FusionServer

# X6000 V5 High-Density Server

# FusionServer
# X6000 V5 High-Density Server

X6000

The FusionServer X6000 is a high-density server positioned for data centers with the scale-out architecture. It has been thoroughly optimized to deliver new levels of density that addresses the space and investment restrictions of data centers, and enables better space utilization as well as cost-benefits. The FusionServer X6000 is ideal for service scenarios such as cloud computing, web-based applications, and high-performance computing (HPC).
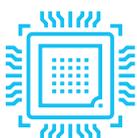
## High-Density Computing and Ultimate Performance

- Supports up to four 1U half-width 2-socket server nodes in a 2U chassis, delivering 2x computing density compared with traditional 1U rack servers
- Supports up to 24 NVMe SSDs, with over 10x boost to I/O acceleration capabilities
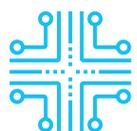
## Simplified Management and Easy O&M

- Manages multiple nodes in aggregated mode, reducing cables and improving management efficiency
- Integrates an out-of-band fault diagnosis system and expert prewarning library, enabling over 93% locating accuracy

## Shared Architecture and High Energy Efficiency

- Leverages patented Dynamic Energy Management Technology (DEMT) to drive down energy consumption by an average of 15%
- Efficient, reliable liquid cooling, slashing cooling energy consumption and decreasing TCO by 30%

| | |
|---|---|
| Form factor | 2U 4-node chassis |
| Server nodes | Four 1U half-width 2-socket servers |
| Power supply units | 2 hot-swappable AC PSUs (1,500 W enhanced, 2,000 W, or 3,000 W), with support for 1+1 redundancy* |
| Power supply | 100 V to 240 V AC; 240 V DC |
| Fan modules | 4 hot-swappable fan modules, with support for N+1 redundancy |
| Operating temperature | 5°C–35°C (41°F–95°F) |
| Certification | CE, UL, FCC, CCC, VCCI, and RoHS |
| Dimensions (H x W x D) | Universal chassis for 1,500 W enhanced or 2,000 W PSUs:<br>86.1 mm x 447 mm x 805 mm<br>(3.39 in. x 17.60 in. x 31.69 in.)<br><br>Chassis for 3,000 W PSUs:<br>86.1 mm x 447 mm x 819 mm<br>(3.39 in. x 17.60 in. x 32.24 in.) (2.5-inch drives)<br>86.1 mm x 447 mm x 867 mm<br>(3.39 in. x 17.60 in. x 34.13 in.) (3.5-inch drives) |

* Regarding PSUs, support for 1+1 redundancy depends on the power consumption calculated according to the actual configurations of X6000.

# FusionServer
# XH321 V5 Server Node

XH321 V5

The FusionServer XH321 V5 is a latest-generation 1U half-width 2-socket server node. Powered by Intel® Xeon® Scalable Processors, it supports up to 16 DDR4 DIMMs and is ideal for applications such as cloud computing, web-based applications, and HPC
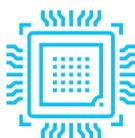
## Superior Computing Performance

• Supports up to 2 Intel® Xeon® Scalable processors with up to 205 W TDP in a 1U half-width chassis
• Supports all NVMe SSDs for acceleration, eliminating I/O bottlenecks

## Flexible Deployment

• Supports InfiniBand EDR and Omni-path high-speed network interconnection
• Supports 2 hot-swappable M.2 SSDs, providing high-speed reliable OS boot disks

| | |
|---|---|
| Form factor | 1U half-width 2-socket server |
| Processors | 1 or 2 1st Generation Intel® Xeon® Scalable processors (3100/4100/5100/6100/8100 series), up to 205 W<br>1 or 2 2nd Generation Intel® Xeon® Scalable processors (3200/4200/5200/6200/8200 series), up to 205 W |
| Memory | Supports 16 2933 MT/s DDR4 DIMMs, up to 1 TB memory capacity (configured with 64 GB DIMMs), meeting large-capacity memory application requirements<br>Supports 4 2666 MT/s DCPMMs as volatile or non-volatile storage, which can be used together with 8 DDR4 DIMMs, offering up to 2.5 TB memory capacity (configured with 512 GB DCPMMs and 64 GB DDR4 DIMMs) to meet various workload requirements |
| Internal storage | Up to 6 x 2.5-inch SAS/SATA/SSD/NVMe drives or 3 x 3.5-inch SAS/SATA/SSD drives<br>Up to 2 x M.2 2280 or 2242 SATA SSDs |
| RAID support | RAID 0, 1, 5, 6, 10, 50, or 60; supercapacitor for power failure protection<br>M.2 SSDs in RAID 0 or 1 |
| LOM network ports | 2 x GE + 2 x 10GE |
| PCIe expansion | 2 PCIe x16 half-height half-length standard expansion slots |
| Management | Supports standard management interfaces such as SNMP and IPMI.<br>Provides management features such as virtual KVM, virtual media, SOL, remote control, hardware monitoring, and intelligent power supply.<br>Supports power capping, independent management network port, and NC-SI management. |
| Operating systems | Microsoft Windows Server, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, CentOS, Citrix XenServer, and VMware ESXi |
| Operating temperature | 5°C to 35°C (41°F to 95°F) |
| Certification | CE, UL, FCC, CCC, VCCI, and RoHS |
| Dimensions<br>(H x W x D) | 40.5 mm x 177.9 mm x 545.5 mm<br>(1.59 in. x 7.00 in. x 21.48 in.) |

# FusionServer
# XH321L V5 Liquid-cooled Server Node

Liquid cooling of processors and DIMMs (for board-level liquid cooling)

Liquid cooling of processors (for full liquid cooling)

FusionServer XH321L V5 is FusionServer's latest 1U half-width 2-socket liquid-cooled server node. It supports liquid cooling for CPU and memory modules and 50°C(122°F) warm water cooling. The full liquid cooling solution provides a heat dissipation ratio of 100% and a PUE ≤ 1.05. The board-level liquid cooling solution supports a heat dissipation ratio of 80% and a PUE ≤ 1.1.

## High Energy Efficiency and Reliability

- CPU cold-plate microchannels and memory Inter-DIMM water flow design, enabling board-level liquid cooling ratio of up to 80%
- Supports 50°C(122°F) warm water cooling, reducing TCO by 30%
- Isolated design for system water flows and circuits, with status monitoring. 217 system test items, ensuring high reliability

## Cabinet-Level Deployment

- Fits FusionServer liquid-cooling cabinets with integrated liquid cooling manifold, which can be quickly connected to the main pipe.
- Max power of the cabinet with board-level liquid cooling is 49 kW, supporting up to 64 liquid-cooled nodes. Max power of the Maximum is 76.8 kW, supporting up to 80 liquid-cooled nodes.

| | |
|---|---|
| Form factor | 1U half-width 2-socket liquid-cooled server |
| Processors | 1 or 2 1st Generation Intel® Xeon® Scalable processors (6100/8100 series), up to 205 W<br>1 or 2 2nd Generation Intel® Xeon® Scalable processors (6200/8200 series), up to 205 W |
| Memory | Supports 16 2933 MT/s DDR4 DIMMs, up to 1 TB memory capacity (configured with 64 GB DIMMs), meeting large-capacity memory application requirements |
| Internal storage | Up to 6 x 2.5-inch SAS/SATA/SSD/NVMe drives or 3 x 3.5-inch SAS/SATA/SSD drives<br>Up to 2 x M.2 2280 or 2242 SATA SSDs |
| RAID support | RAID 0, 1, 5, 6, 10, 50, or 60; supercapacitor for power failure protection<br>M.2 SSDs in RAID 0 or 1 |
| LOM network ports | 2 x GE + 2 x 10GE |
| PCIe expansion | 1 PCIe x16 half-height half-length standard expansion slots |
| Management | Supports standard management interfaces such as SNMP and IPMI.<br>Provides management features such as virtual KVM, virtual media, SOL, remote control, hardware monitoring, and intelligent power supply.<br>Supports power capping, independent management network port, and NC-SI management. |
| Operating systems | Microsoft Windows Server, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, CentOS, Citrix XenServer, and VMware ESXi |
| Operating temperature | 5°C to 35°C (41°F to 95°F) |
| Certification | CE, UL, FCC, CCC, VCCI, and RoHS |
| Dimensions (H x W x D) | 40.5 mm x 177.9 mm x 545.5 mm<br>(1.59 in. x 7.00 in. x 21.48 in.)<br>(not include liquid cooling inlet and outlet pipes) |