E-2900 R7 (24x2.5")

High-Reliability, High-Density Enterprise Computing Systems

UNICOM Engineering's next generation E-Series platforms are built on 4th Gen Intel® Xeon® Scalable processors with support for the latest Intel Optane persistent memory, network adapters, and storage. UNICOM Engineering's E-2900 R7 offers the performance and reliability of the 1U E-1800 R7 platforms but adds expansion capabilities via more I/O and accelerators, up to 9 expansion cards, and 24 hot swap drives in a scalable 2U rack mount solution. Multiple configurations allow software and solution providers to customize the system solution to match high-density storage and I/O requirements while considering utilization requirements and overall value. Optimized for a variety of cloud, AI, and HPC workloads; customers can now build a greater variety of enterprise security, communications, video, and storage solutions as well as energy-efficient general purpose data center building blocks.

Features and Benefits

Built for Performance

- Supports up to two Intel Sapphire Rapids-SP Microarchitecture processor for maximum performance and density
- Supports up to 32 DDR5-4800 MT/s ECC DIMMs across 16 channels for faster application execution and greater overall stability
- Supports up to 16 Intel Optane Persistent Memory 300 series modules for even greater application performance
- Supports any combination between 24x2.5" SATA/SAS/NVMe hot swap drive bays allow ideal customization to meet the storage needs of various applications
- PCIe Gen5 provides support for the latest generation of network, accelerator, and RAID controllers

Built for High-Reliability Applications

- Enterprise class SAS/SSD/NVMe drives, and RAID ensure maximum reliability
- Hot swap drives and power supplies ensure low Mean-Time-To-Repair (MTTR)
- Redundant hot swap power supplies ensure high reliability in case of a failure

Gain a Competitive Advantage

Many times the best way to deliver a truly competitive solution is to leverage the products, skills, and resources of proven partners. Building on innovative Intel technology, UNICOM Engineering's design, integration, logistics and support expertise helps customers streamline software application deployment and shorten time to revenue. Our strong foundation of engineering expertise, process-driven manufacturing, technology partner relationships, and an unrelenting commitment to quality has made UNICOM Engineering one of the most trusted deployment partners in the industry.

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technical specifications

E-2900 R7 Rear View

Form Factor
2U rack mount

Dimensions (HxWxD)
3.42" (87mm) x 17.26" (438.5mm) x 30.3" (769.6mm)

Processor Support
- Support for one or two Intel Xeon Sapphire Rapids-SP CPUs
- Dual Socket – E LGA4677
- Maximum supported Thermal Design Power (TDP) of up to 250W

Chipset
Intel C741 Platform Controller Hub (PCH) chipset

Memory
- 32 DIMMs slots, 16 DIMM slots per processor
- 8 memory channels per processor, 2 DIMMs per channel per processor
- DDR5-4800 MT/s ECC Registered
- Intel Optane Persistence Memory 300 series modules

Storage Bays
- 24 SAS/SATA/NVMe drive bays
- 2xM.2 NVMe/SATA connectors

Storage Options
- 2.5" SATA SSD, 6 Gb/s
- 2.5" NVMe SSD, U2
- M.2 SATA/NVMe SSD

Integrated RAID Support
- On-Board SATA Software RAID levels 0/1/5/10

OCP Module Slot
- 1 Intel OCP 3.0 Expansion Module slot to support an optional module
- 10 GbE SFP+, 25 GbE SFP28, 50 GbE SFP28, 100 GbE QSFP28 NICs

Riser Cards
- Support for 3 riser card slots, Max 8 PCIe addin cards
- PCIe 5.0 support for up to 64 GB/s
- Riser Slot #1 optional cards, supports x32 PCIe lanes, routed from CPU 0:
  - 2 PCIe slot card supporting: 1 FH/FL double-width slot (x16 electrical, x16 mechanical) + 1 FH/HL single-width slot (x16 electrical, x16 mechanical)
  - 2 PCIe slot card supporting: 2 FH/HL single-width slot (x16 electrical, x16 mechanical)

- 3 PCIe slot card supporting: 1 FH/FL single-width slot (x16 electrical, x16 mechanical) + 1 FH/FL single-width slot (x8 electrical, x16 mechanical) + 1 FH/HL single-width slot (x8 electrical, x8 mechanical)
- NVMe card supporting: 1 HL or FL single-width slot (x16 electrical, x16 mechanical) + 2 x8 PCIe NVMe MCIO Connectors
- Riser Slot #2 optional cards, supports x32 PCIe lanes, routed from CPU :
  - 2 PCIe slot card supporting: 1 FH/FL double-width slot (x16 electrical, x16 mechanical) + 1 FH/HL single-width slot (x16 electrical, x16 mechanical)
  - 2 PCIe slot card supporting: 2 FH/HL single-width slot (x16 electrical, x16 mechanical)
  - 3 PCIe slot card supporting: 1 FH/FL single-width slot (x16 electrical, x16 mechanical) + 1 FH/FL single-width slot (x8 electrical, x16 mechanical) + 1 FH/HL single-width slot (x8 electrical, x8 mechanical)
- Riser Slot #3 optional cards, supports x16 PCIe lanes, routed from CPU 1:
  - 2 PCIe slot card supporting: 2 LP/HL single-width slot (x8 electrical, x16 mechanical)
  - NVMe card supporting: 2 x8 PCIe NVMe SlimSAS Connectors

PCIe Cards and Add-in Options
- 1 GbE, 10 GbE, 25 GbE 50 GbE, 100 GbE NICs, Copper, Fiber
- SATA/NVMe SSD
- Entry / Enterprise RAID Controllers
- 16 Gb Fibre Channel

External I/O
- 1 Video ports (DB-15) – rear
- 2 USB 3.0 ports – 1 rear, 1 front
- 3 USB 2.0 ports – 2 rear, 1 front
- 1 RJ-45 serial port – rear
- 1 Dedicated RJ-45 server management port – rear

Server Management
- Integrated Baseboard Management Controller (BMC)
- Intelligent Platform Management Interface (IPMI) 2.0 Compliant
- One Dedicated RJ-45 server management port

Security
Optional Intel Trusted Platform Module (TPM) 2.0

Front Control Panel
- System ID Button with integrated LED
- Non-Maskable Interrupt (NMI) Button
- Drive Activity LEDs
- System Cold Reset Button
- System Status LED
- Power / Sleep Button with integrated LED

System Fans
- 6 hot swap 60mm system fans
- Fans integrated into each installed power supply module

Power Supply Options
- Up to 2 hot swap, redundant capable power supply
- 1300W AC (80 PLUS Titanium), 1600W AC (80 PLUS Titanium), 2100W AC (80 PLUS Patinum)

OS Support
- Microsoft Windows Server 2022 / 2019
- Red Hat Enterprise Linux 8.5 / 7.9
- SuSE Enterprise Linux 15 sp3
- Ubuntu Linux 21.10-LTS
- VMWare ESXi 8.0 / 7.0 Update 3 / 6.7 Update 3
- CentOS 7.9

Regulatory Approval
- National Recognized Testing Laboratory (NRTL), Conforming European (CE) Mark / Safety, Certification Body (CB)
- Federal Communications Commission (FCC) Parts 15 Class A, Voluntary Control Council for Interference (VCCI), Australia & New Zealand Regulatory Compliance Mark (RCM)
- Restriction of the use of certain Hazardous Substances (RoHS) Compliant

Environment
- Operating Temperature: 10°C to 35°C (50 to 95°F)
- Non-Operating Temperature: -40°C to 70°C (-40 to 158°F)
- Non-Operating Humidity: 50% to 90%, non-condensing at 28°C (82°F)

Warranty
- Standard two-year limited warranty, return to factory
- Optional extended warranty and advance replacement service.

Support and Maintenance Services

UNICOM Engineering offers a variety of support and maintenance service programs to ensure high availability, rapid response, effective troubleshooting, fast parts replacement and 24-hour support.

Please visit www.unicomengineering.com/supportservices for more information.

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