X12 FatTwin Product Family

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FatTwin: Markets and Applications

Telcos/IPDCs

- Web hosting
- Co-location
- Dedicated servers

Cloud & Storage

- Cloud environments
- Containers
- SDS
- Object

Appliances

- Firewall
- Network
- Gateway
- Security

Vertical Markets

- Education
- Surveillance
- Media Servers
- Internet Cafes

Workgroup & SMB

- File Sharing
- Collaboration
- ROBO

FatTwin X12 vs X11

X11

- SYS-F619P2-RT
- SYS-F619P2-FT
- SYS-F619P2-FT+
- SYS-F619P2-RC0
- SYS-F619P2-RC1
- SYS-F619P2-RTN
- SYS-F619P3-FT
- SYS-F629P3-RTB
- SYS-F629P3-RCOB
- SYS-F629P3-RCIB
- SYS-F629P3-RTBN

X12

- SYS-F610P2-RTN
- SYS-F620P3-RTBN

X12 FatTwin Series

Highest Efficiency and Serviceability for Enterprise and Datacenter Applications

4U Eight Node

Optimized for High Density Compute

SYS-F610P2-RT Series: 6x 2.5" NVMe/SAS/SATA

4U Four Node

Optimized for High Capacity Storage

SYS-F620P3-R Series: 8x 3.5" NVMe/SAS/SATA

KEY FEATURES

Modular Front-Accessible Nodes for Building Application-optimized Solutions

- All-hybrid hot-swappable drive bays - NVMe, SAS, or SATA

Better Thermals with New Optimized Airflow Designs

- Up to 185W TDP processors

New Levels of Compute Performance and Flexibility

- Support future generation Intel® Xeon® Scalable (Ice Lake) processors
- Large memory footprint for up to 2TB
- Dynamic storage
  - Every platform supports direct-attached full-hybrid all-NVMe for lower latency with higher throughput and IOPS
  - 4U/8Node: up to 6 hot-swappable hybrid NVMe drives per node
  - 4U/4Node: up to 8 hot-swappable hybrid NVMe drives per node (optional additional 2 drives)
- Flexible on-board networking options for up to dual 25G Ethernet
  - Also support standard PCI-E network interface card
- Redundant AC/DC Titanium (96%) Level Power Supplies

Form Factor

4U 8Node and 4U 4Node Rackmount Systems

Processors

Dual future generation Intel® Xeon® Scalable (Ice Lake) processors

Memory

16 DIMM slots, up to 2TB Support new Intel® Optane™ Persistent Memory 200 Series (Barlow Pass)

Input/Output

4U8Node: 1 PCI-E 4.0 x16 + 1 AIOM networking slot
4U4Node: 2 PCI-E 4.0 x16 + 1 AIOM networking slot

Networking

Flexible on-board networking with AIOM

Drives

4U8Node: 6x 2.5"
4U4Node: 8x 3.5"
NVMe/SAS/SATA (SAS via AOC)

Power

2200W Redundant Titanium (96%) Level

FatTwin 4U/8-Node SYS-F610P2-RTN

- Motherboard: **X12DPFR-AN6**
- 4U Chassis: **CSV-F418BC3-R2K20BP**

System Front View

System Rear View

Note: Certain high wattage/frequency CPUs are conditionally supported
Note: FatTwin is sold as a Complete System Only

Specifications (per node)

Processor Support
• Dual Intel® Xeon® Scalable Processors up to 185W TDP*

Memory Capacity
• 16 DIMM slots for up to 2TB ECC DDR4 3200MHz memory
• 4 DIMM slots for PMEM

PCI-E Expansion Slots
• 1 PCI-E 4.0 x16 Riser (LP, 6.6” length)
• 1 PCI-E 4.0 x8 for M.2 (Internal PCI-E)
• 1 AIOM PCI-E 4.0 x16 for flexible networking options

I/O ports
• 1 BMC LAN port • 1 VGA port • 2 USB 3.0 ports

System management
• Built-in Server management tool (IPMI 2.0, KVM/media over the dedicated LAN)

Drive Bays
• 6 NVMe/SATA hot-swap 2.5” drives bays

Internal Storage
• 2 M.2 NVMe/SATA (NVMe from CPU1)

System Cooling (Enclosure)
• 3 heavy duty 20K RPM fans w/ Optimal Fan Speed Control

Power Supply (Enclosure)
• Four redundant 2200W High-efficiency (Titanium level) power supplies

Dimensions (Enclosure)
• 17.63” (W) x 6.96” (H) x 29.0” (D)

SYS-F610P2-RTN: Kits / Optional Parts

Kit PN	Description/Notes	Components	
CBL-SAST-1223-85	Supports up to 2 NVMe drives	1x CBL-SAST-1223-85	Cable Kits
CBL-KIT-FRI10-NVME4	Supports up to 4 NVMe drives	1x CBL-SAST-1223-85 1x CBL-SAST-1226-85	
CBL-KIT-FRI10-NVME6	Supports up to 6 NVMe drives	1x CBL-SAST-1223-85 1x CBL-SAST-1226-85 1x CBL-SAST-1210-85	
SCC-KIT-FRB10-3808	Supports 3808 SW/HBA RAID w/ cables	1x SCC-B8SB80-B1 1x CBL-SAST-1220-100 1x CBL-SAST-1225-100	
AOC-KIT-FRB10-3908	Supports 3908 HW RAID w/ cables	1x AOC-S3908L-H8IR 1x CBL-SAST-1262-100	SAS & M.2
BTR-CV3908-FT1	SuperCap for 3908 with bracket and 24in extension cable	1x BTR-CVPM05 1x MCP-120-00092-0N 1x BOX-FOAM-089	
AOC-SMG4-2M2-F	2x M.2 NVMe carrier card (NO SATA)	1x AOC-SMG4-2M2-F	

FatTwin 4U/4-Node SYS-F620P3-RTBN

- Motherboard: **X12DPFR-AN6**
- 4U Chassis: **CSV-F424AS3-R2K20BP**

System Front View

System Rear View

*Certain high wattage/frequency CPUs are conditionally supported
FatTwin is sold as a Complete System Only

Specifications (per node)

Processor Support
- Dual Intel® Xeon® Scalable Processors up to 185W- 205W TDP*

Memory Capacity
- 16 DIMM slots for up to 2TB ECC DDR4 3200MHz memory
- 4 DIMM slots for PMEM

PCI-E Expansion Slots
- 1 PCI-E 4.0 x16 Riser (LP, 6.6” length)
- 1 PCI-E 4.0 x8 for M.2 (Internal PCI-E)
- 1 AIOM PCI-E 4.0 x16 for flexible networking options

I/O ports
- 1 BMC LAN port • 1 VGA port • 2 USB 3.0 ports

System management
- Built-in Server management (IPMI 2.0, KVM/media over dedicated LAN)

Drive Bays
- 8 SAS/SATA hot-swap 3.5” drives bays
- Up-to 6 NVMe hot-swap 2.5” drives

Internal Storage
- 2 M.2 NVMe/SATA; optional 2x 2.5” U.2 SSDs internal

System Cooling (Enclosure)
- 2 heavy duty 14K RPM fans w/ Optimal Fan Speed Control

Power Supply (Enclosure)
- Four redundant 2200W High-efficiency (Titanium level**)** power supplies

Dimensions (Enclosure)
- 17.63” (W) x 6.96” (H) x 29.0” (D)

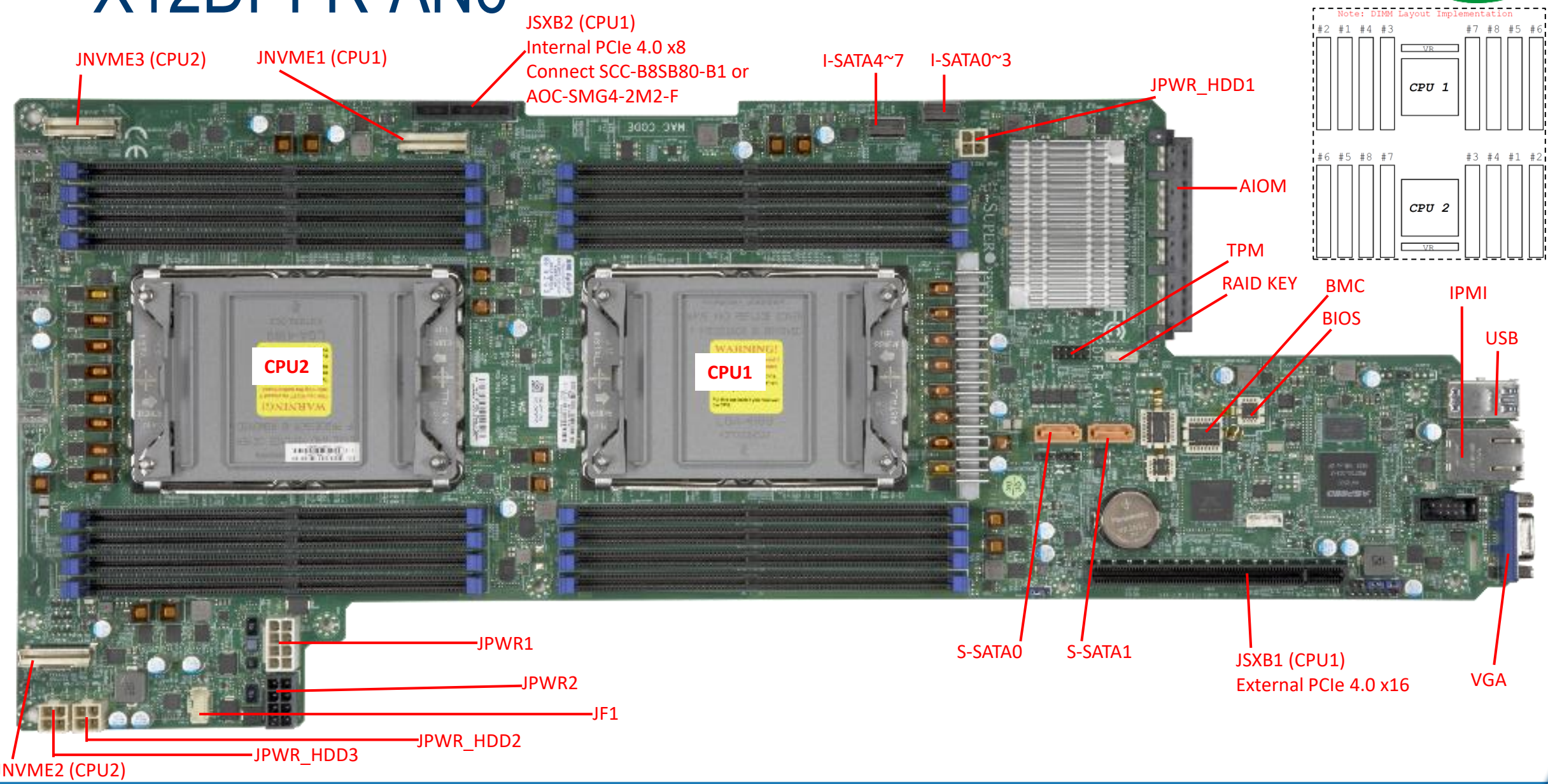
SYS-620P3-RTBN: Kits / Optional Parts (1 of 2)

Kit PN	Description/Notes	Components	
CBL-KIT-FRI20-NVME2R	Supports up to 2 NVMe drives in the Rear BPN	1x CBL-SAST-1239F-85 2x MCP-220-00140-0B	Cable Kits
CBL-KIT-FRI20-NVME2F	Supports up to 2 NVMe drives in the Front BPN	1x CBL-SAST-1241F-85 2x MCP-220-00140-0B	
CBL-KIT-FRI20-NVME4F	Supports up to 4 NVMe drives in the Front BPN	1x CBL-SAST-1241F-85 1x CBL-SAST-1231F-85 4x MCP-220-00140-0B	
CBL-KIT-FRI20-NVME6F	Supports up to 6 NVMe drives in the Front BPN	1x CBL-SAST-1241F-85 1x CBL-SAST-1231F-85 1x CBL-SAST-1239F-85 6x MCP-220-00140-0B	
SCC-KIT-FRB20-3808	Supports 3808 SW/HBA RAID w/ cables	1x SCC-B8SB80-B1 1x CBL-SAST-1225-100 1x CBL-SAST-1240-100	SAS Support
AOC-KIT-FRB20-3908	Supports 3908 HW RAID w/ cables	1x AOC-S3908L-H8IR 1x CBL-SAST-1214-100	
BTR-CV3908-FT1	SuperCap for 3908 with bracket and 24in extension cable	1x BTR-CVPM05 1x MCP-120-00092-0N 1x BOX-FOAM-089	

SYS-620P3-RTBN: Kits / Optional Parts (2 of 2)

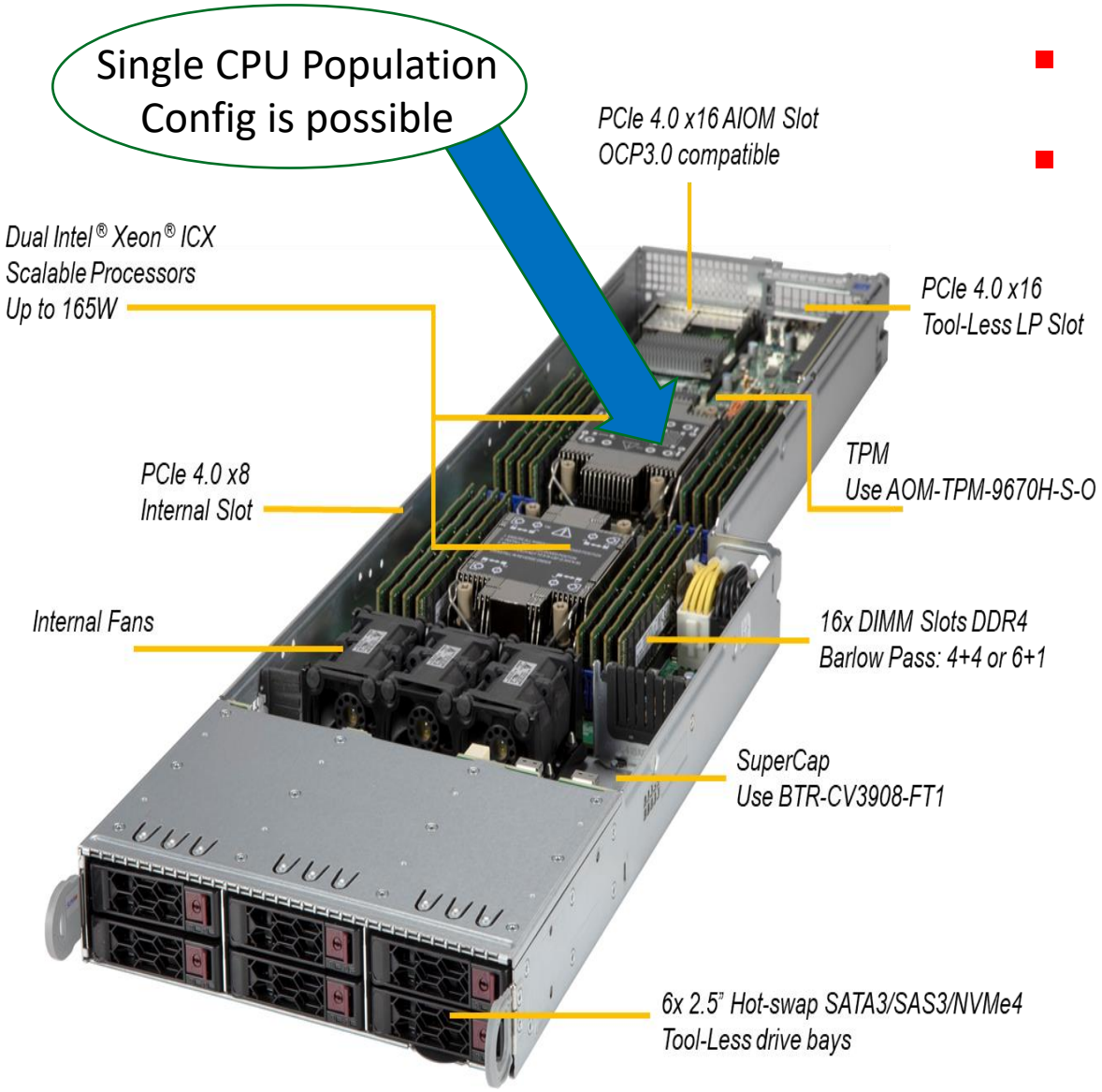
Kit PN	Description/Notes	Components	
MCP-220-42435-0N	Changes from 3.5” Rear BPN with 1 x16 PCIe slot to a 2.5” Rear BPN with a RSC that supports 2 x8 PCIe slots.	1x BPN-SAS3-F418-B2R1 1x RSC-F2B-88G4 1x MCP-240-42425-0N	Drive Converters
MCP-220-00158-0B	3.5” to 2.5” Tool-less Conversion Tray; Red Tab. For SATA/SAS drives only	1x MCP-220-00158-0B	
MCP-220-00140-0B	3.5” to 2.5” Tool-less Conversion Tray; Orange Tab. For NVMe drives only	1x MCP-220-00140-0B	
CBL-KIT-FRB20-10BAY	Additional x2 internal SATA SSDs per node	1x MCP-240-42417-0N 1x CBL-SAST-0840	Internal Drives, M.2 Carrier, Power ADP
AOC-SMG4-2M2-F	2x M.2 NVMe carrier card (NO SATA)	1x AOC-SMG4-2M2-F	
MCP-250-42426-0N	This ADP will supply power to the front drives, therefore alleviating the power consumption from the MB.	1x BPN-ADP-2UPWR-X11 1x MCP-120-42405-0N	

X12DPFR-AN6


JNVME3 (CPU2)
JNVME1 (CPU1)
JSXB2 (CPU1)
Internal PCIe 4.0 x8
Connect SCC-B8SB80-B1 or
AOC-SMG4-2M2-F
I-SATA4~7
I-SATA0~3
JPWR_HDD1
AIOM
TPM
RAID KEY
BMC
BIOS
IPMI
USB
CPU2
CPU1
JPWR1
JPWR2
JF1
JPWR_HDD2
JPWR_HDD3
JNVME2 (CPU2)
S-SATA0
S-SATA1
JSXB1 (CPU1)
External PCIe 4.0 x16
VGA

Note: DIMM Layout Implementation
#2 #1 #4 #3
#7 #8 #5 #6
CPU 1
#6 #5 #8 #7
#3 #4 #1 #2
CPU 2

FatTwin X12 Use Case: Single or Dual Socket

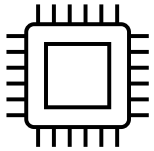


- Industry & Application: Social Media & Web Apps
- FatTwin Advantages:
  - Cold Aisle Serviceability
  - Single or Dual socket implementations
    - Most all functions available off of CPU#1
    - Support up to 270W in Single CPU configs
    - Support for IceLake 63xxU CPUs

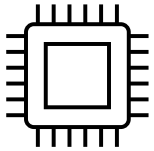
System Front View

System Rear View

X12DPFR-AN6



CPU1



CPU2

FatTwin X12 Customer: Web Hosting

System Front View

System Rear View

- Industry: Social Media
- Application: Cloud and Web applications
- Territory: North America
- Fat Twin Advantages:
  - Cold Aisle Serviceability and Ease of maintenance
  - Optimized for Density

Fat Twin X12 Customer: MySQL

System Front View

- Industry: Developers
- Application: Edge
- Territory: USA
- Distribution Partner with Cloud Service Provider
- Fat Twin Advantages:
  - Front accessible
  - High Density Cloud Computing
  - NVMe & High Capacity Drives
  - Shared Titanium level redundant power supply

X12 FatTwin Rear IO Summary

- 8 Node per 4U system (1/2 RU per Node)
- Dual CPU sockets & 16 DIMMs per node
- 6x 2.5” SSD/HDD devices per node
- M.2 support, AIOM & PCIe Gen 4 LP
- NVMe, SATA, SAS Optional

- 4 Node per 4U system (1 RU per Node)
- Dual CPU sockets & 16 DIMMs per node
- 8x 3.5” SSD/HDD per Node
- M.2 Support, AIOM & PCIe Gen 4 LP
- NVMe, SATA, SAS Optional

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