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Product Brief : VIRAJ-100 Server

VIRAJ-100 Server is a dual-socket server platform based on 3rd Gen Intel Xeon Scalable processors. This Server offers a balanced system design with accelerated performance and capacity across the platform, including memory, storage, networking, and I/O, which can be flexibly configured to optimally meet various user needs. The system supports 32 DIMM Memory slots, 8 PCIe slots across 3 Riser cards and integrated 24 drive bays for 2.5" SATA/NVMe drives.

- **Compute performance:** Supports up to 40 high-speed cores per processor, and up to 80 cores per server, delivering outstanding dual-socket, high core count density and performance.

- **High memory bandwidth and capacity:** Fast data transfer with 8 memory channels per processor running at 3200 MT/S, and memory capacity with 16 DIMMs per processor for up to a total of 8 TB of DDR4 memory.

- **Storage:** System supports up to 24 x 2.5" hot-swappable SATA/NVMe drives.

- **High-speed networking:** System supports PCIe 4.0 add in cards and OCP3.0 Mezzanine card for terminating interfaces upto 200Gbps.

- **Large I/O Capability:**   System supports 8 PCIe 4.0 add on cards, with up to 16 lanes per slot with each lane operating at 16 GT/s, for terminating interfaces upto 200Gbps.

- **High Speed I/O Interconnect between processors:** Up to 3 Intel Ultra Path Interconnects to accelerate I/O and memory accesses between processors.

- **Hardware-enhanced security:** Hardware-enhanced security innovation with Intel Software Guard Extensions(Intel SGX) and new hardware-level cryptographic algorithm implementations to protect sensitive apps, data, and firmware, to help keep data safe without any performance penalty.

Server Specifications	Details
Processor Support	• Supports various SKUs of 3rd Gen Intel Xeon Scalable processors - Intel Xeon Platinum 8300/Gold 6300/Gold 5300/Silver 4300 processors • Supports Intel UPI links: three @ 11.2 GT/s (Platinum and Gold families) or two @ 10.4 GT/s (Silver family) • Supports Dual Socket-P4 LGA4189
PCH Chipset	Intel C620 Series Chipset

Memory Support	• 32 DIMM slots
	  - 16 DIMM slots per processor, eight memory channels per processor
	  - Two DIMMs per channel
	  - All DDR4 DIMMs support ECC
	• Supports Registered DDR4 (RDIMM), Load Reduced DDR4 (LRDIMM)
	• Total Memory capacity: up to 8 TB
	• Memory data transfer rates: up to 3200 MT/s at one or two DIMMs per channel

Onboard PCIe NVMe Support	• Supports up to 10 PCIe NVMe devices, directly from motherboard
	  - Eight onboard SlimSAS connectors, four per processor
	  - Two M.2 NVMe/SATA connectors
	  - Hot swappable NVMe drives with Recovery support

Onboard SATA Support	• 10 x SATA III ports (6 Gb/s, 3 Gb/s and 1.5 Gb/s transfer rates supported), directly from motherboard
	  - Two 4-port mini-SAS HD (SFF-8643) connectors
	  - Hot swappable SATA drives

USB Support	• Three external USB 3.0 connectors at rear of chassis. • One USB 2.0 and One USB 3.0 connectors at the front of chassis
Serial Support	One external RJ-45 serial-A port connector at rear of chassis
Open Compute Project Support	Supports standard hot pluggable third generation OCP modules
Riser cards support	Concurrent support for up to 3 Riser cards with support for up to 8 x PCIe 4.0 add-in cards of various form factors such as FHFL, FHHL and LPHL. Riser Slot #1: • Supports upto 3 PCIe add-in cards. • Supports x32 PCIe lanes Riser Slot #2: • Supports upto 3 PCIe add-in cards. • Supports x32 PCIe lanes Riser Slot #3: • Supports upto 2 PCIe add-in cards. • Supports x16 PCIe lanes
Server Management	BMC - Integrated Baseboard Management Controller • Intelligent Platform Management Interface (IPMI) 2.0 compliant • Redfish compliant • Dedicated onboard RJ45 1 GbE management port • KVM and Virtual Media support • NC-SI support for Sideband Management Communication • Server health logging • Crash Dump support • Remote Debugging support for host CPU
Security Support	The following security features are supported along with Platform Firmware Resilience • Intel Software Guard Extensions • Intel Trusted Execution Technology • Intel Total Memory Encryption • Trusted Platform Module 2.0 • Chassis Intrusion detection
BIOS	Unified Extensible Firmware Interface (UEFI)-based BIOS
OS	Ubuntu Server, RHEL Server, SLES and Windows Server

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