R1770/R1970

Scalable, High Performance 1U Server

| Form Factor | 1U | CPU Number | 2 | Memory Number | 32 |

The R1770/R1970 is a server powered by 3rd Gen Intel Xeon Scalable processors that supports up to 32 DIMMs, one dual-slot GPU, 12 NVMe, three plus one PCIe slots, optional OCP 3.0 slot, dual M.2 and ASUS ASMB10-iKVM.

FEATURE

• Powered by dual-socket 3rd Gen Intel Scalable processors
• CPU maximum TDP of up to 270W with 32 DIMMs and support
• GPU-optimized design allows one dual-slot GPU for AI workloads
• Up to 12 all-flash NVMe
• Up to 3+1 PCIe® 4.0 slots
• Flexible onboard LAN-module design
• Flexible air- and liquid-cooling solution

3rd Gen Intel Xeon Scalable processors

The latest Intel Xeon scalable processors offer up to 1.42x more cores per CPU and 1.52x computing performance increase. The R1770/R1970 supports dual Intel Scalable processors to enable up to 32 DIMM slots, all flash and PCIe Gen 4.0.

PCIe 4.0 Ready

PCI Express® (PCIe®) 4.0 delivers 16 GT/s bandwidth, which is double the speed of PCIe 3.0, offering lower power consumption, better lane scalability and backwards compatibility.

GPU and FPGA Support

Up to one dual-slot GPU card such as NVIDIA A100 in one 1U system and optimized acceleration for workloads across cloud, data center and for hybrid cloud environment.

Cooling Solutions

Air or liquid-cooled solutions. Asetek's Direct-to-Chip (D2C) liquid-cooling technology achieving lower power-usage effectiveness (PUE) and optimized TCO for data centers.

Enhanced Security

PFR FPGA as the platform Root-of-Trust solution for firmware resiliency Trusted Platform Module 2.0 (TPM 2.0) to secure

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hardware through integrated cryptographic keys and offer regular firmware update for vulnerabilities.

Specifications:

Processor Support		2 x Socket P+ (LGA 4189) 3rd Gen Intel® Xeon® Scalable Processors Family (270w) UPI (11.2 GT/s)
Core Logic		Intel® C621A Chipset
Memory	**Total Slots** **Capacity** **Memory Type** **Memory Size**	32 (8-channel per CPU, 16 DIMM per CPU) Maximum up to 6TB DDR4 3200/2933 RDIMM/LR-DIMM/LR-DIMM 3DS *Refer to ASUS server AVL for the latest update 64GB, 32GB, 16GB, 8GB RDIMM 256GB, 128GB, 64GB RDIMM 3DS 128GB, 64GB LRDIMM 128GB LR-DIMM 3DS 512GB, 256GB, 128GB Intel® Optane™ DC persistent memory 200 Series (DCPMM)
Expansion Slots	**Total PCI/PCI-X/PCI-E/PIKE Slots** **Slot Type**	3+1 1 x PCIe x16 slot (Gen4 x16 link), FH, HL (CPU1) 1 x PCIe x16 slot (Gen4 x16 link), FH, HL or OCP3.0 Mezzanine slot (CPU2) 1 x PCIe x16 slot (Gen4 x16 link), LP (CPU2) (if PCIe M.2 is in use, it will operate at x8 link) Proprietary Slot: 1 x PCIe x8 slot (Gen4 x8 link), LP (Internal Slot for PIKE) (CPU1)
Disk Controller	**SATA Controller**	Intel® PCH C621A - Intel® RSTe: Support software RAID 0, 1, 10 & 5 - Intel® VROC: Support software RAID 0, 1, 10 & 5, 50
	SAS Controller	Optional kits: Broadcom 9361-8i 8-port SAS 12G HW RAID card (Optional)
Storage Bays	**I = internal** **A or S will be hot-swappable**	Front bays 12 x 2.5" hot-swap bays (12 x NVMe/SAS*/SATA) *SAS support only from SAS HBA/RAID card 2 x M.2 connector (NGFF 2280/2260. PCIe Gen4 x4 link) (CPU2)
Networking	**LAN**	Optional 1 x Quad Port Intel I350-AM4 1G LAN Controller* or 1 x Dual Port Intel X710-AT2 Gigabit 10G LAN Controller Default Management Port * Only for non-GPU SKU
Graphic	**VGA**	Aspeed AST2600 64MB
I/O Ports		**Front I/O Ports:** N/A **Rear I/O Ports:** 2 x USB 3.2 Gen1 ports 1 x VGA port 1 x RJ-45 Mgmt LAN port 4/2 x NIC ports* * The number of NIC ports available depends on the LAN Controller card installed.
Switch/LED		**Rear Switch/LED:** 1 x Port 80 LED (Q-Code) 1 x Power Switch w/ LED 1 x Location Switch w/ LED **Front Switch/LED:** 1 x Power Switch (w/ LED) 1 x Reset Switch 1 x Location Switch (w/ LED) 1 x HDD Access LED* 1 x Message LED, LAN 1/3 and 2/4 LED (on NIC module)** * The HDD Access LED is only functional when an ASUS PIKE II card is installed and connected. ** The number of LAN LEDs available depends on the LAN Controller card installed.
OS Support		Please find the latest OS Support From https://www.asus.com/event/Server/OS_support_list/OS.html
Management Solution	**Software** **Out of Band Remote Management**	ASUS Control Center (Classic) On-Board ASMB10-iKVM for KVM-over-IP

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Dimension	842.5mm x 439.5mm x 44mm (1U)
Net Weight Kg (CPU, DRAM & HDD not included)	13.7 kg
Gross Weight Kg **(CPU, DRAM & HDD not included, Packing included)**	22.56 kg
Power Supply	1+1 Redundant 1600W 80 PLUS Platinum Power Supply
Environment	Operation temperature: 10℃ ~ 35℃ Non-operation temperature: -40℃ ~ 60℃ Non-operation humidity: 20% ~ 90% (non-condensing)