

HPE DL580 G10 VS Servers of Huawei, H3C, Lenovo, Dell, Inspur and Sugon

Server Model	HPE ProLiant DL580 Gen10 Server (using 2 floors motherboard design)	Huawei RH5885H V5 Rack Server (4U, with 2 floors motherboard design)	H3C UniServer R6900 G3 Server (using single-floor motherboard design)	Lenovo ThinkSystem SR860 Server	Lenovo ThinkSystem SR950 Server (4U, in a 4U space, the maximum can be upgraded to 8CPU)
Advantages of Dell Servers	<ul style="list-style-type: none"> 1. R940xa supports 8GB cache RAID card 2. R940xa supports up to 8 FPGA 	<ul style="list-style-type: none"> 1. R940xa support 8 gb of cache RAID card; 2. R940xa biggest support four double wide GPU; 3. 8 R940xa biggest FPGA; 4. R940xa biggest support 32 disk; 5. Dell 14 efficient generation of server platform, the automation server management platform, with the server lifecycle management; 6. Dell 14 generation server consistent security features, Root of Trust; 7. NVDIMM support; 	<ul style="list-style-type: none"> 1. R940xa supports 8GB cache RAID card 2. R940xa supports up to 8 FPGA 	<ul style="list-style-type: none"> 1. R940xa supports up to 32 internal hard disks; 2. R940xa supports up to 8GB cache; 3. The maximum CPU of R940xa can support up to 205W; 4. R940xa supports up to 8 FPGA; 5. Efficient and automated server management platform of Dell 14 generation server platform with server life cycle management; 6. Consistent security features of Dell 14-generation servers, Root Trust; 	<ul style="list-style-type: none"> 1. R940xa supports 8GB cache RAID card; 2. R940xa supports up to 4 dual-width GPU; 3. R940xa supports up to 8 FPGA; 4. R940xa supports up to 32 hard disks; 5. Efficient and automated server management platform of Dell 14 generation server platform with server life cycle management; 6. Consistent security features of Dell 14-generation servers, Root Trust;

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Disadvantages of Dell Servers		1. HPE supports 16 x PCIe interpolation at maximum; 2. Max support 48 x 2.5" 3. Max support for 20 x NVMe 2.5"	1. supports up to 8 x NVMe	1. HPE supports 16 x PCIe interpolation at maximum; 2. Max support 48 x 2.5" 3. Max support for 20 x NVMe 2.5"		1. In 4U space, it can be expanded to 8 channels 2. Supports up to 12 NVMe 3. The maximum can be extended to 17 x PCIe
CPU	Model	Intel® Xeon® Scalable processors 8100/6100/5100	Intel® Xeon® Scalable processors 8100/6100/5100	Intel® Xeon® Scalable processors 8100/6100/5100	Intel® Xeon® Scalable processors 8100/6100/5100	Intel® Xeon® Scalable processors 8100/6100/5100 (up to 8 processors)
	CPU model	Platinum 8180M	Platinum 8180M 28C 205W 2.5GHz	Platinum 8180M	Intel Xeon Platinum 8176 28C 165W 2.1GHz	Platinum 8180M 28C 205W 2.5GHz
Chipset		Intel C621	Intel C622	Intel C621	Intel C624	Intel C624
RAM	Model	DDR4 RDIMM,LRDIMM	48 DDR4 DIMM slots, up to 2666MT/s Each CPU supports 12 DDR4 DIMM slots	DDR4 RDIMM,LRDIMM, NVDIMM	48 DDR4 DIMM slots, up to 2666MT/s Each CPU supports 12 DDR4 DIMM slots	96 DDR4 DIMM slots (in the case of 8 cpus), up to 2666MT/s Each CPU supports 12 DDR4 DIMM slots
	Total Capacity	6TB	RDIMMs supports up to 3TB. LRDIMMs supports up to 6TB	6TB	RDIMMs supports up to 1.5TB (4 CPU). LRDIMMs supports up to 3TB (4 CPU). 3DS RDIMMs supports up to 6TB (4 CPU).	RDIMMs supports up to 3TB (8 CPU). LRDIMMs supports up to 6TB (8 CPU). 3DS RDIMMs supports up to 12TB (8 CPU).

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Storage controller	Model	S100i,E208i/e,P408i/e	Optional support for RAID0, 1, 5, 50, 6, 60, etc., support for Cache ulc protection, provide RAID state migration, RAID configuration memory, self-diagnosis, Web remote setup and other functions	On board HW RAID: SATA RAID0/1/10/5; option PCIe 3.0 HBA and RAID card slots	12Gbps RAID Controller: ThinkSystem RAID 530-8i PCIe 12Gb Adapter ThinkSystem RAID 730-8i 1GB Cache PCIe 12Gb Adapter ThinkSystem RAID 930-8i 2GB Flash PCIe 12Gb Adapter ThinkSystem RAID 930-16i 4GB Flash PCIe 12Gb Adapter 12Gbps non-RAID HBA card: ThinkSystem 430-8i SAS/SATA 12Gb HBA ThinkSystem 430-16i SAS/SATA 12Gb HBA NVMe adapter ThinkSystem 1610-4P NVMe Switch Adapter	12Gbps RAID Controller: ThinkSystem RAID 530-8i PCIe 12Gb Adapter ThinkSystem RAID 730-8i 1GB Cache PCIe 12Gb Adapter ThinkSystem RAID 930-8i 2GB Flash PCIe 12Gb Adapter ThinkSystem RAID 930-16i 4GB Flash PCIe 12Gb Adapter 12Gbps non-RAID HBA card: ThinkSystem 430-8i SAS/SATA 12Gb HBA ThinkSystem 430-16i SAS/SATA 12Gb HBA
	Cache size	/0/2GB/4GB	N/A	2GB	None、1GB、2GB、4GB	None、1GB、2GB、4GB

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	maximum					
	Cahce protection type		N/A	FBWC	None(530-8i 、 730-8i) 、 Flash backup (930-8i 、 930-16i)	None(530-8i 、 730-8i) 、 Flash backup (930-8i 、 930-16i)
	Battery or capacitor	Battery	Capacitance	Battery or Capacitance	Capacitance	Capacitance
	Main technical characteristics	12Gb SAS, up to 240 pieces	N/A	N/A	Controller Chips: SAS3408(530-8i)、 SAS3108(730-8i)、 SAS3508(930-8i)、 SAS3516(930-16i)、 SAS3408(430-8i)、 SAS3416(430-16i) RAID Support: 530-8i(0\1\10\5\50)、 730-8i(0\1\10\5\50)、 930-8i(0\1\10\5\50\6\60)、 930-16i(0\1\10\5\50\6\60)	Controller Chips: SAS3408(530-8i)、 SAS3108(730-8i)、 SAS3508(930-8i)、 SAS3516(930-16i)、 SAS3408(430-8i)、 SAS3416(430-16i) RAID Support: 530-8i(0\1\10\5\50)、 730-8i(0\1\10\5\50)、 930-8i(0\1\10\5\50\6\60)、 930-16i(0\1\10\5\50\6\60)
SD card	Number of SD cards	2	2	2	N/A	N/A
	SD card capacity	8GB/32GB	N/A	N/A	N/A	N/A
	SD cards can	RAID 1	N/A	RAID 1	N/A	N/A

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	form RAID levels					
M.2	M.2 quantity	2	2	N/A	1 or 2	1 or 2
	M. 2 single chip capacity	Up to 960GB	N/A	N/A	ThinkSystem M.2 CV1 32GB ThinkSystem M.2 CV3 128GB	ThinkSystem M.2 CV1 32GB ThinkSystem M.2 CV3 128GB
	M.2 RAID levels	RAID 1	N/A	N/A	RAID 1	Raid 1
Network card	Sub-Card (NDC Card Type)	Default 4x1Gb (FlexibleLOM) Optional 2x10Gb/4x10Gb/2x25Gb	Onboard network card: 2 10GE interfaces and 2 GE interfaces	mLOM expandable 4xGE, 2x10GE , 2x10GE optical, mLOM support NCSI, PCI-E 3.0 NIC card option	LOM cards ThinkSystem 1Gb 2-port RJ45 LOM ThinkSystem 1Gb 4-port RJ45 LOM ThinkSystem 10Gb 2-port Base-T LOM ThinkSystem 10Gb 2-port SFP+ LOM ThinkSystem 10Gb 4-port Base-T LOM ThinkSystem 10Gb 4-port SFP+ LOM ML2 adapters Intel I350-T4 ML2 1Gb	LOM cards ThinkSystem 1Gb 2-port RJ45 LOM ThinkSystem 1Gb 4-port RJ45 LOM ThinkSystem 10Gb 2-port Base-T LOM ThinkSystem 10Gb 2-port SFP+ LOM ThinkSystem 10Gb 4-port Base-T LOM ThinkSystem 10Gb 4-port SFP+ LOM ML2 adapters Intel I350-T4 ML2 1Gb

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					4-Port RJ45 Ethernet Adapter Intel X710-DA2 ML2 2x10GbE SFP+ Adapter Broadcom NX-E ML2 10Gb 2-Port Base-T Ethernet Adapter Emulex VFA5.2 ML2 Dual Port 10GbE SFP+ Adapter Emulex VFA5.2 ML2 2x10GbE SFP+ Adapter and FCoE/iSCSI SW Mellanox ConnectX-4 Lx ML2 1x25GbE SFP28 Adapter Mellanox ConnectX-4 Lx ML2 25Gb 2-Port SFP28 Ethernet Adapter Mellanox ConnectX-3 Pro ML2 FDR 2-Port QSFP VPI Adapter	4-Port RJ45 Ethernet Adapter Intel X710-DA2 ML2 2x10GbE SFP+ Adapter Broadcom NX-E ML2 10Gb 2-Port Base-T Ethernet Adapter Emulex VFA5.2 ML2 Dual Port 10GbE SFP+ Adapter Emulex VFA5.2 ML2 2x10GbE SFP+ Adapter and FCoE/iSCSI SW Mellanox ConnectX-4 Lx ML2 1x25GbE SFP28 Adapter Mellanox ConnectX-4 Lx ML2 25Gb 2-Port SFP28 Ethernet Adapter Mellanox ConnectX-3 Pro ML2 FDR 2-Port QSFP VPI Adapter

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	PCIe (occupies a standard slot)	N/A	Maximum 15 PCIe expansion slots: 15 PCIe 3.0 standard CARDS (3x4, 8x8, 4x16) • supports 2 dual-width full-length GPU CARDS (x16)		Supports up to 13 PCIe 3.0 slots Slot 1-2: Riser card slots (choice of x8/x8 or x16) (FHFL) Slot 3: Riser slot to eN/Able slots 1 & 2 in the PCIe Expansion Tray (PCIe 3.0 x16)* Slot 4: PCIe 3.0 x8 (low profile) Slot 5-7: Riser card slots (choices are x8/x8/x8, x8/x8/x8ML2 and x8/x16ML2) Slot 8: PCIe 2.0 x2 / 6 Gb SATA slot reserved to M.2 adapter and drives Slot 9: Reserved for Ethernet LOM phy adapter Slot 10: PCIe 3.0 x8 (low profile) Slot 11: PCIe 3.0 x8 (low profile)	Supports up to 17 PCIe 3.0 slots Slots 1-4 are via Riser Slot 1, one riser card of: Riser with 4x PCIe 3.0 x16 slots, all full-height half-length, all 75W Riser with 2x PCIe 3.0 x16 slots, all full-height half-length, both 75W Riser with 4x PCIe 3.0 x8 slots, full-height half-length, all 75W Slot 5: PCIe 3.0 x16, low profile, 75W Slot 6: PCIe 3.0 x16, low profile, 75W Slot 7: PCIe 3.0 x8, low profile, 75W Slot 8: PCIe 3.0 x16 ML2, low profile (supports NC-SI) Slot 9: PCIe 3.0 x8 LOM adapter slot, low profile (supports NC-SI)

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					<p>Slot 12: PCIe 3.0 x8 (low profile)</p> <p>Slot 13: Riser slot to eN/Able slots 14 & 15 in the PCIe Expansion Tray (PCIe 3.0 x16)*</p> <p>Slot 14-15: Riser card slots (choice of x8/x8 or x16) (FHFL)</p> <p>* Slots 3 and 13 are used as riser slots to eN/Able slots 1, 2, 14 and 15 in the PCIe Expansion Tray. It is also supported to have the PCIe Expansion Tray installed with only one riser installed. Foreexample, it is supported to have a riser card in slot 3 but not in slot 13; slot 13 can then be used as a PCIe x16 slot.</p>	<p>Slots 10-15 are via Riser Slot 2, one riser card of: Riser 5x16+ML2</p> <p>Five PCIe 3.0 x16 slots, all full-height half-length, all 75W</p> <p>One PCIe 3.0 x16 ML2 slot, full-height half-length, 30W (no NC-SI support)</p> <p>Riser 2x16: Two PCIe 3.0 x16 slots, all full-height half-length, both 75W</p> <p>Riser 4x8: Four PCIe 3.0 x8 slots, full-height half-length, all 75W</p> <p>Slot 16-17 on a riser: PCIe 3.0 x8 low profile, 75W</p> <p>PCIe 3.0 x8 low profile, 75W</p>

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GPU	GPU Max Supported Blocks	4	Up to 2 full height full length	2 DW, 4SW	Supports up to 2 GPU If 1 GPU is installed, an 1100W power supply or larger must be installed If 2 GPUs are installed, a 1600W power supply or larger must be installed	Full-length adapter cards such as graphics processing units (GPUs) do not physically fit in the server and are not supported.
	GPU model	P40/P6000	N/A	N/A	NVIDIA Tesla M60 GPU, PCIe (Passive)	
FPGA	FPGA Maximum / Supported Blocks	/	N/A	N/A	N/A	N/A
	FPGA model	/	N/A	N/A	N/A	N/A
Hard drive backplane	Type (including the maximum number of supported hard disks)	48 SFF/20 NVMe	<ul style="list-style-type: none"> Available with 8 front 2.5-inch SAS/SATA drives Available with 24 front 2.5-inch SAS/SATA drives Available with 25 front 2.5-inch SAS/SATA drives Available with 16 front 2.5-inch SAS/SATA drives and 8 front 2.5-inch NVMe SSDS 	Front: 48 x 2.5" ,SATA/SAS/SSD, 20X NVMe SSD	Supports up to 16 2.5-inch SAS/SATA hot plug hard drives There are 2 hard disk backboards to choose from: 8 SAS/SATA hard disk backboards (8 2.5-inch SAS/SATA hard disks)	Up to 24 2.5-inch SAS/SATA hot swap hard drives (distributed on 6 hard drive backboards) There are 2 hard disk backboards to choose from: a.SAS /SATA hard disk back panel (supports 4

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					8 SAS/SATA+AnyBay hard drive backboards a. 8 2.5-inch SAS/SATA hard drives b. 4 2.5-inch SAS/SATA hard drives + 4 2.5-inch U.2 (NVMe) hard drives	SAS/SATA hard disks) b. AnyBay hard disk back board (supports 2 SAS/SATA/NVMe hard disks +2 SAS/SATA hard disks)
	Whether to support hard disk hot swap	Yes	Yes	Yes	Yes	Yes
Hard disk configuration	Model and quantity	48 SFF/20 NVMe	SAS/SATA/NVMe; Max. 25 x 2.5"; Max. 12 x NVMe	SATA/SAS/NvMe 48 x 2.5"; 20 x NVMe;	2.5-inch 12Gbps SAS hard drive: 300GB 15K、600GB 15K、900GB 15K 300GB 10K、600GB 10K、900GB 10K、1.2TB 10K、1.8TB 10K 2.5-inch 12Gbps NL-SAS hard drive: 1TB 7.2K、2TB 7.2K 2.5-inch 6Gbps SATA hard drive: 1TB 7.2K、2TB 7.2K 2.5-inch SSD hard drive:	2.5-inch 12Gbps SAS hard drive: 300GB 15K、600GB 15K、900GB 15K 300GB 10K、600GB 10K、900GB 10K、1.2TB 10K、1.8TB 10K 2.5-inch 12Gbps NL-SAS hard drive: 1TB 7.2K、2TB 7.2K 2.5-inch 6Gbps SATA hard drive: 1TB 7.2K、2TB 7.2K 2.5-inch SSD hard drive:

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					SAS interface: HUSMM32 400GB、HUSMM32 800GB、PM1635a 400GB、PM1635a 800GB、PM1633a 3.84TB、PM1633a 7.84TB SATA interface: PM863a 240GB、PM863a 480GB、Intel S3520 240GB、Intel S3520 480GB、 NVMe PCIe interface: U.2 PX04PMB 800GB、U.2 PX04PMB 1.6TB、U.2 PX04PMB 960GB、U.2 PX04PMB 1.92TB、U.2 PM963 1.92TB、U.2 PM963 3.84TB	SAS interface: HUSMM32 400GB、HUSMM32 800GB、PM1635a 400GB、PM1635a 800GB、PM1633a 3.84TB、PM1633a 7.84TB SATA interface: PM863a 240GB、PM863a 480GB、Intel S3520 240GB、Intel S3520 480GB、 NVMe PCIe interface: U.2 PX04PMB 800GB、U.2 PX04PMB 1.6TB、U.2 PX04PMB 960GB、U.2 PX04PMB 1.92TB、U.2 PM963 1.92TB、U.2 PM963 3.84TB
Chassis	Dimensions (cm)	4U: 17.48 x 44.54 x 75.47cm	4U Height: 175 mm Width: 447 mm Depth: 790 mm	4U: (174.8H x 444W x 807.4D)mm	4U Height: 175 mm (6.9 in) Width: 447 mm (17.6 in) Depth: 766 mm (30.1 in)	4U Height: 173 mm (6.8 in) Width: 447 mm (17.6 in) Depth: 800 mm (31.5 in)
	Ventilation method	Wind after wind	Wind after wind	Wind after wind	Wind after wind	Wind after wind

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Temperature	Equipment operating temperature range (°C)	5 °C-45 °C	5 °C-45 °C	N/A	ASHRAE Class A4: 5 °C - 45 °C (41 °F- 113 °F); for altitudes above 900m (2,953 ft), decrease the maximum ambient temperature by 1 °C for every 125-m (410-ft) increase in altitude ASHRAE Class A3: 5 °C - 40 °C (41 °F- 104 °F); for altitudes above 900 m (2,953 ft), decrease the maximum ambient temperature by 1 °C for every 175-m (574-ft) increase in altitude ASHRAE Class A2: 10 °C - 35 °C (50 °F - 95 °F); for altitudes above 900 m (2,953 ft), decrease the maximum ambient temperature by 1 °C for every 300-m (984-ft) increase in altitude	ASHRAE Class A4: 5 °C - 45 °C (41 °F- 113 °F); for altitudes above 900 m (2,953 ft), decrease the maximum ambient temperature by 1 °C for every 125-m (410-ft) increase in altitude ASHRAE Class A3: 5 °C - 40 °C (41 °F- 104 °F); for altitudes above 900 m (2,953 ft), decrease the maximum ambient temperature by 1 °C for every 175-m (574-ft) increase in altitude ASHRAE Class A2: 10 °C - 35 °C (50 °F - 95 °F); for altitudes above 900 m (2,953 ft), decrease the maximum ambient temperature by 1 °C for every 300-m (984-ft) increase in altitude

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	Equipment working humidity range	8% - 90%	N/A	5℃～45℃	ASHRAE Class A4: 8% - 90% (non-condensing); maximum dew point: 24 ℃ (75 ℉) ASHRAE Class A3: 8% - 85% (non-condensing); maximum dew point: 24 ℃ (75 ℉) ASHRAE Class A2: 8% - 80% (non-condensing); maximum dew point: 21 ℃ (70 ℉)	ASHRAE Class A4: 8% - 90% (non-condensing); maximum dew point: 24 ℃ (75 ℉) ASHRAE Class A3: 8% - 85% (non-condensing); maximum dew point: 24 ℃ (75 ℉) ASHRAE Class A2: 8% - 80% (non-condensing); maximum dew point: 21 ℃ (70 ℉)
Hot-swappable power supplies	Nominal power of single power supply (W)	800W/1600W	- AC ~ 127V AC or 200V AC ~ 240V AC or 190V DC ~ 300V DC) -900W AC power module (power supply: 100V AC ~ 240V AC or 190V DC ~ 290V DC) -1200w dc power module (power supply: -38.4V DC~-72V DC) (Note 1)	Optional up to 4 800W / 1200W / 1600W efficient redundant power supplies, support AC or 240VDC / 336VDC high voltage DC	SR850/SR860 2S Power Paddle (power interposer) 750W (230V/115V) Platinum Hot-Swap Power Supply 1100W (230V/115V) Platinum Hot-Swap Power Supply 1600W (230V) Platinum Hot-Swap Power Supply 2000W (230V) Platinum	1100W Platinum (230V/115V) Power Supply 1600W Platinum (230V) Power Supply

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					Hot-Swap Power Supply	
	Quantity	4	4	4	2	4
	Dual power mode	The main case/LB	Redundancy	The main case/LB	1 + 1 redundancy	Power supplies are N+N redundancy, meaning that the server can continue operation even with two failed power supplies, or if the utility service that feeds two power supplies goes offline.
	Input method	100 - 127 VAC, 200 - 240 VAC, 240VDC (800W Platinum PS only) 200 - 240 VAC, 240 VDC(1600W PS only)	4 redundant hot swap power supply can be configured, which supports 2+2 redundancy. The optional power module is as follows: <ul style="list-style-type: none"> 1500W AC power module (power supply: 100V AC ~ 127V AC or 200V AC ~ 240V AC or 190V DC ~ 300V DC) 900W AC power module (power supply: 100V AC ~ 240V AC or 190V DC ~ 290V DC) 	AC/HVDC	110V AC(750W、1100W) 220V AC(750W、1100W、1600W、2000W) 240V DC(750W、1100W、1600W、2000W)	110V AC (1100W) 220V AC (1100W、1600W) 240V DC (not supported)

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			<ul style="list-style-type: none"> 1200W dc power module (power supply: -38.4Vdc~-72vdc) (Note 1) 			
PCI-E(I/O)	Quantity	16	Maximum 15 PCIe expansion slots: 15 PCIe 3.0 standard CARDS (3x4, 8x8, 4x16) • supports 2 dual-width full-length GPU CARDS (x16)	16 PCIe 3.0 available slots (supports 4 full-width GPU)	Support up to 13 PCIe 3.0 slots Slot 1-2: Riser card slots (choice of x8/x8 or x16) (FHFL) Slot 3: Riser slot to eN/Able slots 1 & 2 in the PCIe Expansion Tray (PCIe 3.0 x16)* Slot 4: PCIe 3.0 x8 (low profile) Slot 5-7: Riser card slots (choices are x8/x8/x8, x8/x8/x8ML2 and x8/x16ML2) Slot 8: PCIe 2.0 x2 / 6 Gb SATA slot reserved to M.2 adapter and drives Slot 9: Reserved for Ethernet LOM phy adapter	Support up to 17 PCIe 3.0 slots Slots 1-4 are via Riser Slot 1, one riser card of: Riser with 4x PCIe 3.0 x16 slots, all full-height half-length, all 75W Riser with 2x PCIe 3.0 x16 slots, all full-height half-length, both 75W Riser with 4x PCIe 3.0 x8 slots, full-height half-length, all 75W Slot 5: PCIe 3.0 x16, low profile, 75W Slot 6: PCIe 3.0 x16, low profile, 75W Slot 7: PCIe 3.0 x8, low profile, 75W Slot 8: PCIe 3.0 x16 ML2, low profile (supports

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					<p>Slot 10: PCIe 3.0 x8 (low profile)</p> <p>Slot 11: PCIe 3.0 x8 (low profile)</p> <p>Slot 12: PCIe 3.0 x8 (low profile)</p> <p>Slot 13: Riser slot to eN/Able slots 14 & 15 in the PCIe Expansion Tray (PCIe 3.0 x16)*</p> <p>Slot 14-15: Riser card slots (choice of x8/x8 or x16) (FHFL)</p>	<p>NC-SI)</p> <p>Slot 9: PCIe 3.0 x8 LOM adapter slot, low profile (supports NC-SI)</p> <p>Slots 10-15 are via Riser Slot 2, one riser card of: Riser 5x16+ML2</p> <p>Five PCIe 3.0 x16 slots, all full-height half-length, all 75W</p> <p>One PCIe 3.0 x16 ML2 slot, full-height half-length, 30W (no NC-SI support)</p> <p>Riser 2x16: Two PCIe 3.0 x16 slots, all full-height half-length, both 75W</p> <p>Riser 4x8: Four PCIe 3.0 x8 slots, full-height half-length, all 75W</p> <p>Slot 16-17 on a riser: PCIe 3.0 x8 low profile, 75W</p> <p>PCIe 3.0 x8 low profile, 75W</p>

Server Model		HPE ProLiant DL580 Gen10 Server (using 2 floors motherboard design)	Huawei RH5885H V5 Rack Server (4U, with 2 floors motherboard design)	H3C UniServer R6900 G3 Server (using single-floor motherboard design)	Lenovo ThinkSystem SR860 Server	Lenovo ThinkSystem SR950 Server (4U, in a 4U space, the maximum can be upgraded to 8CPU)
USB port	Quantity	9	N/A	4 USB 3.0 (1 front, 2 back, 1 built-in), 2 USB 2.0, support 2 MicroSD extensions	4: 2 front、2 rear Front: Two USB 2.0 ports or one USB 2.0 and one USB 3.0 port; Rear: Two USB 3.0 ports;	4: 2 front(USB 2.0) 、 2 rear(USB 3.0)。
Out-of-band management	Yes or No	Yes	Yes	Yes	Yes	Yes
	The main function	HPE iLO Standard with smart configuration (embedded), HPE OneView Standard (download required) (Standard), HPE iLO Advanced, HPE iLO Advanced Premium Security Edition and HPE OneView Advanced (optional)	UEFI iBMC Adopt independent interface, support SNMP, IPMI, provide GUI, virtual KVM, virtual media, SOL, intelligent power supply, remote control, hardware monitoring and other features. Support for NCSI for onboard network ports. Support huawei eSight management software, support VMware vCenter, Microsoft SystemCenter, N/Agios and other third	HDM has no agent management tools (with independent management port) and H3C FIST management software	XClarity Controller (XCC) Advanced Optionally upgrade to Enterprise by Features on Demand (FoD) Mobile management function is supported (Xclarity Mobile App+ USB interface), and Mobile App supports Android or iOS	XClarity Controller (XCC) Enterprise Mobile management function is supported (Xclarity Mobile App+ USB interface), and Mobile App supports Android or iOS

Server Model		HPE ProLiant DL580 Gen10 Server (using 2 floors motherboard design)	Huawei RH5885H V5 Rack Server (4U, with 2 floors motherboard design)	H3C UniServer R6900 G3 Server (using single-floor motherboard design)	Lenovo ThinkSystem SR860 Server	Lenovo ThinkSystem SR950 Server (4U, in a 4U space, the maximum can be upgraded to 8CPU)
			party management system integration.			
Energy management	Yes or No	Yes	N/A	N/A	Yes: Xclarity Energy MaN/Ager	Yes: Xclarity Energy MaN/Ager
System cooling fan		12	N/A	12 N+1 redundancy hot plug fans	6 hot plug fans, support N+1 redundancy	12 hot plug fans, support N+1 redundancy
LCD display		Systems Insight Display	LCD panel (touchable) Fault diagnosis digital tube	N/A	Yes	Yes
Host front panel with keyhole and key		Yes		N/A	Support, optional Lockable front security bezel	N/A
Other			Security features Add electric password Administrator password TPM 2.0 Safe launch Security panel	N/A	Lenovo AnyBay is a unique drive bay type that allows a choice of drive interface types in the same drive bay: SAS drives, SATA drives, or U.2 NVMe PCIe drives.	Lenovo AnyBay is a unique drive bay type that allows a choice of drive interface types in the same drive bay: SAS drives, SATA drives, or U.2 NVMe PCIe drives.

Server Model	HPE ProLiant DL580 Gen10 Server (using 2 floors motherboard design)	Dell PowerEdge R940xa Rack Server (using single-floor motherboard design)	Inspur NF8460 M5 Server (4U)	Inspur NF8480 M5 Server (4U, using single-floor motherboard design)	Sugon I840-G30 Server
Advantages of Dell Servers	1. R940xa supports 8GB cache RAID card 2. R940xa supports up to 8 FPGA	1. NVDIMM support, low latency, high IO, data protection; 2. Supports up to 4 dual-width gpus; 3. Support up to 8 FPGA; 4. Efficient and automated server maN/Agement platform of dell 14 generation server platform with server life cycle maN/Agement; 5. Consistent security features of dell 14-generation servers, Root Trust;	This product is currently not available on Inspur official website	1. R940xa supports 8GB cache RAID card 2. R940xa supports up to 4 dual-width GPU 3. R940xa supports up to 8 FPGA 4. R940xa supports up to 32 hard disks 5. Efficient and automated server maN/Agement platform of dell 14 generation server platform with server life cycle maN/Agement; 6. Consistent security features of dell 14-generation servers, Root Trust; 7. Maximum 6 x NVDIMM	1. R940xa supports 8GB cache RAID card 2. R940xa supports up to 4 dual-width GPU 3. R940xa supports up to 8 FPGA 4. R940xa supports up to 32 hard disks 5. Efficient and automated server maN/Agement platform of dell 14 generation server platform with server life cycle maN/Agement; 6. Consistent security features of dell 14-generation servers, Root Trust;
Disadvantages of Dell Servers	1. HPE supports 16 x PCIe interpolation at maximum; 2. Max support 48 x 2.5"			1. Up to 12 x NVMe 2. M.2 up to 960GB	1. Up to 12 x NVMe

Server Model		HPE ProLiant DL580 Gen10 Server (using 2 floors motherboard design)	Dell PowerEdge R940xa Rack Server (using single-floor motherboard design)	Inspur NF8460 M5 Server (4U)	Inspur NF8480 M5 Server (4U, using single-floor motherboard design)	Sugon I840-G30 Server
		3. Max support for 20 x NVMe 2.5"				
CPU	Model	Intel® Xeon® Scalable processors 8100/6100/5100	Intel® Xeon® Scalable processors 8100/6100/5100	Intel® Xeon® Scalable processors 8100/6100/5100	Intel® Xeon® Scalable processors 8100/6100/5100	Intel® Xeon® Scalable processors 8100/6100
	CPU model	Platinum 8180M	8180M	N/A	Platinum 8180M 28C 205W 2.5GHz	N/A
Chipset		Intel C621	Intel C621	N/A	Intel C624/intel 627	intel 620 series
RAM	Model	DDR4 RDIMM,LRDIMM	DDR4 2667MHze RDIMM/LRDIMM/NVDIMM	48 memory slots, up to DDR4-2666 memory	48 memory slots, up to DDR4-2666 memory	48 memory slots, up to DDR4-2666 memory
	Total Capacity	6TB	6TB		RDIMMs supports up to 3TB. LRDIMMs supports up to 6TB. NVDIMM support	RDIMMs supports up to 3TB. LRDIMMs supports up to 6TB. NVDIMM support
Storage controller	Model	S100i,E208i/e,P408i/e	S140/H330/H730P/H740P/H840	N/A	Raid card: LSI 9361-8i (1GB); INSPUR 0820P (2GB); LSI 9460-8i (2GB); INSPUR 0820L (2GB) LSI 9361-8i (2GB) INSPUR 0840L (4GB)	Hard disk controller can flexibly configure SAS card, support RAID0/1/10 SAS RAID card, support RAID 0/1/5/6/50/60 support Cache ulc protection, provide RAID state migration, RAID

Server Model		HPE ProLiant DL580 Gen10 Server (using 2 floors motherboard design)	Dell PowerEdge R940xa Rack Server (using single-floor motherboard design)	Inspur NF8460 M5 Server (4U)	Inspur NF8480 M5 Server (4U, using single-floor motherboard design)	Sugon I840-G30 Server
					SAS card: SAS3008 IMR; SAS3008 IT	configuration memory and other functions
	Cache size / maximum	0/2GB/4GB	8GB	N/A	Up to 4GB	N/A
	Cache protection type		non-volatile cache	N/A	N/A	N/A
	Battery or capacitor	Battery	Battery	N/A	Capacitance	Capacitance
	Main technical characteristics	12Gb SAS, up to 240 pieces	H840 8GB cache (LSI 3508) external H740P 8GB cache (LSI 3508) H730P 2GB cache (LSI 3108) H330 (LSI 3008) HBA (LSI 3008) S140 (software Raid, support NVMe)	Configurable storage controller with cache to support power-off protection module	LSI SAS 3108 ; PM8060 ;	N/A
SD card	Number of SD cards	2	2	N/A	N/A	2
	SD card capacity	8GB/32GB	64GB	N/A	N/A	N/A

Server Model		HPE ProLiant DL580 Gen10 Server (using 2 floors motherboard design)	Dell PowerEdge R940xa Rack Server (using single-floor motherboard design)	Inspur NF8460 M5 Server (4U)	Inspur NF8480 M5 Server (4U, using single-floor motherboard design)	Sugon I840-G30 Server
	SD cards can form RAID levels	RAID 1	RAID 1	N/A	N/A	N/A
M.2	M.2 quantity	2	2	2	2	2
	M. 2 single chip capacity	Up to 960GB	240GB	N/A	Up to 960GB	N/A
	M.2 RAID levels	RAID 1	RAID 1	Raid1	Raid1	N/A
Network card	Sub-Card (NDC Card Type)	Default 4x1Gb (FlexibleLOM) Optional 2x10Gb/4x10Gb/2x25Gb	4 1GE interfaces, or 2 10GE interfaces plus 2 1GE interfaces, or 4 10GE interfaces, or 2 25GE interfaces	Support for Inspur FLOM technology, flexible extension of multiple network configurations	2 x 10Gb; 4 x 10Gb; 2 x 25Gb; 1 x 25Gb; 4 X 1Gb;	Integrated gigabit dual port RJ45 and 10 gigabit dual port fiber network interface
	PCIe (occupies a standard slot)	N/A	N/A	N/A	16 x PCIe +1 x OCP	Up to 14 PCIe expansion slots, Contains: 5 PCIe 3.0x16 slots 9 PCIe 3.0x8 slots
GPU	GPU Max Supported Blocks	4	4 double widths	N/A	Max. 2 full height full length	N/A
	GPU model	P40/P6000	P100/V100/P40/M10	N/A	P100	N/A
FPGA	FPGA Maximum	/	8	N/A	N/A	N/A

Server Model		HPE ProLiant DL580 Gen10 Server (using 2 floors motherboard design)	Dell PowerEdge R940xa Rack Server (using single-floor motherboard design)	Inspur NF8460 M5 Server (4U)	Inspur NF8480 M5 Server (4U, using single-floor motherboard design)	Sugon I840-G30 Server
	Supported Blocks					
	FPGA model	/	Intel TBD	N/A	N/A	N/A
Hard drive backplane	Type (including the maximum number of supported hard disks)	48 SFF/20 NVMe	32*2.5 "/ NVMe hard disk supports up to 4	Support 24 front hot-plug mechanical or solid state drives (U.2 NVMe SSD), support 24 3.5-inch hard drives	Supports up to 24 3.5"/2.5" front hot-swap mechanical or solid state drives and up to 12 U.2 NVMe SSD drives	Supports up to 24 2.5" front hot-plug mechanical or solid state drives and up to 12 U.2 NVMe SSD drives
	Whether to support hard disk hot swap	Yes	Yes	Yes	Yes	Yes
Hard disk configuration	Model and quantity	48 SFF/20 NVMe	SAS/SATA/NVMe 32*2.5" SAS/SATA; 4 * NVMe;		3.5" SATA, NL-SAS; 2.5" SATA, SAS, NVMe; Max. 24 x 3.5" 24 x 2.5" 12 x NVMe	2.5" SATA, SAS, NVMe; Max. 24 x 2.5" 12 x NVMe
Chassis	Dimensions (cm)	4U: 17.48 x 44.54 x 75.47cm	4U: 17.36 x 48.2 x 81.2cm	4U	4U Height: 175.5 mm Width: 448 mm Depth: 812 mm	4U Height: 175.5 mm Width: 447 mm Depth: 793 mm
	Ventilation method	Wind after wind	Wind after wind	Wind after wind	Wind after wind	Wind after wind

Server Model		HPE ProLiant DL580 Gen10 Server (using 2 floors motherboard design)	Dell PowerEdge R940xa Rack Server (using single-floor motherboard design)	Inspur NF8460 M5 Server (4U)	Inspur NF8480 M5 Server (4U, using single-floor motherboard design)	Sugon I840-G30 Server
Temperature	Equipment operating temperature range (°C)	5°C-45°C	10°C to 35°C	N/A	Operating temperature: 5°C ~ 35°C	When working: 5°C ~ 40°C
	Equipment working humidity range	8% - 90%	10% to 80%	N/A	Working humidity: 10% ~ 90% R.H.	N/A
Hot-swappable power supplies	Nominal power of single power supply (W)	800W/1600W	AC: 750W/1100W/1600W/2000W/2400W; DC: 1100W; HVDC/AC: 240V 750W, 336V 1100W	Platinum level redundant hot plug power supply	550W (input voltage: 100 V to 240 V AC or 192 V to 300 V DC) 800W (input voltage: 100 V to 240 V AC or 192 V to 300 V DC) 1300W (input voltage: 100 V to 240 V AC or 192 V to 300 V DC) 1600W (input voltage: 100 V to 240 V AC or 192 V to 300 V DC)	Optional 550W/800W/1200W high efficiency platinum power supply can be configured with N+N/N+M redundancy, compatible with 220V AC and 48V/240V/336V DC
	Quantity	4	4		4	4
	Dual power mode	The main case/LB	The main case/LB	Redundancy	Redundancy	Redundancy
	Input method	100 - 127 VAC, 200 - 240 VAC, 240VDC (800W Platinum PS	AC: 750W/1100W/1600W/200	High voltage DC support	High voltage DC support	AC 240V HVDC/AC

Server Model		HPE ProLiant DL580 Gen10 Server (using 2 floors motherboard design)	Dell PowerEdge R940xa Rack Server (using single-floor motherboard design)	Inspur NF8460 M5 Server (4U)	Inspur NF8480 M5 Server (4U, using single-floor motherboard design)	Sugon I840-G30 Server
		only) 200 - 240 VAC, 240 VDC(1600W PS only)	0W/2400W; DC: 1100W; HVDC/AC: 240V 750W, 336V 1100W			
PCI-E (I/O)	Quantity	16	12 x PCIe Supports up to 6 x PCIe	Up to 14 standard PCIe slots can be supported	16 x PCIe +1 x OCP	Up to 14 PCIe expansion slots, Contains: 5 PCIe 3.0x16 slots 9 PCIe 3.0x8 slots
USB port	Quantity	9	3 x USB 2.0 (front); 2 x USB 3.0 (rear); 1 x USB 3.0 (middle);	N/A	2 x USB 3.0 (front); 3 x USB 3.0 (rear);	4 USB 3.0 ports, located at the rear of the case, 2 USB ports are optional
Out-of-band management	Yes or No	Yes	Yes	N/A	Yes	Yes
	The main function	HPE iLO Standard with smart configuration (embedded), HPE OneView Standard (download required) (Standard), HPE iLO Advanced, HPE iLO Advanced Premium Security Edition and HPE OneView Advanced (optional)	IPMI 2.0 compliant iDRAC9 with life cycle controller (Express edition, Enterprise edition) Optional Quick Sync 2 wireless module	N/A	Embedded intelligent server management chip, support IP 2.0 and Redfish management mode. Complete remote system monitoring, remote KVM, virtual media and other management functions. Wave's Power	N/A

Server Model		HPE ProLiant DL580 Gen10 Server (using 2 floors motherboard design)	Dell PowerEdge R940xa Rack Server (using single-floor motherboard design)	Inspur NF8460 M5 Server (4U)	Inspur NF8480 M5 Server (4U, using single-floor motherboard design)	Sugon I840-G30 Server
					management technology can help users to accurately monitor and control the Power consumption of the system in real time. Power telemetry is implemented independently. Combined with Node maN/Ager 3.0 technology, IT can effectively control the overall energy consumption and further improve the performance of energy efficiency of the overall IT architecture.Support the local USB interface and BMC management chip to obtain CPU registers and other low-level debugging letters, through the	

Server Model		HPE ProLiant DL580 Gen10 Server (using 2 floors motherboard design)	Dell PowerEdge R940xa Rack Server (using single-floor motherboard design)	Inspur NF8460 M5 Server (4U)	Inspur NF8480 M5 Server (4U, using single-floor motherboard design)	Sugon I840-G30 Server
					management network to achieve remote diagnosis of server fault.Embedded oscilloscope technology, real-time detection of server hardware key signal state, save state jump, can help engineers to solve the problem.	
Energy management	Yes or No	Yes	Yes	N/A	N/A	N/A
System cooling fan		12	6 hot plug fans, support N+1 redundancy Wind deflector plate, vector heat dissipation	N/A	4 hot plug fans, support N+1 redundancy	4 fan modules
LCD display		Systems Insight Display	Optional	N/A	Yes	N/A
Host front panel with keyhole and key		Yes	Yes	N/A	N/A	N/A

Server Model	HPE ProLiant DL580 Gen10 Server (using 2 floors motherboard design)	Dell PowerEdge R940xa Rack Server (using single-floor motherboard design)	Inspur NF8460 M5 Server (4U)	Inspur NF8480 M5 Server (4U, using single-floor motherboard design)	Sugon I840-G30 Server
Other		Cryptographically signed firmware; Hardware Root of Trust; Secure Boot; System Lockdown; System Erase; OpenMaN/Age connections: N/Agios & N/Agios XI, Oracle Enterprise MaN/Ager, HP Operations MaN/Ager, IBM Tivoli Netcool/OMNIBus, IBM Tivoli® Network MaN/Ager, CA Network and Systems MaN/Agement	IMD enhanced memory protection technology, BMC dual ROM redundancy recoverable technology, DSFI depth system error insight, and a new generation of LIDS optical path diagnosis system	N/A	N/A

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