RM2970 2U Rackmount Server with NVIDIA Tesla P100 GPU Accelerators

A perfect deep learning platform powered by 8 or 10 core IBM® POWER8 processors and up to 4 NVIDIA® Tesla® P100 GPU Accelerators with NVIDIA NVLink™ technology.

The Cirrascale RM2970 POWER8®-based performance platform is a dual-socket POWER8 machine that has eight DDR4 memory risers, complete with the "Centaur" memory buffer chips from IBM that sport 16MB of L4 cache memory per card. The RM2970 platform supports up to 1TB of memory using 16GB memory sticks utilizing riser cards that support eight DIMMs. Additionally, the RM2970 platform supports 8 or 10 core POWER8 processors and provides the capability to support four NVIDIA® Tesla® P100 GPU Accelerators with NVLink for those interested in multi-GPU capabilities.

The POWER8 is designed to be a massively multithreaded chip, with each of its cores capable of handling eight hardware threads simultaneously, for a total of up to 80 threads executed simultaneously on the 10-core POWER8 processor. The processor makes use of very large amounts of on- and off-chip eDRAM caches, and on-chip memory controllers enabling very high bandwidth to memory and system I/O. For most workloads, the chip is said to perform two to three times as fast as its predecessor (POWER7).

The Cirrascale RM2970 contains up to four NVIDIA® Tesla® P100 GPU Accelerators, the world's most advanced datacenter accelerator ever built. Powered by four ground-breaking technologies with discontinuous jumps in performance, Tesla P100 enables lightning-fast nodes to deliver the highest absolute performance for HPC and deep learning workloads with infinite computing needs.

Additionally, the NVIDIA Tesla P100 utilizes NVIDIA NVLink™ technology. NVIDIA NVLink is a high-bandwidth, energy-efficient interconnect that enables ultra-fast communication between the CPU and GPU, and between GPUs. The technology allows data sharing at rates 5 to 12 times faster than the traditional PCIe Gen3 interconnect, resulting in dramatic speed-ups in application performance and creating a new breed of high-density, flexible servers for accelerated computing.

Benefits at a Glance

- POWER8 system perfect for deep learning applications.
- Delivers the capability to support up to four NVIDIA Tesla P100 GPU Accelerators with NVLink.
- Open systems, open architecture solution that ensures easy future upgrades to the latest hardware.
- Supports up to 1TB of memory with up to 230GB/sec of memory bandwidth.
- Supports POWER8 processors with 8 or 10 cores.

Contact Us Today

To learn more about Cirrascale and its unique data center infrastructure solutions, please visit us on our website at www.cirrascale.com or contact one of our Account Managers by calling (888) 942-3800.

RM2970 POWER8 Rackmount Platform

Cirrascale RM2970 Development Platform

With the consistent advances in technology, Cirrascale engineering and development teams are constantly testing and deploying the latest technical specifications being offered by our technology partners. We make every effort to provide the below specifications error-free and up-to-date. However, we always encourage our customers to contact us to discuss Cirrascale's latest improvements to its products.

Cirrascale RM2970 System Specifications

2U rackmount server chassis containing:

Processor:
- Dual IBM® POWER8® 8-core / 10-core processors
- Up to 190W TDP per processor

Memory:
- 8 x memory DIMM risers supporting up to 128GB of memory per riser
- Supports up to 1TB of total system memory

Storage:
- 2 x SATA III 6.0Gb/s HDDs

Networking & Management:
- IPMI 2.0 Compliant
- ASPEED chipset

Expansion Slots:
- 2 x PCI Express Gen3 x16 (CAPI Enabled)
- 1 x PCI Express Gen3 x8

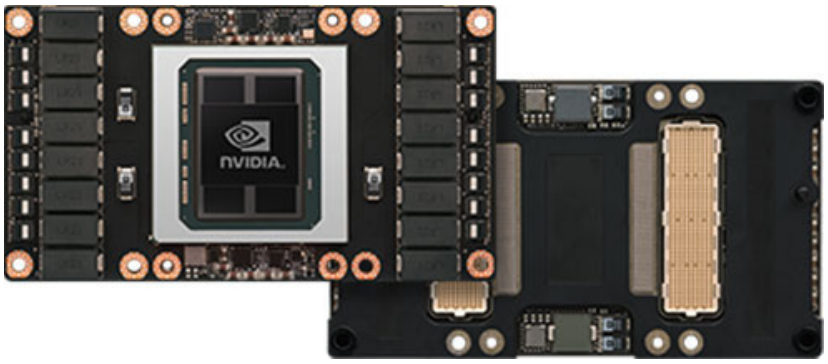
Accelerator Support:
- Up to four NVIDIA® Tesla® P100 GPU Accelerators

Power:
- Redundant Hot-swap 1300W ATX power supplies x 2

Input / Output (IO)
- Front: 1 x USB 3.0
- Rear: 1 x USB 3.0, 1 x VGA, 1 x RS-232
- Rear: 2 x 1G RJ45 (1 x BMC Shared NIC)

Dimensions:
- Height: 86mm (3.4 in.)
- Width: 442.5mm (17.4 in.)
- Depth: 780mm (30.1 in.)

Operating System Support:
- Ubuntu 16.04 LE
- Redhat 7.2 LE



NVIDIA Tesla P100 with NVLink

Tesla P100 with NVIDIA NVLink technology enables lightning-fast nodes to substantially accelerate time-to-solution for strong-scale applications. A server node with NVLink can interconnect up to four Tesla P100s at up to 5X the bandwidth of PCIe. It's designed to help solve the world's most important challenges that have infinite compute needs in HPC and deep learning.

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