







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

Type-	Memory Memory Pre-conf Disk Disk Di	isk SATA Intelligent System Cable Preload PSU
model Processor(s)	(MHz/type) DIMMs RAID controller Disk(s) bays ty	ype optical Diagnostics TPM mgmt mgmt OS qty
		A/SAS DVD±RW No TPM IPMI No No 1 A/SAS DVD±RW No TPM IPMI No No 1
		A/SAS DVD±RW No TPM IPMI No No 1
	1333MHz RDIMM 1x8GB No 500 4x1TB 3.5" SATA 4xHS SATA	
		A/SAS DVD±RW No TPM IPMI No No 2 A/SAS DVD±RW No TPM iKVM No No 1
		A/SAS DVD±RW No TPM IPMI No No 2
		A/SAS DVD±RW No TPM iKVM No No 1
Limited warranty	3-year parts and labor; more services information see S-RAL sheet	1U 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),	Riser Po
	3-channel DDR3 memory controller (up to 1066MHz)	Power supply Power supply Power supply Riser card 1
	Intel Xeon E5-2407 processor (4C/4T, 2.2GHz, 10MB, 6.4 GT/s QPI x1), 3-channel DDR3 memory controller (up to 1066MHz)	wer sup
	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),	D Societies CPU1 Societies CPU2 CPU2
mplementation	3-channel DDR3 memory controller (up to 1600MHz) Two LGA1356 sockets	
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor,	fan fan fan fan fan fan
	240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM,	
	12x4GB)	disks optical
Additional memory disclaimers	 Actual memory operating speed depends on processor memory controller speed, installed memory speed, and quantity of memory DIMMs 	Front
	Over six DIMMs requires dual processors Mixing of UDIMM, RDIMM, or LV RDIMM is not supported	⊚∘ □□ ···· optical
Graphics	Onboard Aspeed AST2300 graphics/management processor,	disk disk disk
згартноз	one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz	Rear
Disk bays	Four 3.5" hot-swap SATA/SAS disk bays (see right)	PSU
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 RAİD 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).	
	RAID 700: ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s,	
	RAID 700: ThinkServer RAİD 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s, RAID 0, 1, 5, 6, 10 support	
RAID Support	RAID 700: ThinkServer RAID 700 adapter (LSI SAS 9260-8i), PCI Express bus, SATA 6.0Gb/s, SAS 6.0Gb/s,	
<u>''</u>	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 Intelligent Battery Backup Unit (iBBU08) for RAID 700 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm	
Disk(s)	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 Intelligent Battery Backup Unit (iBBU08) for RAID 700 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm	
Disk(s) Tape drive Optical	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: Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim	• 1U rack
Disk(s) Tape drive Optical Diskette	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: Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port)	1U rack19"W x 28.9"D x 1.72"H (with rack handles)
Disk(s) Tape drive Optical Diskette Chipset	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: Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset	• 1U rack
Disk(s) Fape drive Optical Diskette Chipset Ethernet	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: Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management	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)
Disk(s) Fape drive Optical Diskette Chipset Ethernet Riser card	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 Intelligent Battery Backup Unit (iBBU08) for RAID 700 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset Two Gigabit Ethernet port 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	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
Disk(s) Tape drive Optical Diskette Chipset Ethernet Riser card Front ports	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: Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset 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 Two USB 2.0	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
Tape drive Optical Diskette Chipset Ethernet Riser card Front ports Rear ports	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 Intelligent Battery Backup Unit (iBBU08) for RAID 700 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset 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 Two USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector	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
Disk(s) Fape drive Optical Diskette Chipset Ethernet Riser card Front ports Rear ports Intelligent Diagnostics	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 Intelligent Battery Backup Unit (iBBU08) for RAID 700 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset 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 Two USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector	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
Tape drive Optical Diskette Chipset Ethernet Riser card Front ports Rear ports Intelligent Diagnostics Module (IDM)	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 Intelligent Battery Backup Unit (iBBU08) for RAID 700 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset 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 Two USB 2.0 Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector Supports IDM on selected models; Basic: IDM LED lights indicate failing component category Onboard Aspeed AST2300 graphics/management processor,	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 for single processor model, x8 elec for dual processors model
Tape drive Optical Diskette Chipset Ethernet Riser card Front ports Rear ports Intelligent Diagnostics Module (IDM)	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 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset 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 Two USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector 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);	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 for single processor model, x8 elec for dual processors model Security
Tape drive Optical Diskette Chipset Ethernet Riser card Front ports Rear ports Intelligent Diagnostics Module (IDM)	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 Intelligent Battery Backup Unit (iBBU08) for RAID 700 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset 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 Two USB 2.0 Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector Supports IDM on selected models; Basic: IDM LED lights indicate failing component category Onboard Aspeed AST2300 graphics/management processor,	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 for single processor model, x8 elec for dual processors model Security • Security chip (selected models, see information on left)
Disk(s) Tape drive Optical Diskette Chipset Ethernet Riser card Front ports Rear ports Intelligent Diagnostics Module (IDM) Systems mgmt	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 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset 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 Two USB 2.0 Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector 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 Module Premium for iKVM functions No onboard TPM chip;	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 for single processor model, x8 elec for dual processors model Security • Security chip (selected models, see information on left) Administrator password User password
Disk(s) Tape drive Optical Diskette Chipset Ethernet Riser card Front ports Rear ports Intelligent Diagnostics Module (IDM) Systems mgmt Security chip	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 Intelligent Battery Backup Unit (iBBU08) for RAID 700 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset 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 Two USB 2.0 Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector 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 Module Premium for iKVM functions No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant	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 for single processor model, x8 elec for dual processors model Security Security chip (selected models, see information on left) Administrator password User password Boot sequence control
Disk(s) Fape drive Dptical Diskette Chipset Ethernet Riser card Front ports Rear ports Intelligent Diagnostics Module (IDM) Systems mgmt Prerequisites	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 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset 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 Two USB 2.0 Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector 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 Module Premium for iKVM functions No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant SATA/SAS disk, OS	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 for single processor model, x8 elec for dual processors model Security Security Security chip (selected models, see information on left) Administrator password User password
Disk(s) Tape drive Optical Diskette Chipset Ethernet Riser card Front ports Rear ports Intelligent Diagnostics Module (IDM) Systems mgmt Prerequisites Keyboard/mouse	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 Intelligent Battery Backup Unit (iBBU08) for RAID 700 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset 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 Two USB 2.0 Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector 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 No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant SATA/SAS disk, OS None (use USB port) One or two 550 watts standard, two maximum, rear access, hot-swap,	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 for single processor model, x8 elec for dual processors model Security Security chip (selected models, see information on left) Administrator password User password Boot sequence control Boot without keyboard, mouse, diskette
Tape drive Optical Diskette Chipset Ethernet Riser card Front ports Rear ports Intelligent Diagnostics Module (IDM) Systems mgmt Security chip Prerequisites Keyboard/mouse	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 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset 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 Two USB 2.0 Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector 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 Module Premium for iKVM functions No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant SATA/SAS disk, OS	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 for single processor model, x8 elec for dual processors model 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
Disk(s) Tape drive Optical Diskette Chipset Ethernet Riser card Front ports Rear ports Intelligent Diagnostics Module (IDM) Systems mgmt Security chip Prerequisites Keyboard/mouse Power supply Rack kit	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 Intelligent Battery Backup Unit (iBBU08) for RAID 700 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset 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 Two USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector 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 Module Premium for iKVM functions No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant SATA/SAS disk, OS None (use USB port) One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies	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 for single processor model, x8 elec for dual processors model 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
Disk(s) Tape drive Optical Diskette Chipset Ethernet Riser card Front ports Rear ports Intelligent Diagnostics Module (IDM) Systems mgmt Security chip Prerequisites Keyboard/mouse Power supply Rack kit Cable management	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 Intelligent Battery Backup Unit (iBBU08) for RAID 700 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset 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 Two USB 2.0 Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector 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 No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant SATA/SAS disk, OS None (use USB port) One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies Includes rack kit Optional cable management arm on selected models	10 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 for single processor model, x8 elec for dual processors model 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
Disk(s) Tape drive Optical Diskette Chipset Ethernet Riser card Front ports Rear ports Intelligent Diagnostics Module (IDM) Systems mgmt Security chip Prerequisites Keyboard/mouse Power supply Rack kit Cable management	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 Intelligent Battery Backup Unit (iBBU08) for RAID 700 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset 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 Two USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector 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 Module Premium for iKVM functions No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant SATA/SAS disk, OS None (use USB port) One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies	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 for single processor model, x8 elec for dual processors model Security 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
RAID Support Disk(s) Tape drive Optical Diskette Chipset Ethernet Riser card Front ports Rear ports Intelligent Diagnostics Module (IDM) Systems mgmt Security chip Prerequisites Keyboard/mouse Power supply Rack kit Cable management Cooling	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 Intelligent Battery Backup Unit (iBBU08) for RAID 700 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset 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 Two USB 2.0 Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector 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 No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant SATA/SAS disk, OS None (use USB port) One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies Includes rack kit Optional cable management arm on selected models	10 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 for single processor model, x8 elec for dual processors model 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
Disk(s) Tape drive Optical Diskette Chipset Ethernet Riser card Front ports Rear ports Intelligent Diagnostics Module (IDM) Systems mgmt Prerequisites Keyboard/mouse Power supply Rack kit Cable management	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 Intelligent Battery Backup Unit (iBBU08) for RAID 700 Up to RAID 0, 1, 5, 6, 10 via ThinkServer RAID 700 adapter 3.5" SATA: SATA 6.0Gb/s, 7200 rpm 3.5" SAS: SAS 6.0Gb/s, 15000 rpm None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset 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 Two USB 2.0 Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector 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 No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant SATA/SAS disk, OS None (use USB port) One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies Includes rack kit Optional cable management arm on selected models	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 for single processor model, x8 elec for dual processors model Security 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

ThinkServer RD330 with 3.5" Disk Bay (4304) - TopSeller (June 2013)

Product Specifications Reference (PSREF)

Type-		Memory	Memory	Pre-conf	Disk		Disk	Disk	SATA	Intelligent		System	Cable	Preload	PSU
model	Processor(s)	(MHz/type)	DIMMs	RAID	controller	Disk(s)	bays	type	optical	Diagnostics	TPM	mgmt	mgmt	os	qty
4304-F5	U 1xE5-2407	1600MHz RDIMN	/I 1x8GB	No	300	2x1TB 3.5" SATA	4xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1

		_
Limited warranty	3-year parts and labor; more services information see S-RAL sheet	1U 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)	Power supply Power supply Riser card 2
Implementation	Two LGA1356 sockets	wer sul
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)	pply
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 	Sodemory CPU1 Sodemory CPU2
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz	disks optical
Disk bays Disk controller	Four 3.5" hot-swap SATA/SAS disk bays (see right) 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 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 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	Front Optical Oisk disk disk Rear PSU PSU PSU PSU PSU PSU PSU PSU
RAID Support	Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700 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 Optical Diskette	None DVD±RW or DVD ROM, slim 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, riser card 2 for slot 2 Two USB 2.0	Mechanical
Front ports Rear ports	Four USB 2.0, one serial (9-pin), two ethernet (RJ-45),	• 1U rack
Intelligent Diagnostics Module (IDM)	one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector Supports IDM on selected models; Basic: IDM LED lights indicate failing component category	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
Systems mgmt	Onboard Aspeed AST2300 graphics/management processor,	Disk Bays
	IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions	Bay 1 5.25", 0.5" high, external, for optical Bay 2-5 3.5", 1" high, external, for disk
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant	Expansion Slots Slot 1: half-length, full-height, PCI Express 3.0 x16
Prerequisites Keyboard/mouse	SATA/SAS disk, OS None (use USB port)	Slot 2: Low Profile, PCI Express 3.0 x8* * x4 elec for single processor model, x8 elec for dual processors model
Power supply	One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies	Security • Security chip (selected models, see information on left)
Rack kit Cable management Cooling	Includes rack kit Optional cable management arm on selected models Six fans, non-hot swap	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
	ant warranty information	For more accessories, see O-RAL sheet

ThinkServer RD330 with 3.5" Disk Bay (4305)

Type-		Memory	Memory	Pre-conf	Disk		Disk	Disk	SATA	Intelligent		System	Cable	Preload	PSU
model	Processor(s)	(MHz/type)	DIMMs	RAID	controller	Disk(s)	bays	type	optical	Diagnostics	TPM	mgmt	mgmt	os	qty
4305-B1U	1xE5-2407	1333MHz RDIMN	/I 1x4GB	No	300	No	4xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1
4305-B2U	1xE5-2403	1333MHz RDIMM	/I 1x8GB	No	300	No	4xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1
4305-B3U	1xE5-2420	1333MHz RDIMM	/I 1x8GB	No	300	No	4xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1
4305-B4U	1xE5-2450	1333MHz RDIMM	/I 1x8GB	No	500+Upgrade	No	4xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	1
4305-B5U	1xE5-2450	1333MHz RDIMM	/I 1x16GB	No	500+Upgrade	No	4xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor; more warranty information see S-RAL sheet	1U 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)	Power supply Power supply Power supply Riser card 2 Riser card 2 Riser card 1 Riser card 1
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)	fan fan fan fan fan fan fan disks optical
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 	Front optical
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz	Rear
Disk bays Disk controller	Four 3.5" hot-swap SATA/SAS disk bays (see right) RAID 300: Onboard ThinkServer RAID 300 SATA/SAS controller, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID 0, 1 support Upgrade for 300: Additional upgrade key for RAID 300, add RAID 5 support 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 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	PSU PSU 2-PClex8 1-PClex16
RAID Support	Battery for 700: Intelligent Battery Backup Unit (iBBU08) for RAID 700 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 Optical Diskette	None DVD±RW or DVD ROM, slim None (use USB port)	Mechanical • 1U rack • 19"W x 28.9"D x 1.72"H (with rack handles)
Chipset	Intel C606 Chipset	• 482.4mm W x 734mm D x 43.6mm H (with rack handles) • 17kg (37.5 lb) when fully configured
Ethernet Riser card Front ports Rear ports	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 Two USB 2.0 Four USB 2.0, one serial (9-pin), two ethernet (RJ-45),	Disk Bays Bay 1 5.25", 0.5" high, external, for optical Bay 2-5 3.5", 1" high, external, for disk
Intelligent Diagnostics	one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector Supports IDM on selected model;	Expansion Slots Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: Low Profile, PCI Express 3.0 x8*
Module (IDM) Systems mgmt	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	* x4 elec for single processor model, x8 elec for dual processors model Security • Security chip (selected models, see information on left)
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant	Administrator password User password Boot sequence control
Prerequisites Keyboard/mouse Power supply	SATA/SAS disk, OS None (use USB port) One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies	Boot without keyboard, mouse, diskette Serial port I/O control USB port disablement (all)
Rack kit Cable management	Includes rack kit Cable: contains cable management arm	Software Management Tools ThinkServer EasyStartup ThinkServer EasyManage
Cooling	Six fans, non-hot swap	Energy Management Technology
		Lenovo® SmartGrid Manager
		ENERGY STAR [®] Server 1.1-compliant RoHS-compliant
	ant warranty information	For more accessories, see O-RAL sheet

Type-		Memory	Memory I	Pre-conf	Disk		Disk	Disk	SATA	Intelligent		System	Cable	Preload	PSU
model	Processor(s)	(MHz/type)	DIMMs	RAID	controller	Disk(s)	bays	type	optical	Diagnostics	TPM	mgmt	mgmt	os	qty
4305-F2U	1xE5-2407	1600MHz RDIMM	1x4GB	No	300		4xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1
4305-F3U	1xE5-2407	1600MHz RDIMM	4x8GB	No	700+Battery	3x500GB 3.5" SATA	4xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	2
4305-F4U	1xE5-2420	1600MHz RDIMM	6x8GB	No	700+Battery	3x300GB 3.5" SAS	4xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor; more services information see S-RAL sheet	1U Rack top
Processor Implementation	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) Two LGA1356 sockets	Power supply Power supply Riser card 2
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) • Actual memory operating speed depends on processor memory	Societies CPU1 CPU2
Additional memory disclaimers	Actual memory operating speed aepertus 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	fan fan fan fan fan fan fan fan fan fan
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz	Front
Disk bays Disk controller	Four 3.5" hot-swap SATA/SAS disk bays (see right) 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),	e optical disk disk disk disk Rear 2-PCle x8 1-PCle x16
	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 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	PSU PSU DO DO DO
	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 Optical Diskette	None DVD±RW or DVD ROM, slim None (use USB port)	
Chipset	Intel C606 Chipset	
Ethernet Riser card Front ports Rear ports	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 Two USB 2.0 Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector	 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
Intelligent Diagnostics	Supports IDM on selected models;	Disk Bays
Module (IDM) Systems mgmt	Basic: IDM LED lights indicate failing component category Onboard Aspeed AST2300 graphics/management processor,	Bay 1 5.25", 0.5" high, external, for optical Bay 2-5 3.5", 1" high, external, for disk
3	IPMI 2.0-compliant baseboard management controller (BMC); iKVM: add-on ThinkServer Management Module Premium for iKVM functions	Expansion Slots Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: Low Profile, PCI Express 3.0 x8*
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant	* x4 elec for single processor model, x8 elec for dual processors model Security
Prerequisites Keyboard/mouse Power supply	SATA/SAS disk, OS None (use USB port) One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies	Security chip (selected models, see information on left) Administrator password User password Boot sequence control
Rack kit Cable management Cooling	Includes rack kit Optional cable management arm on selected models Six fans, non-hot swap	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
	ant warranty information	For more accessories, see O-RAL sheet

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

Additional memory disclaimers with the control of	ThinkServer RD	330 with 2.5" Disk Bay (3073) - TopSeller	Product Specifications Reference (PSREF)
Processor Up to two Intel* Yearn Es-24403 processor (AC4T, 1.8GHz, 10MB, 8.4 GT/s OPI x1), Scharmer DDF6 memory controller (up to 1066MHz) Scharmer DDF8 memory controller (up to 1066MHz) Scharmer DDF8 memory controller (up to 1066MHz) Scharmer DDF8 memory controller (up to 1066MHz) Scharmer DDF8 memory controller (up to 1066MHz) Scharmer DDF8 memory controller (up to 1066MHz) Scharmer DDF8 memory controller (up to 1066MHz) Intel Xeon Es-2420 processor (EC/12.1, 16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2420 processor (EC/12.1, 16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1), Intel Xeon Es-2430 processor (EC/16.1, 2.16Hz, 20MB, 8.0 GT/s QPI x1),	model Processor(s) 3073-C1U 1xE5-2403 3073-C2U 1xE5-2407 3073-C3U 1xE5-2420 3073-C4U 1xE5-2420 3073-C5U 2xE5-2420 3073-C6U 2xE5-2420 3073-C7U 1xE5-2420	(MHz/type) DIMMs RAID controller Disk(s) bays ty 1333MHz RDIMM 1x4GB No 300 6xHS SATA 1333MHz RDIMM 1x4GB No 300 6xHS SATA 1333MHz RDIMM 1x8GB No 500 6xHS SATA 1333MHz RDIMM 1x8GB No 500+Upgrade 6xHS SATA 1333MHz RDIMM 2x8GB No 500+Upgrade 6xHS SATA 1333MHz RDIMM 2x8GB No 500+Upgrade 2x200G SSD 6xHS SATA 1333MHz RDIMM 1x16GB No 500 6xHS SATA	Vpe optical Diagnostics TPM mgmt mgmt OS qty A/SAS DVD±RW No TPM IPMI No No 1 A/SAS DVD±RW No TPM IPMI No No 1 A/SAS DVD±RW No TPM IPMI No No 2 A/SAS DVD±RW No TPM ikVM No No 1 A/SAS DVD±RW No TPM ikVM No No 2 A/SAS DVD±RW No TPM IPMI No No 2 A/SAS DVD±RW No TPM IPMI No No 2
Intel Xeon ES-2403 processor (ACAT, 1.86/Rz, 10MB, S.4 GTR OPI x1), Schamed DDF3 memory controller (up to 1060MHz) intel Xeon ES-2402 processor (ACC) (T.1.156/Rz, 15MB, 7.2 GTs OPI x1), Turb Seed 2.2 (up to 2.46/Hz),	Limited warranty	3-year parts and labor; more services information see S-RAL sheet	1U Rack top
Implementation Memory Memory JDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor, 240-pin, 12 DIMM sockels (6 sockels per processor); 1920 mm. (RDIMM) (RDIMM) (AT STGB) or 46 Bm ax (UDIMM). Additional memory disclaimers Additional memory of disclaimers Additional memory of cereality agreed depends on processor memory controller generality agreed depends on processor memory controller generality agreed depends on processor memory controller generality of memory pends and quantity of memory DIMMs • Over ax DIMMs requires dual processors • Name of the Processor of the P	Processor	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),	upply upply
Additional memory of the control of	Implementation	Two LGA1356 sockets	
disclaimers controller speed, installed memory speed, and quantity of memory DIMMs Noting of UDMMh (DIMMs or LY HOMMs is not supported All Discontroller Size 25 Not-swap SATA/SAS disk bays (see right) Part RAID 500 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1220x1200 € 60Hz. SATA/SAS disk bays (see right) SATA/SAS disk bays (see right) All Discontroller All Discontroller SATA/SAS disk bays (see right) All Discontroller	Memory	240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB)	
On-board Aspead ASI 2300 graphics/management processor, one VGA Del 15 on Intert, one VGA Del 15 one VGGA Del 15 one VGA Del 15 one VGGA Del 15	disclaimers	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 disk disk
Disk controller ### States	Graphics	one VGA DB-15 on front, one VGA DB-15 on rear;	Rear
Tape drive Optical DVD±RW or DVD ROM, slim Diskette None (use USB port) 10 rack	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 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 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 Intelligent Battery Backup Unit (iBBU08) for RAID 700 Up to RAID 0, 1, 5, 6, 10, 50 via ThinkServer RAID 700 adapter	
Diskette DVD±RW or DVD ROM, slim None (use USB port)	Torrendo		Mechanical
Eithernet Two Gigabit Ethernet ports by Intel 350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2 Front ports One analog VGA DB-15 connector, two 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 one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector (Intelligent Diagnostics one RJ-45 (dedicate/share mgmt), one All VIII (Intelligent Diagnostics one R	Optical Diskette	DVD±RW or DVD ROM, slim None (use USB port)	1U rack 19"W x 28.9"D x 1.72"H (with rack handles)
Riser card (See Right) Riser card 1 for lost 1, riser card 2 for slot 2 Front ports (See Right) Riser card 1 for slot 1, riser card 2 for slot 2 One analog VGA DB-15 connector, two USB 2.0 Rear ports (See Right) Riser card 1 for slot 1, riser card 2 for slot 2 One analog VGA DB-15 connector, two USB 2.0 Intelligent Diagnostics on RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (BMC) (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (BMC) (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (BMC) (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (BMC) (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (BMC) (dedicate/share mgmt), one analog VGA DB-15 connector Intelligent Diagnostics (BMC) (dedicate/share manalog VGA DB-15 connector Intelligent Diagnostics (BMC) (dedicate/share manalog VGA DB-15 connector Intelligent Diagnostics (BMC) (dedicate/share manal		•	
Module (IDM) 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 No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant Prerequisites Keyboard/mouse Power supply Rack kit Cable management Cooling Module (IDM) Basic: IDM LED lights indicate failing component category Onboard Aspeed AST2300 graphics/management processor, management for iKVM functions No nobard TPM chip; Security chip (selected models, see information on left) Administrator 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 For more accessories, see O-RAL sheet	Riser card Front ports	one Gigabit Ethernet port by Intel 82574L, dedicate/share management (See Right) Riser card 1 for slot 1, riser card 2 for slot 2 One analog VGA DB-15 connector, two USB 2.0 Four USB 2.0, one serial (9-pin), two ethernet (RJ-45),	Bay 1 5.25", 0.5" high, external, for optical Bay 2-7 2.5", 0.6" high, external, for disk
Systems mgmt Onboard Aspeed AST2300 graphics/management processor, IPMI 2.0-compliant baseboard management controller (BMC); ikVW: 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 Keyboard/mouse 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 Cable management Cooling Cooling Cooling Control of the first part of the first part of the first part of the first part of the first part of the first part of the first part of the first part of the first part of the first password and processors model of the first password and processors model of the first password and processors model of the first password and processors model of the first password and processor model, x8 elec for dual processors model of the first password and processor model, x8 elec for dual processors model of the first password and password and processor model, x8 elec for dual processor model, x8 elec for dual processor model of the first password and p	Intelligent Diagnostics Module (IDM)		
Security chip No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant Prerequisites Keyboard/mouse Power supply Rack kit Cable management Cooling Cooling No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant SATA/SAS disk, OS None (use USB port) One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies Includes rack kit Optional cable management arm on selected models Six fans, non-hot swap Six fans, non-hot swap Energy Management Technology Lenovo® SmartGrid Manager ENERGY STAR® Server 1.1-compliant RoHS-compliant For more accessories, see O-RAL sheet	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	* x4 elec for single processor model, x8 elec for dual processors model Security * Security chip (selected models, see information on left)
Keyboard/mouse Power supply None (use USB port) One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies Rack kit Cable management Cooling None (use USB port) One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies Includes rack kit Optional cable management arm on selected models Six fans, non-hot swap Energy Management Technology • Lenovo® SmartGrid Manager ENERGY STAR® Server 1.1-compliant RoHS-compliant For more accessories, see O-RAL sheet		No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant	User password Boot sequence control
Rack kit Includes rack kit Cable management Cooling Optional cable management arm on selected models Six fans, non-hot swap Energy Management Technology Lenovo® SmartGrid Manager ENERGY STAR® Server 1.1-compliant RoHS-compliant For more accessories, see O-RAL sheet	•	None (use USB port) One or two 550 watts standard, two maximum, rear access, hot-swap,	Serial port I/O control USB port disablement (all)
Cable management Cooling Optional cable management arm on selected models Six fans, non-hot swap • ThinkServer EasýManage Energy Management Technology • Lenovo® SmartGrid Manager ENERGY STAR® Server 1.1-compliant RoHS-compliant For more accessories, see O-RAL sheet	Rack kit		- I
ENERGY STAR Server 1.1-compliant RoHS-compliant For more accessories, see O-RAL sheet	Cable management	Optional cable management arm on selected models	ThinkServer EasyManage Energy Management Technology
			ENERGY STAR Server 1.1-compliant
See footnotes for important warranty information © Lenovo	October 1		For more accessories, see O-RAL sheet

ThinkServer RD330 with 2.5" Disk Bay (3074)

Type-		Memory	Memory	Pre-conf	Disk		Disk	Disk	SATA	Intelligent		System	Cable	Preload	PSU
model	Processor(s)	(MHz/type)	DIMMs	RAID	controller	Disk(s)	bays	type	optical	Diagnostics	TPM	mgmt	mgmt	os	qty
3074-D1U	1xE5-2407	1333MHz RDIMN	11x4GB	No	300	None	6xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1
3074-D2U	1xE5-2403	1333MHz RDIMM	11x8GB	No	300	None	6xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1
3074-D3U	1xE5-2420	1333MHz RDIMM	11x8GB	No	300	None	6xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	2
3074-D4U	1xE5-2450	1333MHz RDIMM	11x8GB	No	500+Upgrade	None	6xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	1
3074-D5U	1xE5-2450	1333MHz RDIMM	11x16GB	No	500+Upgrade	None	6xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor; more services information see S-RAL sheet	1U 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) Two LGA1356 sockets	Power supply Power supply Riser card 2
Memory	UDIMM, RDIMM or LV RDIMM, DDR3, ECC, 3-channel per processor,	fan fan fan fan fan
Additional memory disclaimers	240-pin, 12 DIMM sockets (6 sockets per processor); 192GB max (RDIMM/LV RDIMM, 12x16GB) or 48GB max (UDIMM, 12x4GB) • 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	optical disks Front
Graphics	Onboard Aspeed AST2300 graphics/management processor, one VGA DB-15 on front, one VGA DB-15 on rear; Maximum resolution: 1920x1200@60Hz	optical disk disk disk Rear
Disk bays Disk controller	Six 2.5" hot-swap SATA/SAS disk bays (see right) 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: RAID 500: 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 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	PSU PSU 2-PCle x8 II-PCle x16
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 Optical Diskette Chipset	None DVD±RW or DVD ROM, slim None (use USB port) Intel C606 Chipset	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
Ethernet	Two Gigabit Ethernet ports by Intel i350, one Gigabit Ethernet port by Intel 82574L, dedicate/share management	Disk Bays
Riser card Front ports Rear ports	(See Right) Riser card 1 for slot 1, riser card 2 for slot 2 One analog VGA DB-15 connector, two USB 2.0 Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector	Bay 1 5.25", 0.5" high, external, for optical Bay 2-7 2.5", 0.6" high, external, for disk Expansion Slots
Intelligent Diagnostics Module (IDM)	Basic: IDM LED lights indicate failing component category	Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: Low Profile, PCI Express 3.0 x8*
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	* x4 elec for single processor model, x8 elec for dual processors model Security • Security chip (selected models, see information on left)
Security chip	No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant	Administrator password User password Boot sequence control
Prerequisites Keyboard/mouse Power supply	SATA/SAS disk, OS None (use USB port) One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies	Boot without keyboard, mouse, diskette Serial port I/O control USB port disablement (all)
Rack kit Cable management Cooling	Includes rack kit Optional cable management arm on selected models Six fans, non-hot swap	Software Management Tools ThinkServer EasyStartup ThinkServer EasyManage
ŭ	•	Energy Management Technology • Lenovo® SmartGrid Manager
		ENERGY STAR Server 1.1-compliant RoHS-compliant
	ant warranty information	For more accessories, see O-RAL sheet

Type-		Memory	Memory	Pre-conf	Disk		Disk	Disk	SATA	Intelligent		System	Cable	Preload	PSU
model	Processor(s)	(MHz/type)	DIMMs	RAID	controller	Disk(s)	bays	type	optical	Diagnostics	TPM	mgmt	mgmt	os	qty
3074-D6U	1xE5-2407	1600MHz RDIMN	11x4GB	No	300		6xHS	SATA/SAS	DVD±RW	No	TPM	IPMI	No	No	1
3074-D7U	1xE5-2407	1600MHz RDIMN	14x8GB	No	700+Battery	3x300GB 2.5" SA	S 6xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	2
3074-D8U	1xE5-2420	1600MHz RDIMM	16x8GB	No	700+Battery	3x300GB 2.5" SA	S 6xHS	SATA/SAS	DVD±RW	No	TPM	iKVM	No	No	2

Limited warranty	3-year parts and labor; more services information see S-RAL sheet	1U Rack top
Processor Implementation	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) Two LGA1356 sockets	Power supply Power supply Riser card 2
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)	Scotkeringry CPU1 CPU2
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 	fan fan fan fan fan fan optical disks
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 Disk controller	Six 2.5" hot-swap SATA/SAS disk bays (see right) 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	disk disk disk optical disk disk disk disk disk disk disk disk Rear PSU PSU DD DD DD DD
	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 Disk(s)	Up to RAID 0, 1, 5, 6, 10, 50 via ThinkServer RAID 700 adapter 2.5" SAS: SAS 6.0Gb/s, 10000 rpm SSD: Solid State Drive, 2.5"	
Tape drive Optical Diskette	None DVD±RW or DVD ROM, slim None (use USB port)	
Chipset	Intel C606 Chipset	<u> </u>
Ethernet Riser card Front ports Rear ports	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 One analog VGA DB-15 connector, two USB 2.0 Four USB 2.0, one serial (9-pin), two ethernet (RJ-45), one RJ-45 (dedicate/share mgmt), one analog VGA DB-15 connector	 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
Intelligent Diagnostics Module (IDM)	Supports IDM on selected models; Basic: IDM LED lights indicate failing component category	Disk Bays Bay 1 5.25", 0.5" high, external, for optical
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	Bay 2-7 2.5", 0.6" high, external, for disk Expansion Slots
Security chip	functions No onboard TPM chip; TPM: additional add-on card for TPM function, TCG 1.2-compliant	Slot 1: half-length, full-height, PCI Express 3.0 x16 Slot 2: Low Profile, PCI Express 3.0 x8* * x4 elec for single processor model, x8 elec for dual processors model
Prerequisites Keyboard/mouse Power supply	SATA/SAS disk, OS None (use USB port) One or two 550 watts standard, two maximum, rear access, hot-swap, 80 PLUS® Gold qualified, redundant with two power supplies	Security • Security chip (selected models, see information on left) • Administrator password • User password • Boot sequence control
Rack kit Cable management Cooling	Includes rack kit Optional cable management arm on selected models Six fans, non-hot swap	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 STAP® Sorver 1.1 compliant
		ENERGY STAR Server 1.1-compliant RoHS-compliant
0 - 6 - 1 - 1 - 6 - 1 1	ant warranty information	For more accessories, see O-RAL sheet