5 lb) when fully configured

Disk Bays

Bay 1	5.25", 0.5" high, external,	for optical
Bay 2-5	3.5", 1" high, external,	for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
Slot 2: Low Profile, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Intel Power Node Manager
- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
RoHS-compliant

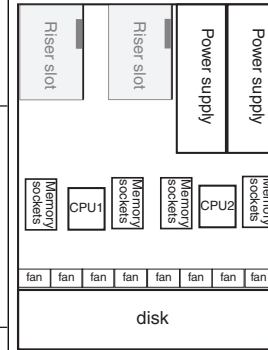
ThinkServer RD530 with 2.5" Disk Bay (2575) - TopSeller

Product Specifications Reference (PSREF)

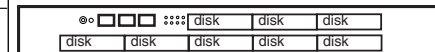
Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2575-A6G	1xE5-2640	1333MHz RDIMM	2x8GB	No	700	None	8xHS	SATA/SAS	No	No	TPM	IPMI	No	No	1

Limited warranty	3-year parts and labor														
Processor	Up to two processors, one or two processors standard, Intel® Xeon® E5-2640 processor (6C/12T, 2.5GHz, 15MB, 7.2 GT/s QPI x2) , Turbo Boost 2.0 (up to 3.0GHz), 4-channel DDR3 memory controller (up to 1333MHz)														
Implementation	Two LGA2011 sockets														
Memory	RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin; RDIMM: twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB) LV RDIMM: sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)														
Additional memory disclaimers	<ul style="list-style-type: none"> Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs Over twelve RDIMMs requires dual processors Over eight LV RDIMMs requires dual processors Mixing of RDIMM and LV RDIMM is not supported 														
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz														
Disk bays	Eight 2.5" hot-swap SATA/SAS disk bays														
Disk controller	RAID 500: ThinkServer RAID 500 adapter (LSI® SAS 9240-8i), PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10, 50, 60 support Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700														
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter														
Disk(s)	2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"														
Tape drive	None														
Optical	None (use USB port)														
Diskette	None (use USB port)														
Chipset	Intel C602J Chipset														
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2														
Riser card	Two USB 2.0, one analog VGA DB-15 connector														
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share sys mgmt), one analog VGA DB-15 connector														
Rear ports	Supports IDM on selected models														
Intelligent Diagnostics Module (IDM)	Basic: IDE LED lights indicate failing component category														
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); KVM model(s): add-on ThinkServer Management Module Premium for KVM functions														
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant														
Prerequisites	SATA/SAS disk, OS														
Keyboard/mouse	None (use USB port)														
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies														
Rack kit	Includes rack kit														
Cable management	Optional cable management arm on selected models														
Cooling	Up to eight fans (7+1 redundant), non-hot swap														

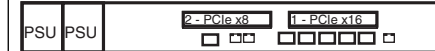
1U Rack top



Front



Rear



Mechanical

- 1U rack
- 19"W x 28.4"D x 1.72"H (with rack handles)
- 482.4mm W x 734mm D x 43.6mm H (with rack handles)
- 17kg (37.5 lb) when fully configured

Disk Bays

Bay 1-8 2.5", 0.6" high, external, for disk

Expansion Slots

Slot 1: half-length, full-height, PCI Express 3.0 x16
Slot 2: Low Profile, PCI Express 3.0 x8

Security

- Security chip (selected models, see information on left)
- Administrator password
- User password
- Boot sequence control
- Boot without keyboard, mouse, diskette
- Serial port I/O control
- USB port disablement (all)

Software Management Tools

- ThinkServer EasyStartup
- ThinkServer EasyManage

Energy Management Technology

- Intel Power Node Manager
- Lenovo® SmartGrid Manager

ENERGY STAR® Server 1.1-compliant
RoHS-compliant

ThinkServer RD630 Photography - 3.5" Disk Bay *

** Some models in pictures below contain optional add-in ethernet adapter, please see O-RDS for more RD630 accessories*

ThinkServer™



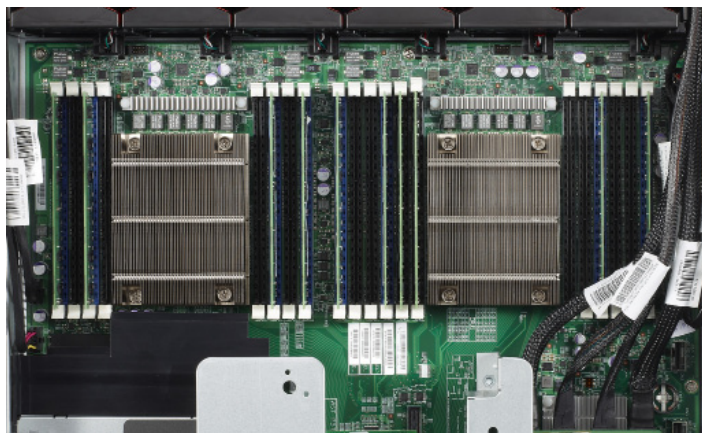
- Up to two Intel® Xeon® E5-2600 series processors, up to 8 cores/16 threads per processor
- Up to 320GB ECC RDIMM memory (20x16GB) or 256GB ECC LV RDIMM memory (16x16GB)
- Up to eight 3.5" hot-swap disk bays
- Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
- Up to two power supplies with redundant, hot-swap, 80 PLUS® Gold qualified
- Up to six fans (5+1 redundant), hot-swap

ThinkServer RD630 Photography - 2.5" Disk Bay*

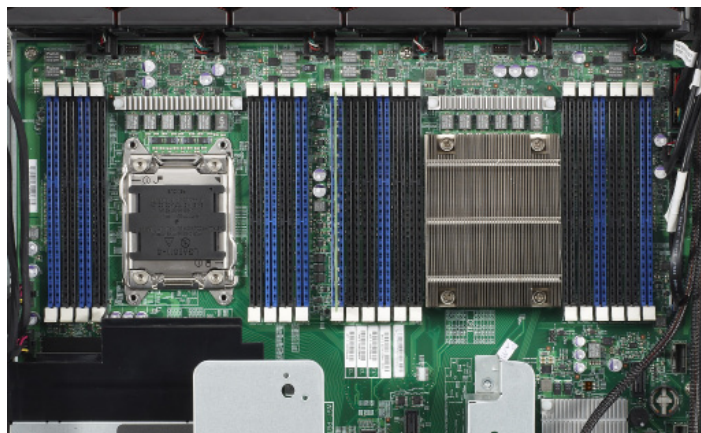
* Some models in pictures below contain optional add-in ethernet adapter, please see O-RDS for more RD630 accessories



- Up to two Intel® Xeon® E5-2600 series processors, up to 8 cores/16 threads per processor
- Up to 320GB ECC RDIMM memory (20x16GB) or 256GB ECC LV RDIMM memory (16x16GB)
- Up to sixteen 2.5" hot-swap disk bays
- Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
- Up to two power supplies with redundant, hot-swap, 80 PLUS® Gold qualified
- Up to six fans (5+1 redundant), hot-swap



Dual processors



Single processor



2.5" Hot-swap disk bay



2.5" Hot-swap disk bay



2.5" Hot-swap SAS 6.0Gb/s hard drive



3.5" Hot-swap SAS 6.0Gb/s hard drive



ThinkServer RAID 700 Adapter with battery
(LSI® SAS 9260-8i with iBBU08)



ThinkServer RAID 700 Adapter with battery
(LSI SAS 9260-8i with iBBU08)



ThinkServer 800W Hot-Swap power supply
for ThinkServer RD530/RD630
(80 PLUS® Gold qualified,
redundant with two power supplies)



Intelligent Diagnostics Module Premium

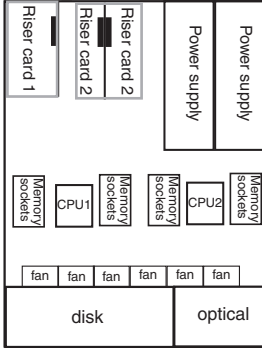

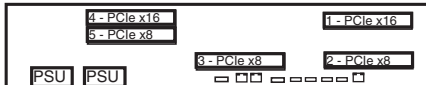


ThinkServer RD630 rear I/O ports

ThinkServer RD630 with 3.5" Disk Bay (2579) - TopSeller

Product Specifications Reference (PSREF)

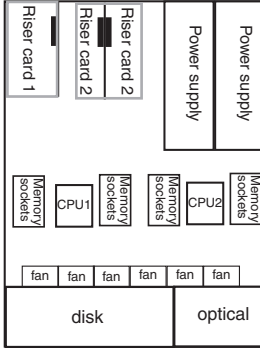
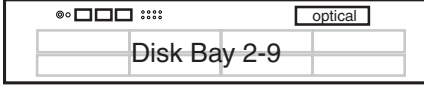

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2579-A3G	1xE5-2640	1333MHz RDIMM	1x4GB	No	700+Battery	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	1
2579-A5G	1xE5-2650	1333MHz RDIMM	2x8GB	No	700+Battery	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
2579-A7G	1xE5-2670	1333MHz RDIMM	1x16GB	No	700+Battery	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor		2U Rack top	
Processor	Up to two processors, one or two processors standard, Intel® Xeon® E5-2640 processor (6C/12T, 2.5GHz, 15MB, 7.2 GT/s QPI x2) , Turbo Boost 2.0 (up to 3.0GHz), 4-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2650 processor (8C/16T, 2.0GHz, 20MB, 8.0 GT/s QPI x2) , Turbo Boost 2.0 (up to 2.8GHz), 4-channel DDR3 memory controller (up to 1600MHz) Intel Xeon E5-2670 processor (8C/16T, 2.6GHz, 20MB, 8.0 GT/s QPI x2) , Turbo Boost 2.0 (up to 3.3GHz), 4-channel DDR3 memory controller (up to 1600MHz) Two LGA2011 sockets			
Implementation			Front	
Memory	RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin; <i>RDIMM:</i> twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB) <i>LV RDIMM:</i> sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)			
Additional memory disclaimers	<ul style="list-style-type: none">Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMsOver twelve RDIMMs requires dual processorsOver eight LV RDIMMs requires dual processorsMixing of RDIMM and LV RDIMM is not supported		Rear	
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz			
Disk bays	Eight 3.5" hot-swap SATA/SAS disk bays		Slot 4, 5 are available on dual processors models only	
Disk controller	<i>RAID 500:</i> ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 500:</i> Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support <i>RAID 700:</i> ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10, 50, 60 support <i>Battery for 700:</i> Intelligent Battery Backup Unit (iBBU08) for RAID 700			
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter			
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm			
Tape drive	None			
Optical	DVD±RW or DVD ROM, slim			
Diskette	None (use USB port)			
Chipset	Intel C602J Chipset			
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5			
Riser card	Two USB 2.0, one analog VGA DB-15 connector			
Front ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector			
Rear ports	Supports IDM or IDM Premium on selected models <i>Basic:</i> IDM LED lights indicate failing component category <i>Premium:</i> IDM Premium LED lights indicate individual failing part			
Intelligent Diagnostics Module (IDM)	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions			
Systems mgmt				
Security chip	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant			
Prerequisites	SATA/SAS disk, OS			
Keyboard/mouse	None (use USB port)			
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies			
Rack kit	Includes rack kit			
Cable management	Optional cable management arm on selected models			
Cooling	Up to six fans (5+1 redundant), hot-swap			
			Mechanical	
			<ul style="list-style-type: none">2U rack19"W x 28.9"D x 3.45"H (with rack handles)482.4mm W x 734mm D x 87.6mm H (with rack handles)26.5 kg (58.42 lb) when fully configured	
			Disk Bays	
			Bay 1 5.25", 0.5" high, external, for optical Bay 2-9 3.5", 1" high, external, for disk	
			Expansion Slots	
			Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: half-length, full-height, PCI Express 3.0 x8 Slot 3: Low Profile, PCI Express 3.0 x8 <i>Slot 4-5 are available on dual processors models:</i> Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec) Slot 5: half-length, full-height, PCI Express 3.0 x8	
			Security	
			<ul style="list-style-type: none">Security chip (selected models, see information on left)Administrator passwordUser passwordBoot sequence controlBoot without keyboard, mouse, disketteSerial port I/O controlUSB port disablement (all)	
			Software Management Tools	
			<ul style="list-style-type: none">ThinkServer EasyStartupThinkServer EasyManage	
			Energy Management Technology	
			<ul style="list-style-type: none">Intel Power Node ManagerLenovo® SmartGrid Manager	
			ENERGY STAR® Server 1.1-compliant	
			RoHS-compliant	

ThinkServer RD630 with 3.5" Disk Bay (2579) - TopSeller (January 2013)

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2579-A9G	1xE5-2609	1600MHz RDIMM	1x4GB	No	500	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	IPMI	No	No	1

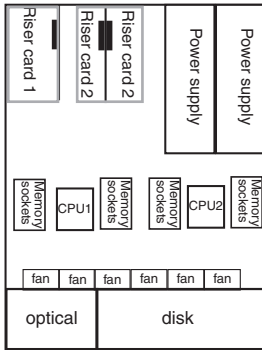
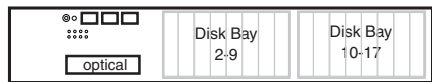

Limited warranty	3-year parts and labor					<div>2U Rack top</div> <div></div>									
Processor	Up to two processors, one or two processors standard, Intel® Xeon® E5-2609 processor (4C/4T, 2.4GHz, 10MB, 6.4 GT/s QPI x2), 4-channel DDR3 memory controller (up to 1066MHz)					<div>Front</div> <div></div> <div>Rear</div> <div></div> <div>Slot 4, 5 are available on dual processors models only</div>									
Implementation	Two LGA2011 sockets														
Memory	RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin; RDIMM: twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB) LV RDIMM: sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)														
Additional memory disclaimers	<ul style="list-style-type: none">Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMsOver twelve RDIMMs requires dual processorsOver eight LV RDIMMs requires dual processorsMixing of RDIMM and LV RDIMM is not supported														
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz														
Disk bays	Eight 3.5" hot-swap SATA/SAS disk bays														
Disk controller	RAID 500: ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support Upgrade for 500: Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10, 50, 60 support Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700														
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter														
Disk(s)	3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm														
Tape drive	None														
Optical	DVD±RW or DVD ROM, slim														
Diskette	None (use USB port)														
Chipset	Intel C602J Chipset														
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5														
Riser card															
Front ports	Two USB 2.0, one analog VGA DB-15 connector														
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector														
Intelligent Diagnostics Module (IDM)	Supports IDM or IDM Premium on selected models Basic: IDM LED lights indicate failing component category Premium: IDM Premium LED lights indicate individual failing part														
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions														
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant														
Prerequisites	SATA/SAS disk, OS														
Keyboard/mouse	None (use USB port)														
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies														
Rack kit	Includes rack kit														
Cable management	Optional cable management arm on selected models														
Cooling	Up to six fans (5+1 redundant), hot-swap														

<div>Mechanical</div> <ul style="list-style-type: none">2U rack19"W x 28.9"D x 3.45"H (with rack handles)482.4mm W x 734mm D x 87.6mm H (with rack handles)26.5 kg (58.42 lb) when fully configured								
<div>Disk Bays</div> <table><tr><td>Bay 1</td><td>5.25", 0.5" high, external,</td><td>for optical</td></tr><tr><td>Bay 2-9</td><td>3.5", 1" high, external,</td><td>for disk</td></tr></table>			Bay 1	5.25", 0.5" high, external,	for optical	Bay 2-9	3.5", 1" high, external,	for disk
Bay 1	5.25", 0.5" high, external,	for optical						
Bay 2-9	3.5", 1" high, external,	for disk						
<div>Expansion Slots</div> <p>Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: half-length, full-height, PCI Express 3.0 x8 Slot 3: Low Profile, PCI Express 3.0 x8 Slot 4-5 are available on dual processors models: Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec) Slot 5: half-length, full-height, PCI Express 3.0 x8</p>								
<div>Security</div> <ul style="list-style-type: none">Security chip (selected models, see information on left)Administrator passwordUser passwordBoot sequence controlBoot without keyboard, mouse, disketteSerial port I/O controlUSB port disablement (all)								
<div>Software Management Tools</div> <ul style="list-style-type: none">ThinkServer EasyStartupThinkServer EasyManage								
<div>Energy Management Technology</div> <ul style="list-style-type: none">Intel Power Node ManagerLenovo® SmartGrid Manager								
ENERGY STAR® Server 1.1-compliant RoHS-compliant								

ThinkServer RD630 with 2.5" Disk Bay (2594) - TopSeller

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
2594-A5G	1xE5-2640	1333MHz RDIMM	1x4GB	No	700	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
2594-A6G	1xE5-2640	1333MHz RDIMM	1x8GB	No	700+Battery	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
2594-A7G	1xE5-2670	1333MHz RDIMM	1x16GB	No	700+Battery	None	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor		2U Rack top	
Processor	Up to two processors, one or two processors standard, Intel® Xeon® E5-2640 processor (6C/12T, 2.5GHz, 15MB, 7.2 GT/s QPI x2) , Turbo Boost 2.0 (up to 3.0GHz), 4-channel DDR3 memory controller (up to 1333MHz) Intel Xeon E5-2670 processor (8C/16T, 2.6GHz, 20MB, 8.0 GT/s QPI x2) , Turbo Boost 2.0 (up to 3.3GHz), 4-channel DDR3 memory controller (up to 1600MHz) Two LGA2011 sockets			
Implementation			Front	
Memory	RDIMM or LV RDIMM, DDR3, ECC, 4-channel per processor, 240-pin; <i>RDIMM:</i> twenty sockets (12 sockets for CPU1, 8 sockets for CPU2), 320GB max (20x16GB) <i>LV RDIMM:</i> sixteen sockets (8 of 12 sockets available for CPU1, 8 sockets for CPU2), 256GB max (16x16GB)			
Additional memory disclaimers	<ul style="list-style-type: none">Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMsOver twelve RDIMMs requires dual processorsOver eight LV RDIMMs requires dual processorsMixing of RDIMM and LV RDIMM is not supported		Bay 10-17 are available on sixteen disk bays models only	
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz		Rear	
Disk bays	Eight or sixteen 2.5" hot-swap SATA/SAS disk bays (Sixteen 2.5" disk bays availability on August 2012)			
Disk controller	ThinkServer RAID 500 adapter (LSI SAS 9240-8i), PCI Express® bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 10 support <i>Upgrade for 500:</i> Additional upgrade key for RAID 500 adapter, add RAID 5, 50 support RAID 700: ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10, 50, 60 support <i>Battery for 700:</i> Intelligent Battery Backup Unit (iBBU08) for RAID 700		Slot 4, 5 are available on dual processors models only	
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter			
Disk(s)	2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"			
Tape drive	None			
Optical	DVD±RW or DVD ROM, slim			
Diskette	None (use USB port)			
Chipset	Intel C602J Chipset			
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5			
Riser card				
Front ports	Two USB 2.0, one analog VGA DB-15 connector			
Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector			
Intelligent Diagnostics Module (IDM)	Supports IDM or IDM Premium on selected models <i>Basic:</i> IDM LED lights indicate failing component category <i>Premium:</i> IDM Premium LED lights indicate individual failing part			
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); <i>iKVM:</i> add-on ThinkServer Management Module Premium for iKVM functions			
Security chip	No onboard TPM chip; <i>TPM:</i> additional add-on card for TPM function, TCG 1.2-compliant			
Prerequisites	SATA/SAS disk, OS			
Keyboard/mouse	None (use USB port)			
Power supply	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies			
Rack kit	Includes rack kit			
Cable management	Optional cable management arm on selected models			
Cooling	Up to six fans (5+1 redundant), how-swap			
			Mechanical	
			<ul style="list-style-type: none">2U rack19"W x 28.9"D x 3.45"H (with rack handles)482.4mm W x 734mm D x 87.6mm H (with rack handles)26.5 kg (58.42 lb) when fully configured	
			Disk Bays	
			Bay 1 5.25", 0.5" high, external, for optical Bay 2-9 2.5", 0.6" high, external, for disk Bay 10-17 are available on sixteen 2.5" disk bays models: Bay 10-17 2.5", 0.6" high, external, for disk	
			Expansion Slots	
			Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: half-length, full-height, PCI Express 3.0 x8 Slot 3: Low Profile, PCI Express 3.0 x8 Slot 4-5 are available on dual processors models: Slot 4: half-length, full-height, PCI Express 3.0 x16 (x8 elec) Slot 5: half-length, full-height, PCI Express 3.0 x8	
			Security	
			<ul style="list-style-type: none">Security chip (selected models, see information on left)Administrator passwordUser passwordBoot sequence controlBoot without keyboard, mouse, disketteSerial port I/O controlUSB port disablement (all)	
			Software Management Tools	
			<ul style="list-style-type: none">ThinkServer EasyStartupThinkServer EasyManage	
			Energy Management Technology	
			<ul style="list-style-type: none">Intel Power Node ManagerLenovo® SmartGrid Manager	
			ENERGY STAR® Server 1.1-compliant RoHS-compliant	

Availability: All offers subject to availability. Lenovo reserves the right to alter product offerings and specifications at any time, without notice. Lenovo is not responsible for photographic or typographic errors.

Warranty: For a copy of applicable product warranties, write to: Warranty Information, 500 Park Offices Drive, RTP, NC, 27709, Attn: Dept ZPYA/B600. Lenovo makes no representation or warranty regarding third party products or services.

¹ **Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges.

² **Hard drive:** GB = billion bytes, TB = trillion bytes. Accessible capacity is less.

³ **Systems with limited onsite service** are designed to be repaired during the applicable warranty period primarily with customer-replaceable parts provided by Lenovo. Lenovo will only send a technician onsite to perform a repair if (a) remote telephone diagnosis and/or customer part replacement are unable to resolve the problem, or (b) the part is one of the few designated by Lenovo for onsite replacement. For a list of onsite replaceable parts, contact Lenovo. In the United States call 1-800-426-7378. Support unrelated to a warranty issue may be subject to additional charges.

⁴ **SATA/SAS:** The system configuration supports the installation of either SATA or SAS disks. A configuration including both SATA and SAS disks is not supported.

⁷ **ThinkPlus Services:** These services are available for machines normally used for business, professional, or trade purposes, rather than personal, family, or household purposes. Not all machine types and models are covered. Service period begins with the equipment date of purchase. Service must be purchased during the original limited product warranty period. Service levels are response time objectives and are not guarantees. If the machine problem turns out to be a Customer Replaceable Unit (CRU), a part will be express shipped to you for quick replacement. Onsite 24x7x2-hour service is not available in all locations. P&L means parts and labor. P/U means pick-up. See ThinkPlus terms and conditions for complete details and restrictions.

⁸ **RAID:** Supported RAID levels for a system will vary from the stated capabilities of the RAID controller due to dependencies on the number and capacity of physical disks in the system and on customer requirements for performance, fault tolerance, or data redundancy.

RAID levels and requirements:

- **RAID 0 (striping)** provides increased performance by writing data across multiple drives.
- **RAID 1 (mirroring)** provides fault tolerance by writing the data on two drives.
- **RAID 5 (striping with parity)** uses distributed parity data to provide fault tolerance more efficiently than RAID 1. Requires three or more drives.
- **RAID 6 (striped set with dual distributed parity)** provides fault tolerance from two drive failures; array continues to operate with up to two failed drives. Requires four drives.
- **RAID 10 (or RAID 1+0)** combines RAID 1 and RAID 0 to create a stripe of mirrors that is fault tolerant while offering increased performance. Requires four drives.
- **RAID 50 (or RAID 5+0)** combines RAID 5 and RAID 0 to create block-level striping with distributed parity improving performance over RAID 5. Requires six drives.
- **RAID 60 (or RAID 6+0)** combines RAID 6 and RAID 0 to create block-level striping with distributed double parity improving performance over RAID 6. Requires eight drives.

¹⁰ **Modem speeds:** Public network download speeds are limited to 53Kbps. Upload speeds are limited to 48Kbps for V.92 modems. Actual speeds depend on many factors and are often less than the maximum possible. V.92 functions and speeds require compatible phone line and server equipment. Check with your telephone and ISP service providers for availability.

¹¹ **For combination drives,** maximum speeds only are given in the following order: CD read, CD write, CD re-write, DVD read.

¹⁴ **Response times may vary.** May exclude some holidays. Telephone support may be subject to additional charges.

¹⁵ **Update Connector** is available at no charge to registered customers during the limited warranty period. Line charges may apply.

¹⁶ **Embedded Security Subsystem** works with optional VPN software.