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Mission Peak NGSFF All Flash NVMe Reference Design

Key Features

- All Flash NVMe storage solution
- 1U form factor
- 10M IOPS (User Mode Driver)
- 36 NGSFF NVMe SSDs with hot-swap
- Front loading in 1U
- Half petabyte in 1U form factor
- Balanced storage Network architecture with 300Gbps NIC throughputs

Target Workloads:

- Scale-out Storage
- Database
- Real-time Analytics
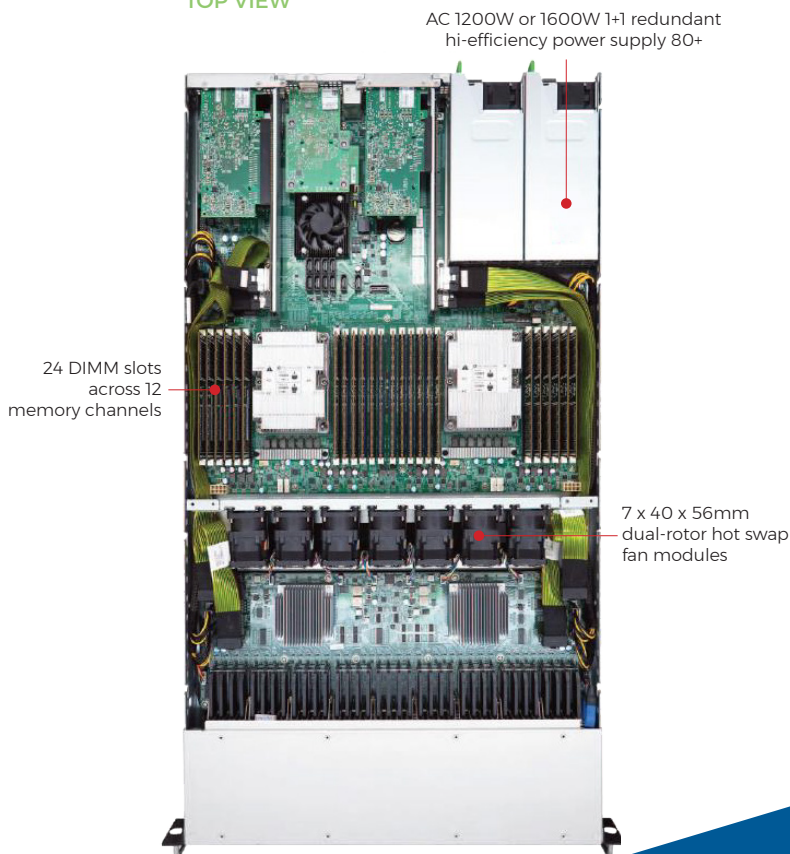- Content Distribution Networks (CDN)

A_1

PARTNER

AIC

HIGH PERFORMANCE

The system delivers 10 million random read IOPS of storage performance, balanced with 300 Gbps of Ethernet throughput. This performance and balance with networks bandwidth are ideal for applications that transfer stored data over network, such as content delivery networks and scale-out storage systems. With dual-socket Intel Skylake-SP CPUs, and up to 24 DDR4 DIMMs of memory, the system is also great for I/O intensive local workloads, such as real-time analytics and database servers.
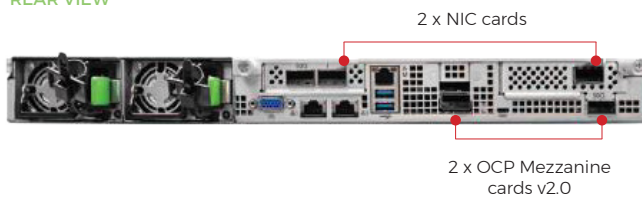
HIGH DENSITY

The system features up to 36 front-serviceable NGSFF SSD bays in only 1U. NGSFF devices are specifically designed for all-flash servers and optimized for 1U designs. This enables Mission Peak to offer 5X the capacity relative to prior-generation U.2 designs.
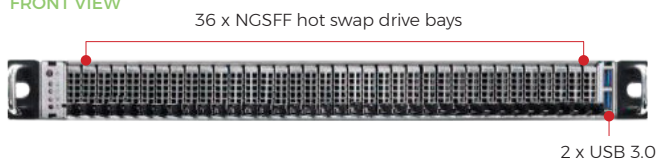
For more information, or for purchasing information, email: SSD@SSI.Samsung.com

TOP VIEW

AC 1200W or 1600W 1+1 redundant
hi-efficiency power supply 80+

24 DIMM slots
across 12
memory channels

7 x 40 x 56mm
dual-rotor hot swap
fan modules

REAR VIEW

2 x NIC cards

2 x OCP Mezzanine
cards v2.0

FRONT VIEW

36 x NGSFF hot swap drive bays

2 x USB 3.0

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SPECIFICATIONS

Dimensions (W x D x H) (with chasis ears)	mm: 482.6 x 801.2 x 44	
	inches: 19 x 31.5 x 1.7	
Motherboard	AIC Server Board Lynx	
Processor	Processor support	Two Intel® Xeon® Scalable Processor family
	UPI Speeds	10.4 GT/s
	Socket Type	Socket P0 (LGA-3647 Socket)
Chipset Support	Intel® C620 Chipset	
System Memory	· 24 DIMM slots across 12 memory channels (6 memory channel per CPU; 2DPC) - DDR4 2666 (1DPC) - DDR4 2400 (2DPC)	
Front Panel	· Power on/off · Two USB 3.0 Type A connectors	
LEDs	· Power · Drives activity · LAN activity · System alert	
Drive Bays	External	NGSFF hot swap	36
	Internal	2 x M.2 to support PCIe Gen 3.0 x 4 or SATA
Backplane	1 x 36-port NGSFF PCIe SSD backplane	
Expandsion Slots	PCIe 3.0	· 2 x NIC cards · 2 x OCP Mezzanine cards v2.0

System BIOS	BIOS Type	· Insyde UEFI BIOS · SPI (Serial Peripheral Interface) FLASH Interface
	BIOS Features	· ACPI · PXE · WOL · AC loss recovery · IMPI 2.0 KCS interface · SMBIOS · Serial console redirection · BIOS Boot Specification · BIOS Recovery Mode · SRIOV · iSCSI · TPM · PCIe Hotplug
On-board Devices	SATA	Intel® C620 Chipset to support 10x SATA
	IPMI	Aspeed AST2500 Advanced PCIe Graphics & Remote Management Processor
	Network Controllers	Intel® Ethernet Controller I210 Gigabit MAC/PHY to support 2 x RJ45 GbE
	Graphics	Aspeed AST2500 Advanced PCIe Graphics & Remote Management Processor · PCIe VGA/2D Controller · 1920 x 1200 @60Hz 32bpp