

# Cirrascale GB5400 Multi-GPU Peering Blade Server Solution

The only multi-GPU blade server platform capable of peering eight GPUs on a single PCIe root complex.

GPU-accelerated computing is enabling various scientific, analytics, engineering, consumer, and enterprise applications worldwide. GPU accelerators now power energy-efficient datacenters in government labs, universities, enterprises, and small-and-medium businesses around the world. However, as GPU application developers begin to truly discover the power that can be harnessed to accelerate their applications, they also begin to discover some limitations. That's where Cirrascale and the GB5400 Series servers can help.

The Cirrascale GB5400 Series servers are designed to provide near-linear scaling of GPUs enabling up to eight GPUs, such as the NVIDIA® Tesla® K80 GPU Accelerators, to communicate peer-to-peer on just one PCIe root complex. This allows for the ultimate marriage of peering and scaling to provide you with the best performance for your GPU-accelerated applications.

Our SR3514 PCIe switch riser allows GPUs to communicate as if they are all on the same bus... because they are. Gone are the days of needing a bounce-buffer in host memory, or leaving GPU DMA engines unused because they couldn't address other devices in the system. This reduces intercard latency while helping to maintain a consistent performance level between GPUs.

Since most all of the GPU traffic is passed between the GPUs directly via the Cirrascale SR3415 switch riser, a very negligible amount of host resources are needed to perform GPU work. Additionally, with a single address space and simultaneous inter-card communication at full PCIe x16 Gen3 speeds, software can spend more time doing work than thinking about when to schedule data copies.

Our GPU blade servers utilize the latest technology available from our graphics card partners such as GIGABYTE™, PNY, and NVIDIA® such as the NVIDIA Telsa K80 GPU Accelerators. Additionally, with the Intel® Xeon® processor E5-2600/1600 v2 product family, customers can accelerate their applications to new levels.

Customers deploying these next generation, scale-out GPU solutions benefit from the combination of Intel's latest processor platforms with Cirrascale's Vertical Cooling Technology, enabling extreme density and unmatched efficiency and reliability.

## About Cirrascale

Cirrascale Corporation is a premier provider of blade-based GPGPU, cloud computing and storage infrastructure for conventional and containerized data centers. Cirrascale leverages its patented Vertical Cooling Technology to provide the industry's most energy-efficient standards-based platforms with the lowest possible total cost of ownership in the densest form factor. Cirrascale sells to large-scale infrastructure operators, hosting and managed services providers, Cloud Service Providers, and HPC users. Cirrascale also licenses its award winning technology to partners globally.

## 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](http://www.cirrascale.com) or contact one of our Account Managers by calling (888) 942-3800.



## Cirrascale GB Series Specifications

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. Additionally, more features than those listed below are available and many systems can be expanded or tailored to meet your company's requirements. We always encourage our customers to contact us to discuss Cirrascale's latest improvements to its products.

### GB5400 GPGPU Blade Server



#### Features at a Glance

- Dual Intel® Xeon® Processor E5-2600 v2 Product Family
- Supports 8 GPU Graphics Cards in Dedicated PCIe x16 Gen 3 slots
- Up to 128GB of DDR3 Memory
- Up to 8TB of SATA Storage
- Maximum 96 GPUs per BladeRack

#### Processor:

Options include dual Intel® Xeon® processor E5-2600 v2 product family

*Support for dual Intel® Xeon® processor E5-2600 v3 product family available with the Cirrascale GB5600 Series.*

#### Chipset:

- Intel C602

#### Memory:

- Supports up to 512GB DDR3 Memory
- 16 RDIMM Slots DDR3 1600/1333/1066

#### Storage:

- 2 x SATA III 6Gb/s ports
- 4 x SATA II 3Gb/s ports

#### Networking:

- 4 x GbE LAN ports (Intel® I350-AM4)
- 1 x 10/100 management LAN

#### Expansion Slots:

- 3 x PCIe x16 (Gen3 x16 bus) slots
- 2 x PCIe x16 (Gen3 x8 bus) slot

#### Supported GPGPU Configurations:

- Supports up to 8 GPU cards, such as the NVIDIA® Tesla® K80 GPU Accelerator, by utilizing the Cirrascale PCIe Gen 3 Switch Riser

#### Integrated Graphics:

- VGA Integrated in ASPEED 2300
- 2D Video Graphic Adapter with PCIe bus interface
- 1920x1200@60Hz 32bpp

#### Management and Monitoring:

- IPMI 2.0 using ASPEED AST 2300

#### Operating Systems Supported:

- Windows® Server 2003 and later
- Windows® 7 64-bit and later
- RedHat Enterprise Linux 6 and later
- CentOS 6 and later
- Ubuntu 12.04 and later
- Please call for additional OS Support

“Cirrascale’s peer to peer technology allows us to unlock the true power of NVIDIA GPUs for scientific computation. This is the first platform of its kind and provides the unprecedented bandwidth needed to scale an individual molecular dynamics simulation with AMBER across all the GPUs within a node. This previously unattainable performance will have impact on many fields. Examples in the life sciences domain range from improved biocatalyst design, to new pharmaceutical leads, to the design of advanced biomaterials.”

**Ross Walker, Associate Research Professor**  
San Diego Supercomputer Center