



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, deliver 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 3200MTPS, 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 on cards and OCP3.0 Mezzanine card for terminating interfaces upto 100Gbps.
- **Large I/O throughput:** System supports 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 shelves) or two @ 10.4 GT/s (Silver shelf) - 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 - 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 LTS



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