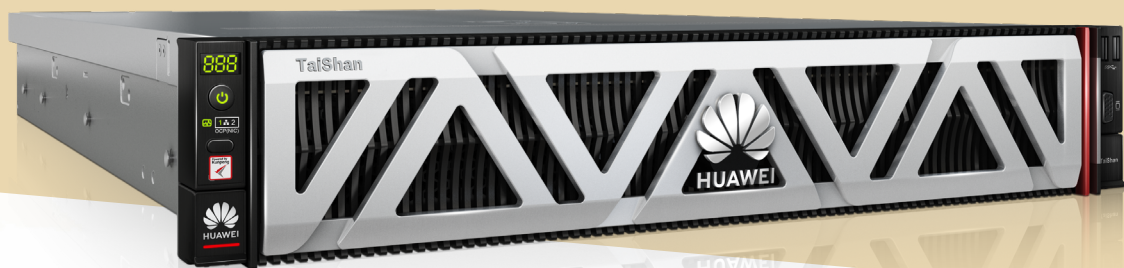


# Huawei TaiShan Server

Supercharge Data Center Computing with Kunpeng Processors

## Leading a New Computing Era with Kunpeng



### Efficient Computing

- » Multi-core Kunpeng processors with superior computing power
- » Distributed architecture for efficient acceleration and high-concurrency I/O applications



### Secure & Trusted

- » In-house developed chips covering computing, storage, network, management, and AI
- » Rock-solid servers built on extensive computing engineering experience



### Open Ecosystem

- » An open computing platform compatible with mainstream software
- » Building a new computing ecosystem with partners for shared success









# TaiShan server solutions

<b>Big Data</b>	Multi-core and high-concurrency processing of massive volumes of data
Built-in hardware acceleration engine unlocking computing potential and reducing TCO	<b>SDS</b>
<b>Database</b>	RDMA over converged Ethernet (RoCE), multi-core scheduling optimization algorithm, and non-uniform memory architecture (NUMA) technologies for database acceleration
Homogeneous deployment for mobile applications on the cloud, with zero performance loss	<b>Cloud Phone</b>
<b>Web</b>	Processor with a built-in Rivest-Shamir-Adleman (RSA) accelerator, improving HTTPS encryption/decryption performance
8-channel memory technology for ultra-high memory bandwidth, accelerating memory-bound HPC applications	<b>HPC</b>
<b>Cloud</b>	Multi-core and high-concurrency processing of massive volumes of data



## TaiShan server portfolio

TaiShan is a next-generation data center server powered by Huawei Kunpeng processors. Thanks to efficient computing, high reliability, and an open ecosystem, the TaiShan server is ideal for accelerating enterprise applications.

The TaiShan server includes TaiShan 100 and TaiShan 200 powered by Huawei Kunpeng 916 and 920 processors respectively. The TaiShan portfolio is available in balanced, storage, high-density, high-performance, and edge models.

Entry model	Balanced model	High-density model	High-performance model	Storage model	Edge model
2180 2U 1-socket	2280 2U 2-socket	1280 1U 2-socket	2480 2U 4-socket	5290 4U 2-socket 72-drive	2280E 2U 2-socket short chassis
					
OA applications	Big data and SDS	Large-scale data center	HPC, database, virtualization	Software-defined Storage	MEC, CDN edge computing platform
		X6000 2U 4-node server		5280 4U 2-socket 40-drive	
					
		HPC			

## Kunpeng processor portfolio

Kunpeng 916		Kunpeng 920		Processor Model					
	<ul style="list-style-type: none"> <li>» 16nm process</li> <li>» 4-DDR4-channel controller</li> <li>» PCIe 3.0</li> <li>» 10GE network</li> <li>» 2-socket interconnects</li> </ul>		<ul style="list-style-type: none"> <li>» 7nm process</li> <li>» 8 or 4-DDR4-channel controller</li> <li>» PCIe 4.0</li> <li>» 100GE network</li> <li>» 2-/4-socket interconnects</li> </ul>	Series	Model	Core Quantity	Frequency (GHz)	Memory Channel	TDP (Watt)
				Kunpeng 920	7260	64	2.6	8	180
					5250	48	2.6	8	150
					5230	32	2.6	8	120
					5220	32	2.6	4	115
					3210	24	2.6	4	95
				Kunpeng 916	5130	32	2.4	4	75

# TaiShan server technical specifications

Series	TaiShan 200	TaiShan 200	TaiShan 200	TaiShan 200	TaiShan 200
Model	1280	2280	2480	5290	5280
Form Factor	1U 2-socket rack server	2U 2-socket rack server	2U 4-socket rack server	4U 2-socket rack server	4U 2-socket rack server
Processors	2 Kunpeng 920	2 Kunpeng 920	4 Kunpeng 920	2 Kunpeng 920	2 Kunpeng 920
Memory	32 DDR4-2933 DIMMs	32/16 DDR4-2933 DIMMs	32 DDR4-2933 DIMMs	16 DDR4-2933 DIMMs	32/16 DDR4-2933 DIMMs
Local Storage	Up to 10 x 2.5" SAS/SATA HDDs, or 8 x 2.5" NVMe SSDs	Up to 16 x 3.5" or 27 x 2.5" SAS/SATA HDDs or SSDs, or 16 x 2.5" NVMe SSDs	Up to 24 x 2.5" NVMe SSDs or 10 x 2.5" SAS/SATA HDDs or SSDs	Up to 72 x 3.5" SAS/SATA HDDs or SSDs, 2 x 2.5" SATA HDDs or SSDs and 4 x 2.5" NVMe SSDs	Up to 40 x 3.5" SAS/SATA HDDs or SSDs, and 4 x 2.5" NVMe SSDs
RAID	RAID 0, 1, 5, 6, 10, 50, 60; supercapacitor for power failure protection				
PCIe Expansion	Up to 2 PCIe 4.0 x16 + 1 PCIe 4.0 x8 slot	Up to 8 PCIe 4.0 x8 or 3 PCIe 4.0 x16 + 2 PCIe 4.0 x8 slots	Up to 7 PCIe 4.0 x8 + 2 PCIe 4.0 x16 slots	Up to 6 PCIe 4.0 x8 or 1 PCIe 4.0 x16 + 4 PCIe 4.0 x8 slots	Up to 8 PCIe 4.0 x8 or 3 PCIe 4.0 x16 + 2 PCIe 4.0 x8 slots
LOM Ports	2 FlexIO cards (each NIC: 4 GE electrical ports, or 4 x 10GE or 4 x 25GE optical ports)	2 FlexIO cards (each NIC: 4 GE electrical ports, or 4 x 10GE or 4 x 25GE optical ports)	1 FlexIO card: 4 x 10GE or 4 x 25GE optical ports, 1 LOM NIC: 4 x GE electrical ports	4 GE electrical ports + 4 x 10GE or 4 x 25GE optical ports	2 FlexIO cards (each NIC: 4 GE electrical ports, or 4 x 10GE or 4 x 25GE optical ports)
PSUs	2 x 900 W AC or 2000 W AC or 1200W DC hot-swappable PSUs, supporting 1+1 redundancy	2 x 900 W AC or 2000 W AC or 1200W DC or 1500 W DC hot-swappable PSUs, supporting 1+1 redundancy	2 x 2000 W AC hot-swappable PSUs, supporting 1+1 redundancy	2 x 2000 W AC hot-swappable PSUs, supporting 1+1 redundancy	2 x 2000 W AC or 1200W DC or 1500 W DC hot-swappable PSUs, supporting 1+1 redundancy
Power Supply	100-240 V AC, 240 V DC, -48V DC	100-240 V AC, 240 V DC, -48V DC	200-240 V AC, 240 V DC	200-240 V AC, 240 V DC	100-240 V AC, 240 V DC, -48V DC
Fan Modules	7 hot-swappable fan modules, supporting N+1 redundancy	4 hot-swappable fan modules, supporting N+1 redundancy	6 hot-swappable fan modules, supporting N+1 redundancy	4 hot-swappable fan modules, supporting N+1 redundancy	4 hot-swappable fan modules, supporting N+1 redundancy
Operating Systems	SUSE, Ubuntu, CentOS and openEuler				
Operating Temperature	5°C to 35°C (41°F to 95°F)	5°C to 40°C (41°F to 104°F)	5°C to 40°C (41°F to 104°F)	5°C to 35°C (41°F to 95°F)	5°C to 35°C (41°F to 95°F)
Dimensions (H x W x D)	43 mm x 447 mm x 790 mm	86.1 mm x 447 mm x 790 mm	86.1 mm x 447 mm x 790 mm	175 mm x 447 mm x 900 mm	175 mm x 447 mm x 790 mm

# TaiShan server technical specifications

Series	TaiShan 200	TaiShan 200	TaiShan 200	TaiShan 100	TaiShan 100
Model	X6000	2280E	2180	2280	5280
Form Factor	2U 4-node high-density server 4 XA320 air-cooled nodes	2U 2-socket rack server	2U 1-socket rack server	2U 2-socket rack server	4U 2-socket rack server
Processors	2 Kunpeng 920	2 Kunpeng 920	1 Kunpeng 920	2 Kunpeng 916	2 Kunpeng 916
Memory	16 DDR4-2933 DIMMs	16 DDR4-2933 DIMMs	16 DDR4-2933 DIMMs	16 DDR4-2400 DIMMs	16 DDR4-2400 DIMMs
Local Storage	Up to 6 x 2.5" SAS/SATA HDDs, or SSDs, or NVMe SSDs	Up to 10 x 2.5" SAS/SATA HDDs or SSDs, or 8 x 2.5" NVMe SSDs	Up to 14 x 3.5" and 2 x 2.5" SAS/SATA HDDs or SSDs	Up to 16 x 3.5" or 27 x 2.5" SAS/SATA HDDs or SSDs	Up to 40 x 3.5" SAS/SATA HDDs or SSDs
RAID	RAID 0, 1, 5, 6, 10, 50, 60; supercapacitor for power failure protection				
PCIe Expansion	Up to 1 PCIe 4.0 x16 and 1 PCIe 4.0 x8 slot	Up to 6 PCIe 4.0 x8 slots	Up to 3 PCIe 4.0 x8 or 1 PCIe 4.0 x16 + 1 PCIe 4.0 x8 slot	Up to 5 PCIe 3.0 x8 slots	Up to 5 PCIe 3.0 x8 slots
LOM Ports	2 GE electrical ports + 1 x 100GE optical port or 2 GE electrical ports + 1 x 25GE optical port	1 FlexIO cards: 4 GE electrical ports, or 4 x 10GE or 4 x 25GE optical ports)	1 FlexIO card: 4 GE electrical ports	2 GE electrical ports + 2 x 10GE optical ports	2 GE electrical ports + 2 x 10GE optical ports
PSUs	2 x 3000 W hot-swappable AC PSUs, supporting 1+1 redundancy	2 x 900 W AC or 2000 W AC or 1200W DC hot-swappable PSUs, supporting 1+1 redundancy	2 x 900 W or 2000 W hot-swappable AC PSUs, supporting 1+1 redundancy	2 x 460 W or 750 W hot-swappable AC PSUs, supporting 1+1 redundancy	2 x 1200 W hot-swappable AC PSUs, supporting 1+1 redundancy
Power Supply	100–240 V AC, 240 V DC				
Fan Modules	4 hot-swappable fan modules, supporting N+1 redundancy				
Operating Systems	SUSE, Ubuntu, CentOS and openEuler				
Operating Temperature	5°C to 35°C (41°F to 95°F)	Long-term: 0°C to 45°C (32°F to 113°F) Short-term: -5°C to 55°C (23°F to 131°F)	5°C to 40°C (41°F to 104°F)	5°C to 40°C (41°F to 104°F)	5°C to 35°C (41°F to 95°F)
Dimensions (H x W x D)	X6000: 86.1 mm x 436 mm x 819 mm XA320: 40.5 mm x 177.9 mm x 545.5 mm	87.3 mm x 447 mm x 495 mm	86.1 mm x 447 mm x 790 mm	86.1 mm x 447 mm x 748 mm	175 mm x 447 mm x 748 mm

For more information

To learn more about Huawei servers, contact Huawei sales representatives or business partners, or visit:

<https://e.huawei.com/en/products/cloud-computing-dc/servers/taishan-server>

