

ThinkServer RD430 Photography - Eight 3.5" disk bays

ThinkServer™



ThinkServer RD430 Photography - Twelve 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-G2U	1xE5-2407	1333MHz RDIMM	1x4GB	No	300	No	8xHS	SATA/SAS	DVD±RW	Basic	TPM	IPMI	No	No	1
3064-G3U	1xE5-2403	1333MHz RDIMM	1x4GB	No	300	No	8xHS	SATA/SAS	DVD±RW	Basic	TPM	IPMI	No	No	1
3064-G4U	1xE5-2420	1333MHz RDIMM	1x8GB	No	300	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	IPMI	No	No	1
3064-G5U	1xE5-2450	1333MHz RDIMM	1x8GB	No	500+Upgrade	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
3064-G6U	2xE5-2420	1333MHz RDIMM	2x16GB	No	700+Battery	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2

Limited warranty **3-year** parts and labor; more services information see S-RAL sheet

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 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)

Additional memory disclaimers

- 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
Eight 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, 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 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

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)

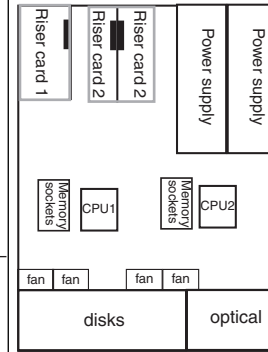
Power supply
One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies

Rack kit
Includes rack kit

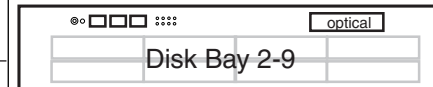
Cable management
Optional cable management arm on selected models

Cooling
Four fans, hot-swap

2U Rack top



Front



Rear



Slot 4, 5 are available on dual processors models only

Mechanical

- 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

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 2.0 x8 (x4 elec)
Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec)
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

- 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

For more accessories, see O-RAL sheet

ThinkServer RD430 with eight 3.5" Disk Bays (3065)

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-B1U	1xE5-2403	1333MHz RDIMM	1x4GB	No	300	No	8xHS	SATA/SAS	DVD±RW	Basic	TPM	IPMI	No	No	1
3065-B2U	1xE5-2407	1333MHz RDIMM	1x4GB	No	300	No	8xHS	SATA/SAS	DVD±RW	Basic	TPM	IPMI	No	No	1
3065-B3U	1xE5-2420	1333MHz RDIMM	1x8GB	No	500+Upgrade	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
3065-B4U	1xE5-2450	1333MHz RDIMM	1x16GB	No	700+Battery	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
3065-B5U	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; more services information see S-RAL sheet
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 DIMM 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	Eight 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, 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 C606 Chipset
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management
Riser card	(See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5
Front ports	One analog VGA DB-15 connector, two USB 2.0
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	Four fans, hot-swap

2U Rack top

Front

Rear

Slot 4, 5 are available on dual processors models only

Mechanical

- 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

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 2.0 x8 (x4 elec)
 Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec)
 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

- 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

For more accessories, see O-RAL sheet

See footnotes for important warranty information
 US model(s) announced August 14, 2012

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

Product Specifications Reference (PSREF)

Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk type	SATA optical	Intelligent Diagnostics	TPM	System mgmt	Cable mgmt	Preload OS	PSU qty
3065-A3U	1xE5-2420	1600MHz RDIMM	1x8GB	No	300		SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	1
3065-A4U	1xE5-2407	1600MHz RDIMM	4x8GB	No	700+Battery	3x500GB 3.5" SATA	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2
3065-A5U	1xE5-2420	1600MHz RDIMM	6x8GB	No	700+Battery	3x300GB 3.5" SAS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor; more services information see S-RAL sheet
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)
Implementation	Two LGA1356 sockets
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM 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	Eight 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 <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 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 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

2U Rack top

Front

Rear

Slot 4, 5 are available on dual processors models only

Mechanical

- 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

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 2.0 x8 (x4 elec)
 Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec)
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

- 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

For more accessories, see O-RAL sheet

See footnotes for important warranty information
 US model(s) announced September 11, 2012

ThinkServer RD430 with eight 3.5" Disk Bays (3065) - October 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-K1U	1xE5-2450	1600MHz RDIMM	1x8GB	No	300	No	8xHS	SATA/SAS	DVD±RW	Premium	TPM	iKVM	No	No	1

Limited warranty	3-year parts and labor; more services information see S-RD sheet
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 DIMM 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	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)	<p>3.5" SATA: SATA 6.0Gb/s, 7200 rpm</p> <p>3.5" SAS: SAS 6.0Gb/s, 15000 rpm</p>
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
Riser card	(See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5
Front ports	One analog VGA DB-15 connector, two USB 2.0
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	Four fans, hot-swap

2U Rack top

The diagram shows the internal layout of the 2U rack top. At the top are two riser cards (Riser card 1 and Riser card 2) and two power supplies. Below these are two memory sockets, each with a CPU (CPU1 and CPU2). There are four fans arranged in two rows. At the bottom are the disk bays and an optical drive.

Front

The front panel features an optical drive on the right and a row of disk bays labeled 'Disk Bay 2-9'.

Rear

The rear panel includes two PSU units, four PCIe slots (labeled 1-4), and other connectors. Slot 1 is PCIe x16, slot 2 is PCIe x8, slot 3 is PCIe x8, and slot 4 is PCIe x8.

Slot 4, 5 are available on dual processors models only

Mechanical

- 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

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 2.0 x8 (x4 elec)
Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec)
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

- 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

For more accessories, see O-RAL sheet

ThinkServer RD430 with twelve 3.5" Disk Bays (3057) - 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 TPM	Cable mgmt	Preload OS	PSU qty	
3057-E1U	1xE5-2403	1333MHz RDIMM	1x4GB	No	500+Upgrade		12xHS	SATA/SAS	No	No	TPM	IPMI	No	No	1
3057-E2U	1xE5-2407	1333MHz RDIMM	1x4GB	No	500+Upgrade		12xHS	SATA/SAS	No	No	TPM	IPMI	No	No	1
3057-E3U	1xE5-2420	1333MHz RDIMM	1x8GB	No	500+Upgrade		12xHS	SATA/SAS	No	No	TPM	IPMI	No	No	1
3057-E4U	1xE5-2450	1333MHz RDIMM	1x8GB	No	500+Upgrade		12xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2
3057-E5U	2xE5-2420	1333MHz RDIMM	2x16GB	No	700+Battery		12xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2
3057-E6U	2xE5-2420	1333MHz RDIMM	2x16GB	No	700+Battery	6x1TB 3.5" SATA	12xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2

Limited warranty **3-year** parts and labor; more services information see S-RAL sheet

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 DIMM sockets (6 sockets per processor);
192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM,
12x4GB)

Additional memory disclaimers

- 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
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),
Rear ports
one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector

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)

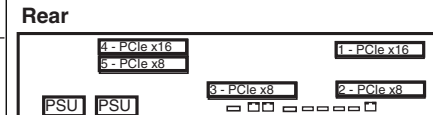
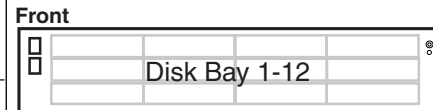
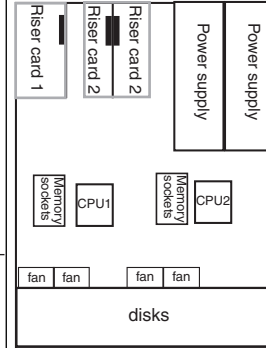
Power supply
One or two 800 watts standard, two maximum, rear access, hot-swap,
80 PLUS® Gold qualified, redundant with two power supplies

Rack kit
Includes rack kit

Cable management
Optional cable management arm on selected models

Cooling
Four fans, hot-swap

2U Rack top



Slot 4, 5 are available on dual processors models only

Mechanical

- 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

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)
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

- 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

For more accessories, see O-RAL sheet

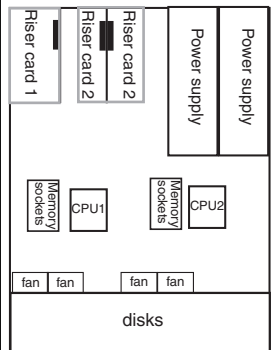
ThinkServer RD430 with twelve 3.5" Disk Bays (3059)

Product Specifications Reference (PSREF)

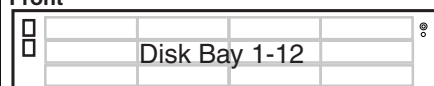
Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	System TPM	Cable mgmt	Preload OS	PSU qty	
3059-F1U	1xE5-2420	1333MHz RDIMM	1x8GB	No	700+Battery	None	12xHS	SATA/SAS	No	No	TPM	IPMI	No	No	1
3059-F2U	1xE5-2403	1333MHz RDIMM	1x4GB	No	500+Upgrade	None	12xHS	SATA/SAS	No	No	TPM	IPMI	No	No	1
3059-F3U	1xE5-2420	1333MHz RDIMM	1x8GB	No	500+Upgrade	None	12xHS	SATA/SAS	No	No	TPM	iKVM	No	No	2
3059-F4U	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; more warranty information see S-RAL sheet
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 E5-2420 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 DIMM 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	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
Riser card	(See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5
Front ports	Two USB 2.0
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)	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


2U Rack top



Front



Rear



Slot 4, 5 are available on dual processors models only

Mechanical

- 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

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)
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

- 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

For more accessories, see O-RAL sheet

See footnotes for important warranty information
US model(s) announced August 14, 2012

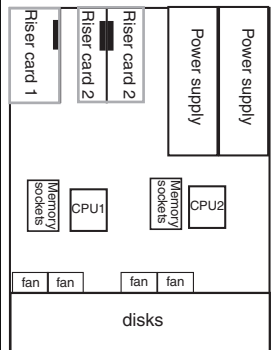
ThinkServer RD430 with twelve 3.5" Disk Bays (3059) - Sep 2012

Product Specifications Reference (PSREF)

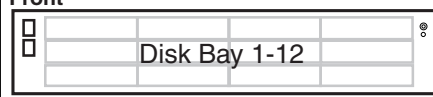
Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk type	SATA optical	Intelligent Diagnostics	System TPM	Cable mgmt	Preload OS	PSU qty
3059-F6U	1xE5-2420	1600MHz RDIMM	1x8GB	No	700		SATA/SAS	No	No	TPM	iKVM	No	1
3059-F8U	1xE5-2407	1600MHz RDIMM	4x8GB	No	700+Battery	3x500GB 3.5" SATA	SATA/SAS	No	No	TPM	iKVM	No	2
3059-F9U	1xE5-2420	1600MHz RDIMM	6x8GB	No	700+Battery	3x300GB 3.5" SAS	SATA/SAS	No	No	TPM	iKVM	No	2

Limited warranty	3-year parts and labor; more warranty information see S-RAL sheet
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)
Implementation	Two LGA1356 sockets
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM 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	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 <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 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); <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

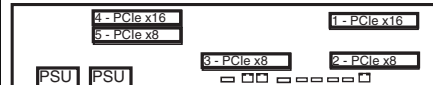
2U Rack top



Front



Rear



Slot 4, 5 are available on dual processors models only

Mechanical

- 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

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)
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

- 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

For more accessories, see O-RAL sheet

ThinkServer RD430 with twelve 3.5" Disk Bays (3059) - October 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	System mgmt	Cable mgmt	Preload OS	PSU qty
3059-K5U	1xE5-2450	1600MHz RDIMM	1x8GB	No	700	No	12xHS	SATA/SAS	No	No	TPM iKVM	No	No	1

Limited warranty	3-year parts and labor; more warranty information see S-RD sheet
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 DIMM 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	Twelve 3.5" hot-swap SATA/SAS disk bays (see right)
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>
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter
Disk(s)	<p>3.5" SATA: SATA 6.0Gb/s, 7200 rpm</p> <p>3.5" SAS: SAS 6.0Gb/s, 15000 rpm</p>
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

2U Rack top

Front

Rear

Slot 4, 5 are available on dual processors models only

Mechanical

- 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

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)
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

- 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

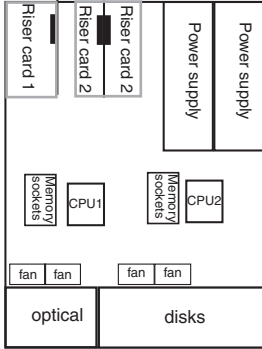
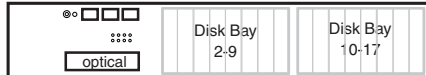

For more accessories, see O-RAL sheet

See footnotes for important warranty information
 US model(s) announced October 16, 2012

ThinkServer RD430 with 2.5" Disk Bay (3070) - 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	Sys mgmt	Cable mgmt	Preload OS	PSU qty
3070-C1U	1xE5-2403	1333MHz RDIMM	1x4GB	No	300	8xHS	8xHS	SATA/SAS DVD±RW	Basic	TPM	IPMI	No	No	No	1
3070-C2U	1xE5-2407	1333MHz RDIMM	1x4GB	No	300	8xHS	8xHS	SATA/SAS DVD±RW	Basic	TPM	IPMI	No	No	No	1
3070-C3U	1xE5-2420	1333MHz RDIMM	1x8GB	No	500+Upgrade	8xHS	8xHS	SATA/SAS DVD±RW	Premium	TPM	IPMI	No	No	No	1
3070-C4U	1xE5-2450	1333MHz RDIMM	1x16GB	No	700+Battery	8xHS	8xHS	SATA/SAS DVD±RW	Premium	TPM	iKVM	No	No	No	2
3070-C5U	1xE5-2420	1333MHz RDIMM	1x8GB	No	500+Upgrade	16xHS	16xHS	SATA/SAS DVD±RW	Premium	TPM	iKVM	No	No	No	1
3070-C6U	1xE5-2450	1333MHz RDIMM	1x16GB	No	700+Battery	16xHS	16xHS	SATA/SAS DVD±RW	Premium	TPM	iKVM	No	No	No	2
3070-C7U	1xE5-2450	1333MHz RDIMM	1x16GB	No	700+Battery	6x300GB 2.5" SAS	16xHS	SATA/SAS DVD±RW	Premium	TPM	iKVM	No	No	No	2
3070-C8U	1xE5-2450	1333MHz RDIMM	1x8GB	No	300	8xHS	8xHS	SATA/SAS DVD±RW	Premium	TPM	IPMI	No	No	No	1
3070-C9U	1xE5-2450	1333MHz RDIMM	1x8GB	No	700+Battery	8xHS	8xHS	SATA/SAS DVD±RW	Premium	TPM	iKVM	No	No	No	2

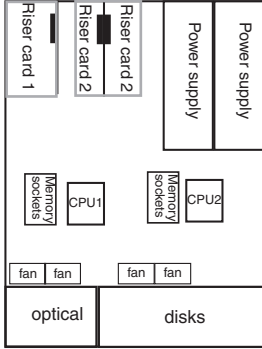
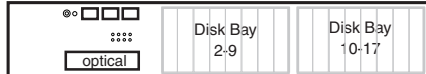

Limited warranty	3-year parts and labor; more services information see S-RAL sheet		2U Rack top	
Processor	Up to two Intel® Xeon® E5-2400 series processors, Intel Xeon E5-2403 processor (4C/4T, 1.8GHz, 10MB, 6.4 GT/s QPI x1), 3-channel DDR3 memory controller (up to 1066MHz) Intel Xeon E5-2407 processor (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		Front	
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM 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 		<p>Bay 10-17 are available on sixteen disk bays models only</p>	
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 (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, 60 support Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700		<p>Slot 4, 5 are available on dual processors models only</p>	
RAID Support	Up to RAID 0, 1, 5, 6, 10, 50, 60 via ThinkServer RAID 700 adapter		Mechanical	
Disk(s)	2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"		<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 	
Tape drive	None		Disk Bays	
Optical	DVD±RW or DVD ROM, slim		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 model: Bay 10-17 2.5", 0.6" high, external, for disk	
Diskette	None (use USB port)		Expansion Slots	
Chipset	Intel C606 Chipset		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) 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	
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		Security	
Riser card	One analog VGA DB-15 connector, two USB 2.0		<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) 	
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		Software Management Tools	
Rear ports	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		<ul style="list-style-type: none"> ThinkServer EasyStartup ThinkServer EasyManage 	
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		Energy Management Technology	
Systems mgmt	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant		<ul style="list-style-type: none"> Lenovo® SmartGrid Manager 	
Security chip	SATA/SAS disk, OS		ENERGY STAR® Server 1.1-compliant	
Prerequisites	None (use USB port)		RoHS-compliant	
Keyboard/mouse	One or two 800 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies		For more accessories, see O-RAL sheet	
Power supply	Includes rack kit			
Rack kit	Optional cable management arm on selected models			
Cable management	Four fans, hot-swap			
Cooling				

See footnotes for important warranty information
US model(s) announced August 14, 2012

ThinkServer RD430 with 2.5" Disk Bay (3071)

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	Sys mgmt	Cable mgmt	Preload OS	PSU qty
3071-D1U	1xE5-2420	1333MHz RDIMM	1x8GB	No	700+Battery	None	8xHS	SATA/SAS DVD±RW	Premium	TPM	IPMI	No	No	No	1
3071-D2U	1xE5-2403	1333MHz RDIMM	1x4GB	No	300	None	8xHS	SATA/SAS DVD±RW	Basic	TPM	IPMI	No	No	No	1
3071-D3U	1xE5-2420	1333MHz RDIMM	1x8GB	No	500+Upgrade	None	16xHS	SATA/SAS DVD±RW	Premium	TPM	iKVM	No	No	No	2

Limited warranty	3-year parts and labor; more services information see S-RAL sheet	
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 E5-2420 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)	
Implementation	Two LGA1356 sockets	
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM 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	Eight or sixteen 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 <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 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	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	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	Four fans, hot-swap	
2U Rack top 		
Front  <p>Bay 10-17 are available on sixteen disk bays models only</p>		
Rear  <p>Slot 4, 5 are available on dual processors models only</p>		
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 		
Disk Bays <p>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 model: Bay 10-17 2.5", 0.6" high, external, for disk</p>		
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) 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>		
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) 		
Software Management Tools <ul style="list-style-type: none"> ThinkServer EasyStartup ThinkServer EasyManage 		
Energy Management Technology <ul style="list-style-type: none"> Lenovo® SmartGrid Manager 		
ENERGY STAR® Server 1.1-compliant RoHS-compliant		
For more accessories, see O-RAL sheet		

See footnotes for important warranty information
US model(s) announced August 14, 2012

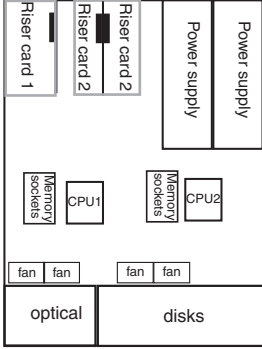
ThinkServer RD430 with 2.5" Disk Bay (3071) - September 2012

Product Specifications Reference (PSREF)

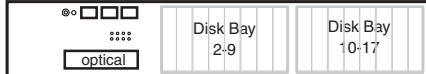
Type-model	Processor(s)	Memory (MHz/type)	Memory DIMMs	Pre-conf RAID	Disk controller	Disk(s)	Disk bays	Disk type	SATA optical	Intelligent Diagnostics	Sys mgmt	Cable mgmt	Preload OS	PSU qty
3071-D4U	1xE5-2420	1600MHz RDIMM	1x8GB	No	300		8xHS	SATA/SAS DVD±RW	Premium	TPM iKVM	No	No	No	1
3071-D6U	1xE5-2407	1600MHz RDIMM	4x8GB	No	700+Battery	3x300GB 2.5" SAS	8xHS	SATA/SAS DVD±RW	Premium	TPM iKVM	No	No	No	2
3071-D7U	1xE5-2420	1600MHz RDIMM	6x8GB	No	700+Battery	3x300GB 2.5" SAS	8xHS	SATA/SAS DVD±RW	Premium	TPM iKVM	No	No	No	2

Limited warranty	3-year parts and labor; more services information see S-RAL sheet
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)
Implementation	Two LGA1356 sockets
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM 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	Eight or sixteen 2.5" 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)	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
Riser card	(See Right) Riser card 1 for slot 1-2, riser card 2 for slot 3-5
Front ports	One analog VGA DB-15 connector, two USB 2.0
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	Four fans, hot-swap

2U Rack top




Front



Bay 10-17 are available on sixteen disk bays models only

Rear



Slot 4, 5 are available on dual processors models only

Mechanical

- 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

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 model:
 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 2.0 x8 (x4 elec)
 Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec)
 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

- 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

For more accessories, see O-RAL sheet

ThinkServer RD430 with 2.5" Disk Bay (3071) - October 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	Sys mgmt	Cable mgmt	Preload OS	PSU qty
3071-K4U	1xE5-2450	1600MHz RDIMM	1x8GB	No	300	No	8xHS	SATA/SAS	DVD±RW	Premium TPM	iKVM	No	No	1

Limited warranty	3-year parts and labor; more services information see S-RD sheet	
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) Two LGA1356 sockets	
Implementation		
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM 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	Eight or sixteen 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, 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	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	

2U Rack top

Front

Bay 10-17 are available on sixteen disk bays models only

Rear

Slot 4, 5 are available on dual processors models only

Mechanical

- 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

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 model:
 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 2.0 x8 (x4 elec)
 Slot 3: Low Profile, PCI Express 3.0 x8 (x4 elec)
 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

- 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

For more accessories, see O-RAL sheet