Product Brief

Intel® Modular Server built on Intel® Multi-Flex Technology

Intel® Modular Server

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A simple, flexible system that provides exceptional value

The Intel® Modular Server built on Intel® Multi-Flex Technology integrates storage, computing, and networking to simplify complex IT environments. The Intel Modular Server is a business-in-a-box server system with seamless installation, migration, and growth capabilities. It has the ability to support up to six Server Compute Modules and 14 SAS 2.5" hard disk drives, as well as two Ethernet Switch Modules, integrated SAN, and a Management Module. The Intel Modular Server is a flexible and powerful solution for the small to midsize business.

Intel® Modular Server

Features	Benefits
Scalable Server Compute Capacity	Supports up to six Multi-Core Intel® Xeon® dual processor-based Server Compute Modules.
Virtual, Integrated Shared Storage	Diskless Server Compute Modules utilize the integrated SAN with virtual drives to increase flexibility and maximize storage capacity. Purchase only what you need, when you need it.
Virtual Presence GUI Management	Manage your system as if you were standing right in front of it with the Virtual Presence GUI Management Interface.
Integrated Networking	Dual Gb Ethernet switches offer ten 1 GbE uplinks per module.
Full Redundancy & Hot Swap Capabilities	Hot-swappable Server Compute Modules and storage drives let you increase capacity on-demand. Redundant modules and hot spare options improve IT availability of the Intel Modular Server.
Flexible Power Options	Chassis power supplies can utilize 100-240V power, eliminating special power requirements worldwide. The consolidated power and cooling features reduce operating costs.

Chassis

The chassis can be configured as either a 6U rack mount or as a horizontal pedestal base to provide flexibility in choosing the right setup for your business. It is designed to support multiple generations of Server Compute Modules, allowing swift upgrades to the latest computing technology.

Storage Control Module

The Storage Control Module manages the Shared Storage Bay and connects to the Chassis Management Module. Features include:

- RAID 0, 1, 1E, 5, 6, 10
- Expansion to connect an external SAS RAID array through a mini x4 external SAS port to allow sharing of external storage with all Server Compute Modules
- Optional second Storage Management Module for redundancy and performance
- Battery backup
- Global and dedicated hot spares

Ethernet Switch Module

The Intel Modular Server can be configured with up to two Ethernet Switch Modules for redundancy. Each switch module features:

- Non-blocking wire-speed performance
- Ten external 10/100/1000 GbE full-duplex ports to provide enough performance to handle demanding applications
- Twelve internal 1 GbE full-duplex ports
- Layer 2+ features
- Switch configuration capabilities through the Management Module

Management Module

The Management Module provides management capabilities for the entire system through a Virtual Presence GUI Management System. Virtual Presence GUI Interface features:

- Real time hardware information
- Context-sensitive actions
- Remote management
- Intuitive navigation with tabs and a navigation bar
- End-to-end management
- Direct device selection
- Web management via Microsoft* Internet Explorer* or Mozilla* Firefox*

Server Compute Module

The Server Compute Module MFS5000SI is based on the Intel® 5000P series chipset and supports Multi-Core Intel® Xeon® processors.

MFS5000SI Features

- Supports up to two Multi-Core Intel® Xeon® processors
- Server has 8 FB DIMM slots for up to 32 GB of memory
- Integrated LSI 1064E SAS Controller
- Integrated Remote KVM, Remote Media Redirection, and Remote Serial Console.
- Front panel includes video and 2 USB I/O ports

Mezzanine Card

The Server Compute Modules support an optional dual channel gigabit Ethernet Mezzanine Expansion Card.

Intel Modular Server Control lets you:

- Remote Manage your server modules
- Power on/off
- Troubleshooting
- Remote KVM & CD
- Server Configuration
- Configure Shared Storage
  - Assign drives to storage pools
  - Create a virtual drive
  - Assign virtual drives to server modules
- Designate global/hot spares
- Reassign storage pools or virtual drives

The Dashboard gives an overall system status view within the Modular Server Control

The Virtual Presence Modular Server Control allows you to see the components you physically have loaded in your system—even if they are powered down

The back view of the chassis allows you to see the status of your modules and power supplies

Under the Storage Configuration window, you can create storage pools and virtual drives, as well as map virtual drives to servers

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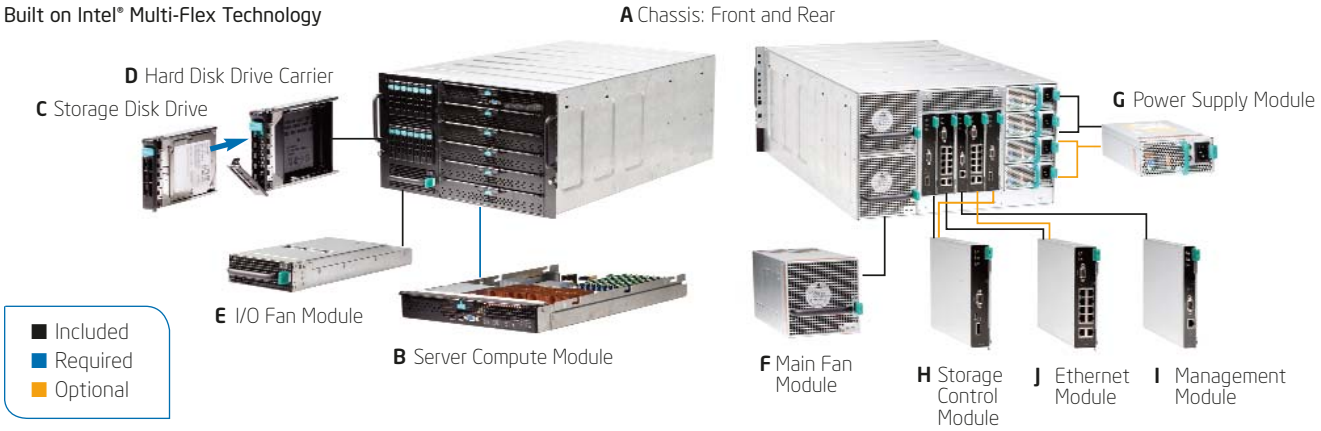

A Chassis
- 1–6 Server Compute Modules
- Storage Drive Bay

B Server Compute Module (required)
- Model MFS5000SI
- Up to 2 Multi-Core Intel® Xeon® processors
- Contains 8 FB DIMM slots for up to 32GB
- Supports an optional Mezzanine expansion card

C Storage Hard Disk Drive (required)
- Up to 14 2.5" SAS drives

D Hard Disk Drive Carriers (included)

E Hot-Swappable I/O Fan Module (included)

F Hot-Swappable Main Fan Module (included)

G Hot-Swappable Power Supply Module (2 included, 2 optional)
- 3 + 1 redundancy

H Storage Control Module (1 included, 1 optional)
- Up to 2 Storage Control Modules for redundancy

I Management Module (included)

J Ethernet Switch Module (1 included, 1 optional)
- Up to 2 Ethernet Switch Modules
- Each module features 10/100/1000GbE full-duplex ports

Technical Specifications

Chassis Configuration	▪ 6U rack mount or pedestal based
Front	▪ Storage drive bay supports 14 hot-swap 2.5" SAS drives ▪ Up to 6 Server Compute Modules ▪ One Hot Swap I/O Fan Module
Rear	▪ One Management Module ▪ Up to two Ethernet Switch Modules ▪ Up to two Storage Control Modules ▪ Four power supply bays for 3+1 redundancy ▪ Two hot swap fan modules
Mid-Plane	▪ Connects subsystems to the Management Module ▪ Designed for multiple generations of Server Compute Modules ▪ Provides I/O for the system

Storage Control Module	▪ RAID: 0, 1, 1E, 5, 6, 10
	▪ I/O:
	  ▪ External extended storage mini SAS port
	  ▪ Six internal 3GbPS SAS channels
	▪ Active-Active redundancy
	▪ Battery Backup

Ethernet Switch Module	**Ports** ▪ Ten external 10/100/1000 GbE full-duplex ports ▪ Twelve internal 1-GbE full-duplex ports **Management** ▪ Port, VLAN, and Advanced Switch Configuration via the Management Module **Layer 2+ features** ▪ ACL, QOS, Link Aggregation, 10K Jumbo Frame support, VLAN support, STP, and RSTP ▪ Non-blocking I/O, wire-speed performance
Management Module	**I/O** ▪ External 10/100 Ethernet port ▪ External serial port **Remote Management** ▪ Remote Media ▪ Remote Console

Server Compute Module	**Processors** ▪ Based on the Intel® 5000P series chipset and supports multi-core Intel® Xeon® processors **Intel® 5000P chipset family, including:** ▪ Intel® 5000P Memory Controller Hub ▪ Intel® 6321ESB I/O Controller Hub **Memory** ▪ 8 fully-buffered DIMM (FBDIMM) slots supporting up to 32GB of memory **On-board host bus adapter** ▪ LSI* 1064e SAS controller **LAN** ▪ Two integrated 10/100/1000 Ethernet ports and two optional 10/100/1000 Ethernet ports via the Mezzanine Card **On-board Video** ▪ Server Compute Module ATI* ES1000 video controller with 16 MB of DDR SDRAM **External Connectors** ▪ Two USB 2.0 ports ▪ Video connector **Internal Connectors** ▪ One Intel® I/O Mezzanine Connector supporting an optional Mezzanine Card
Mezzanine Card	▪ Provides additional dual-channel Ethernet ports ▪ Intel® Modular Server Accessory AXXGBIOMEZ
Chassis Size	▪ Height: 10.3 inches (6U) ▪ Width: 17.5 inches ▪ Depth: 28.4 inches ▪ Weight with full configuration: 187 lbs.
Chassis Power Requirements	▪ Up to four 1,000-watt DC output power supply modules with 110-240V AC input ▪ Full system configuration power requirements: 3,000 watts
Chassis Acoustical Noise Emissions	▪ Sound power 70 dB maximum
Chassis Environment	▪ Temperature operating: 10°C to 35°C 50°F to 95°F ▪ Temperature non-operating: -40°C to 70°C -40°F to 158°F ▪ Altitude: -30 to 1,500 m -100 to 5,000 ft
Chassis Safety	▪ UL60 950, CSA60 950, AS/NZS 3562, GB4943-1995, EN60 950 and 73/23/EEC, IEC 60 950, EMKO-TSE (74-SEC) 207/94, GOST-R 50377-92
Chassis Emissions	▪ Certified to FCC Class A; tested to CISPR 22 Class A, EN 55022 Class A and 89/336/EEC, VCCI Class A, AS/NZS 3548 Class A, ICES-003 Class A, GB9254-1998, MIC Notice 1997-42 Class A, GOST-R 29216-91 Class A, BSMI CNS13438

For more information on the Intel® Modular Server and Intel® Multi-Flex Technology, visit:
www.intel.com/go/mft

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www.intel.com/serverproducts

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