

# BladeRack® 2 FE Blades

POWERED BY INTEL® XEON® PROCESSORS



## COMPUTE BLADES



Powerful.  
Intelligent.

The BladeRack 2 FE platform is a part of Cirrascale's data center scale computing solutions and was designed with today's high density data center in mind. The BladeRack 2 FE platform is the industry's most flexible compute solution available with support for up to 60 blades, each housing the most cutting edge components available. With its ability to employ up to 720 processing cores and over 1.15PB of storage per rack, the versatility and potential of the BladeRack 2 FE platform is truly without boundaries. Customers in the Entertainment and Media industry could utilize such ground-breaking density to dramatically cut costs and boost efficiency in their render

farms. Oil and Gas customers would increase the compute power of their data center giving them the ability to process more terrain in record time, leading to increased profits. Web hosting and Software as a Service (SaaS) providers will find a full lineup of VMware ESX certified blades available for virtual machine serving.

The BR2-FE has support for the latest Quad-Core Intel® Xeon® processors with up to 1600MHz front side bus in two socket configurations and six-core Intel Xeon 7400 Series processors in our four socket configurations. With faster processors, Intel I/O AT,VT-d Virtualization

technology and the industry leading patented Vertical Cooling Technology™, the BR2-FE is the ideal solution for a full range of scale out applications. Advanced power and cooling architectures such as redundant power inputs and fan trays make the BR2-FE platform perfect for today's Financial Service and Application Service Providers where an increased level of uptime is required. With server management based on the IPMI 2.0 standard system administrators will be able to remotely monitor and manage individual blades as well as have full control with optional KVM-IP functionality.

## Compute Blade

### VB1305FE

#### Internal View



#### FEATURES AT A GLANCE

- Two Six-Core Intel® Xeon® 5600 Series Processors
- Up to 64GB DDR3 Memory
- Intel QuickPath Interconnect
- Native 12V Power Input
- Two Gigabit Ethernet Ports
- Intel HyperThreading Technology
- Up to 72 Blades per BladeRack® 2 FE Platform

#### Processor

- Options Include Two of the Following:
- Dual-Core Intel® Xeon® 5500 Series Processors
  - Quad-Core Intel Xeon 5600 Series Processors
  - Six-Core Intel Xeon 5600 Series Processors

#### Chipset

- Intel 5500 Chipset (Tylersburg-24D)
- Intel Quickpath Interconnect

#### Memory

- Supports Up to 64GB DDR3-1333 ECC Registered Memory\*
- Eight DIMM Sockets

#### Storage

- Options Include Up to Two SATA Hard Drives:
- Up to 1TB Hot-Swap SATA Storage

#### Networking

- Two Intel 10/100/1000 Network Connections
- Intel 82576 Network Controller

#### Expansion Slots

- One x16 PCI Express 2.0 slot (x8 signal)
- One x8 PCI Express 2.0 slot

#### Expansion Card Options

- Options Include One of the Following PCI-E Cards:
- One PCI-Express SAS HBA (RAID 0, 1)
  - One PCI-Express Infiniband 20GB DDR HBA
  - One PCI-Express 4GB Dual Port Fibre HBA

#### Regulations

- Safety EN60950
- Regulatory Markings CSA, CD, Nemko (When Installed in BladeRack® 2 FE)

#### Standard Interfaces

- Two USB 2.0 Ports
- One 15-pin VGA Port
- Two RJ-45 Gigabit Ethernet Ports
- One RJ-45 Management / KVM-IP Port (optional)

#### Integrated Graphics

- ServerEngines LLC Pilot II
- Matrox G200 2D Video Controller with 8MB

#### Management and Monitoring

- IPMI 2.0
  - Remote power on/off/reset
  - KVM-IP (optional)

#### Operating Systems

- Windows® Server 2003/2008
- Red Hat® Enterprise Linux 5 x86-64
- SUSE Linux Enterprise 10 x86-64
- CentOS 5 x86-64

\*Memory speeds vary based on configuration

## Compute Blade

## VB1307FE

## Internal View



## FEATURES AT A GLANCE

- Two Six-Core Intel® Xeon® 5600 Series Processors
- Up to 64GB DDR3 Memory
- Intel QuickPath Interconnect
- Integrated KVM-IP
- Up to Six Gigabit Ethernet Ports
- Optional 10Gb Ethernet

**Processor**

Options Include Two of the Following:

- Dual-Core Intel® Xeon® 5500 Series Processors
- Quad-Core Intel Xeon 5600 Series Processors
- Six-Core Intel Xeon 5600 Series Processors

**Chipset**

- Intel 5520 Chipset (Tylersburg-36D)
- Intel QuickPath Interconnect

**Memory**

- Supports Up to 64GB DDR3-1333 ECC Registered Memory\*
- Eight DIMM Sockets

**Storage**

Options Include Up to Two SAS or SATA Hard Drives:

- Up to 1TB Internal SATA Storage
- Up to 600GB Internal SAS Storage

**Networking**

- Four 10/100/1000 Network Connections
- Intel 82576EB and 82574L Network Controller

**Expansion Slots**

- Two PCI-E x8 PCI Express 2.0 Slots

**Expansion Card Options**

Options Include Two of the Following PCI-E Cards:

- One PCI-Express Infiniband 20GB DDR HBA
- One PCI-Express 4GB Dual Port Fibre HBA
- One PCI-Express 10GbE Card

**Regulations**

- Safety EN60950
- Regulatory Markings CSA, CD, Nemko (When Installed in BladeRack® 2 FE)

**Standard Interfaces**

- Two USB 2.0 Ports
- One 15-pin VGA Port
- Two RJ-45 Gigabit Ethernet Ports
- One RJ-45 Management / KVM-IP Port (optional)

**Integrated Graphics**

- Aspeed AST2050 Integrated Graphics

**Management and Monitoring**

- IPMI 2.0
  - Remote power on/off/reset
  - KVM-IP (optional)

**Operating Systems**

- Windows® Server 2003/2008
- Red Hat® Enterprise Linux 5 x86-64
- SUSE Linux Enterprise 10 x86-64
- CentOS 5 x86-64

\*Memory speeds vary based on configuration

## Compute Blade

## VB1310FE

## Internal View



## FEATURES AT A GLANCE

- Two Six-Core Intel® Xeon® 5600 Series Processors
- Up to 144GB DDR3 Memory
- Intel QuickPath Interconnect
- Integrated KVM-IP
- Four Gigabit Ethernet Ports
- Intel HyperThreading Technology
- Up to 72 Blades per BladeRack® 2 FE Platform

**Processor**

Options Include Two of the Following:

- Dual-Core Intel® Xeon® 5500 Series Processors
- Quad-Core Intel Xeon 5600 Series Processors
- Six-Core Intel Xeon 5600 Series Processors

**Chipset**

- Intel 5520 Chipset (Tylersburg-36D)
- Intel QuickPath Interconnect

**Memory**

- Supports Up to 144GB DDR3-1333 ECC Registered Memory\*
- Eighteen DIMM Sockets

**Storage**

Options Include Up to Two SAS or SATA Hard Drives:

- Up to 4TB Internal SATA Storage
- Up to 900GB Internal SAS Storage

**Networking**

- Four 10/100/1000 Network Connections
- Intel 82576EB and 82574L Network Controller

**Expansion Slots**

- Two PCI-E x8 PCI Express 2.0 Slots

**Expansion Card Options**

Options Include Two of the Following PCI-E Cards:

- One PCI-Express Infiniband 20GB DDR HBA
- One PCI-Express 4GB Dual Port Fibre HBA
- One PCI-Express 10GbE Card

**Regulations**

- Safety EN60950
- Regulatory Markings CSA, CD, Nemko (When Installed in BladeRack® 2 FE)

**Standard Interfaces**

- Two USB 2.0 Ports
- One 15-pin VGA Port
- Two RJ-45 Gigabit Ethernet Ports
- One RJ-45 Management / KVM-IP Port (optional)

**Integrated Graphics**

- Aspeed AST2050 Integrated Graphics

**Management and Monitoring**

- IPMI 2.0
  - Remote power on/off/reset
  - KVM-IP (optional)

**Operating Systems**

- Windows® Server 2003/2008
- Red Hat® Enterprise Linux 5 x86-64
- SUSE Linux Enterprise 10 x86-64
- CentOS 5 x86-64

\*Memory speeds vary based on configuration

## Compute Blade

## VB1312FE

## Internal View



## FEATURES AT A GLANCE

- Two Six-Core Intel® Xeon® 5600 Series Processors
- Up to 144GB DDR3 Memory
- Intel QuickPath Interconnect
- Integrated KVM-IP
- Up to Eight Gigabit Ethernet Ports
- Up to 72 Blades per BladeRack® 2 FE Platform

**Processor**

- Options Include Two of the Following:
- Dual-Core Intel® Xeon® 5500 Series Processors
  - Quad-Core Intel Xeon 5600 Series Processors
  - Six-Core Intel Xeon 5600 Series Processors

**Chipset**

- Intel 5520 Chipset (Tylersburg-36D)
- Intel QuickPath Interconnect

**Memory**

- Supports up to 144GB DDR3-1333 ECC Registered Memory\*
- Eighteen DIMM Sockets

**Storage**

- Options Include Up to Two SAS or SATA Hard Drives:
- Up to 4TB Internal SATA Storage
  - Up to 900GB Internal SAS Storage

**Networking**

- Four 10/100/1000 Network Connections
- Intel 82576EB and 82574L Network Controller

**Expansion Slots**

- Two PCI-E x8 PCI Express 2.0 slots

**Expansion Card Options**

- Options Include Two of the Following PCI-E Cards:
- One PCI-Express 4GB Dual Port Fibre HBA
  - One PCI-Express Dual Port Gigabit NIC
  - One PIC-Express Quad Port Gigabit NIC

**Regulations**

- Safety EN60950
- Regulatory Markings CSA, CD, Nemko (When Installed in BladeRack® 2 FE)

**Standard Interfaces**

- Two USB 2.0 Ports
- One 15-pin VGA Port
- Two RJ-45 Gigabit Ethernet Ports
- One RJ-45 Management / KVM-IP Port (Optional)

**Integrated Graphics**

- Aspeed AST2050 Integrated Graphics

**Management and Monitoring**

- IPMI 2.0
  - Remote power on/off/reset
  - KVM-IP

\*Memory speeds vary based on configuration

## Compute Blade

## VB1315FE

## Internal View



## FEATURES AT A GLANCE

- Two Six-Core Intel® Xeon® 5600 Series Processors
- Up to 192GB DDR3 Memory
- Intel QuickPath Interconnect
- Native 12V Power Input
- Two Gigabit Ethernet Ports
- Intel HyperThreading Technology
- Up to 72 Blades per BladeRack® 2 FE Platform

**Processor**

- Options include two of the following:
- Dual-Core Intel® Xeon® 5500 Series Processors
  - Quad-Core Intel Xeon 5600 Series Processors
  - Six-Core Intel Xeon 5600 Series Processors

**Chipset**

- Intel 5520 Chipset (Tylersburg-36D)
- Intel QuickPath Interconnect

**Memory**

- Supports up to 192GB DDR3-1333 ECC Registered Memory\*
- Twelve DIMM Sockets

**Storage**

- Options Include Up to Four SAS or SATA Hard Drives:
- Up to 8TB Internal SATA Storage
  - Up to 1.8TB Internal SAS Storage

**Networking**

- Two Intel 10/100/1000 Network Connections
- Intel 82576 Network Controller

**Expansion Slots**

- One x16 PCI Express 2.0 slot

**Expansion Card Options**

- Options Include One of the Following PCI-E Cards:
- One PCI-Express SAS HBA (RAID 0, 1)
  - One PCI-Express Infiniband 20GB DDR HBA
  - One PCI-Express 4GB Dual Port Fibre HBA

**Regulations**

- Safety EN60950
- Regulatory Markings CSA, CD, Nemko (When Installed in BladeRack® 2 FE)

**Standard Interfaces**

- Two USB 2.0 Ports
- One 15-pin VGA Port
- Two RJ-45 Gigabit Ethernet Ports
- One RJ-45 Management / KVM-IP Port (optional)

**Integrated Graphics**

- ServerEngines LLC Pilot II
- Matrox G200eW Video Controller with 8MB

**Management and Monitoring**

- IPMI 2.0
  - Remote power on/off/reset
  - KVM-IP (optional)

**Operating Systems**

- Windows® Server 2003/2008
- Red Hat® Enterprise Linux 5 x86-64
- SUSE Linux Enterprise 10 x86-64
- CentOS 5 x86-64

\*Memory speeds vary based on configuration

## Compute Blade

## VB1316FE

## Internal View



## FEATURES AT A GLANCE

- Two Six-Core Intel® Xeon® 5600 Series Processors
- Up to 48GB DDR3 Memory
- Intel QuickPath Interconnect
- Native 12v Power Input
- Two Gigabit Ethernet Ports
- Up to 100k + IOPS with Fusion I/O Card
- Up to Four Hot Swap or Eight Fixed HDD or SSD

**Processor**

- Options Include Two of the Following:
- Dual-Core Intel® Xeon® 5500 Series Processors
  - Quad-Core Intel Xeon 5600 Series Processors
  - Six-Core Intel Xeon 5600 Series Processors

**Chipset**

- Intel 5550 Chipset (Tylersburg-36D)
- Intel QuickPath Interconnect

**Memory**

- Supports up to 48GB DDR3-1333 ECC Registered Memory\*
- Twelve DIMM Sockets

**Storage**

- Options Include Up to Four Hot Swap or Eight Fixed 2.5" Hard Drives or SSDs:
- Up to 4TB Internal SATA Storage
  - Up to 2.4TB Internal SAS Storage

**Networking**

- Two Intel 10/100/1000 Network Connections
- Intel 82576 Network Controller

**Expansion Slots**

- One x16 PCI Express 2.0 Slot

**Expansion Card Options**

- Options Include One of the Following PCI-E Cards:
- One PCI-Express SAS HBA (RAID 0, 1)
  - One PCI-Express SAS RAID Card (RAID 0,1,5,6,10,50)
  - One PCI-Express 4GB Dual Port Fibre HBA
  - One PCI-Express Fusion I/O Card

**Regulations**

- Safety EN60950
- Regulatory Markings CSA, CD, Nemko (When Installed in BladeRack® 2 FE)

**Standard Interfaces**

- Two USB 2.0 Ports
- One 15-pin VGA Port
- Two RJ-45 Gigabit Ethernet Ports
- One RJ-45 Management / KVM-IP Port (optional)

**Integrated Graphics**

- ServerEngines LLC Pilot II
- Matrox G200eW Video Controller with 8MB

**Management and Monitoring**

- IPMI 2.0
  - Remote power on/off/reset
  - KVM-IP (optional)

**Operating Systems**

- Windows® Server 2003/2008
- Red Hat® Enterprise Linux 5 x86-64
- SUSE Linux Enterprise 11 x86-64
- CentOS 5 x86-64

\*Memory speeds vary based on configuration

## Compute Blade

## VB1320FE

## Internal View



## FEATURES AT A GLANCE

- Two Six-Core Intel® Xeon® 5600 Series Processors
- Up to 192GB DDR3 Memory
- Intel QuickPath Interconnect
- Native 12v Power Input
- Two Gigabit Ethernet Ports
- Up to 100k + IOPS with Fusion I/O Card
- Up to Two Hot Swap HDD

**Processor**

- Options Include Two of the Following:
- Dual-Core Intel® Xeon® 5500 Series Processors
  - Quad-Core Intel Xeon 5600 Series Processors
  - Six-Core Intel Xeon 5600 Series Processors

**Chipset**

- Intel 5550 Chipset (Tylersburg-36D)
- Intel QuickPath Interconnect

**Memory**

- Supports up to 192GB DDR3-1333 ECC Registered Memory\*
- Twelve DIMM Sockets

**Storage**

- Options Include Up to Two Hot Swap 2.5" Hard Drives:
- Up to 1TB Internal SATA Storage

**Networking**

- Two Intel 10/100/1000 Network Connections
- Intel 82576 Network Controller

**Expansion Slots**

- One x16 PCI Express 2.0 Slot

**Expansion Card Options**

- Options Include One of the Following PCI-E Cards:
- One PCI-Express SAS HBA (RAID 0, 1)
  - One PCI-Express SAS RAID Card (RAID 0,1,5,6,10,50)
  - One PCI-Express 4GB Dual Port Fibre HBA
  - One PCI-Express Fusion I/O Card

**Regulations**

- Safety EN60950

- Regulatory Markings CSA, CD, Nemko (When Installed in BladeRack® 2 FE)

**Standard Interfaces**

- Two USB 2.0 Ports
- One 15-pin VGA Port
- Two RJ-45 Gigabit Ethernet Ports
- One RJ-45 Management / KVM-IP Port (optional)

**Integrated Graphics**

- Integrated Video Controller with 16MB

**Management and Monitoring**

- IPMI 2.0
  - Remote power on/off/reset
  - KVM-IP (optional)

**Operating Systems**

- Windows® Server 2003/2008
- Red Hat® Enterprise Linux 5 x86-64
- SUSE Linux Enterprise 11 x86-64
- CentOS 5 x86-64

\*Memory speeds vary based on configuration

## Compute Blade

## VB1325FE

## Internal View



## FEATURES AT A GLANCE

- Two Six-Core Intel® Xeon® 5600 Series Processors
- Up to 288GB DDR3 Memory
- Intel QuickPath Interconnect
- Native 12v Power Input
- Two Gigabit Ethernet Ports
- Up to 100k + IOPS with Fusion I/O Card
- Up to Two Hot Swap HDD

**Processor**

Options Include Two of the Following:

- Dual-Core Intel® Xeon® 5500 Series Processors
- Quad-Core Intel Xeon 5600 Series Processors
- Six-Core Intel Xeon 5600 Series Processors

**Chipset**

- Intel 5550 Chipset (Tylersburg-36D)
- Intel QuickPath Interconnect

**Memory**

- Supports up to 288GB DDR3-1333 ECC Registered Memory\*
- Eighteen DIMM Sockets

**Storage**

- Options Include Up to Two Hot Swap 2.5" Hard Drives:
- Up to 1TB Internal SATA Storage

**Networking**

- Two Intel 10/100/1000 Network Connections
- Intel 82576 Network Controller

**Expansion Slots**

- One x16 PCI Express 2.0 Slot

**Expansion Card Options**

Options Include One of the Following PCI-E Cards:

- One PCI-Express SAS HBA (RAID 0, 1)
- One PCI-Express SAS RAID Card (RAID 0,1,5,6,10,50)
- One PCI-Express 4GB Dual Port Fibre HBA
- One PCI-Express Fusion I/O Card

**Regulations**

- Safety EN60950

- Regulatory Markings CSA, CD, Nemko (When Installed in BladeRack® 2 FE)

**Standard Interfaces**

- Two USB 2.0 Ports
- One 15-pin VGA Port
- Two RJ-45 Gigabit Ethernet Ports
- One RJ-45 Management / KVM-IP Port (Optional)

**Integrated Graphics**

- Integrated Video Controller with 16MB

**Management and Monitoring**

- IPMI 2.0
  - Remote power on/off/reset
  - KVM-IP (optional)

**Operating Systems**

- Windows® Server 2003/2008
- Red Hat® Enterprise Linux 5 x86-64
- SUSE Linux Enterprise 11 x86-64
- CentOS 5 x86-64

\*Memory speeds vary based on configuration

## STORAGE BLADES



Cirrascale is the recognized market leader in blade-based storage solutions for the enterprise data center. The BladeRack 2 FE (BR2-FE) provides the industry's densest storage configurations with support for up to 1.15PB of storage capacity.

Utilizing industry leading technologies, such as our patented Vertical Cooling Technology, the BR2-FE provides the most efficient and scalable solutions available while boasting the lowest TCO of any blade-based storage platform found on the market today.

The versatility of the BR2-FE storage solution is one of its biggest strengths. This solution was designed for everything from high-availability Web 2.0 applications to large pools of unstructured data.

In these environments, applications and storage are becoming more converged. Cirrascale's award-winning blade storage solutions take this convergence to the ultimate endpoint by moving the application server closer to the physical storage to minimize network bottlenecks and increase performance. This convergence of storage, server and applications makes our

blade-based storage products the ideal platforms for those organizations seeking cost-effective solutions where processing power, efficiency and storage density are primary concerns.

The blade storage solutions from Cirrascale are modular, blade-based general-purpose application servers with a high density storage capacity capable of supporting a wide spectrum of workloads.

Cirrascale offers storage solutions that will take your organization to the next level.

## Storage Blades

## SB5315FE

## FEATURES AT A GLANCE

- Consolidates Server and Storage Infrastructures with Unsurpassed Energy Efficiency
- Delivers up to 50% Savings in Energy Use While Providing up to 77% Improved Floor Space Utilization Over Traditional Server/Storage Systems
- Up to 1.3PBs of Storage Capacity in Just Two Data Center Floor Tiles

## SB1315 HEAD NODE

**Processor**

- Options Include Two of the Following:
- Quad-Core Intel Xeon 5600 Series Processors
  - Six-Core Intel Xeon 5600 Series Processors

**Chipset**

- Intel 5520 Chipset (Tylersburg-36D)
- Intel QuickPath Interconnect

**Memory**

- Supports up to 192GB DDR3-1333 ECC Registered Memory\*
- Twelve DIMM Sockets

**Storage**

- Up to two Hot Swappable 2.5" SATA HDDs
- Dual, Mirrored Boot Drives
- Up to 96TB External Storage:
- Via Four 24TB SB1058 Disk Blades

**Networking**

- Two Intel 10/100/1000 Network Connections
- Intel 82576 Network Controller

**Expansion Slots**

- One x8 PCI Express 2.0 slot

**Expansion Card Options\***

- Options Include One of the Following PCI-E Cards
- One PCI-Express Dual Port 10Gb Ethernet
  - One PCI-Express Quad Port Gigabit Ethernet

**Regulations**

- Safety EN60950
- Regulatory Markings CSA, CD, Nemko (When installed in BR2-FE)

**Standard Interfaces**

- Two USB 2.0 Ports
- One 15-pin VGA Port
- Two RJ-45 Gigabit Ethernet Ports
- One RJ-45 Management / KVM-IP Port (optional)

**Integrated Graphics**

- ServerEngines LLC Pilot II
- Matrox G200eW Video Controller with 8MB

**Management and Monitoring**

- IPMI 2.0
- Remote power on/off/reset
- KVM-IP (optional)

**Operating Systems**

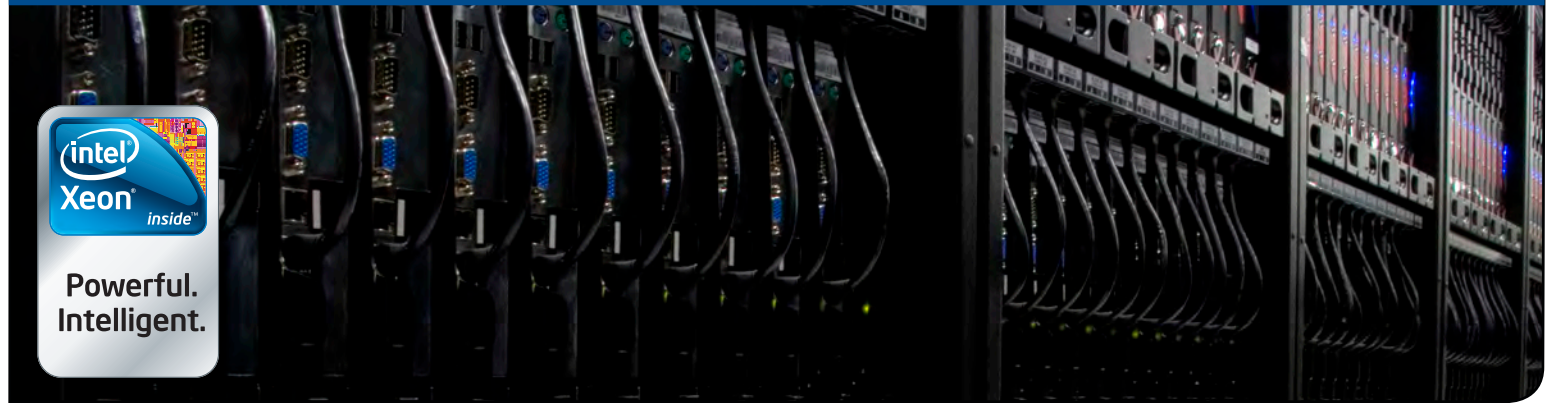
- Windows® Server 2003/2008
- Red Hat® Enterprise Linux 5 x86-64
- SUSE Linux Enterprise 10 x86-64
- CentOS 5 x86-64

**SB1058 DISK BLADE**

- 12 Hot-Swap SATA II Hard Drives per Disk Blade
- 1TB, or 2TB SATA HDDs
- Up to Four SB1058 Disk Blades per SB1315 Head Node
- SATA Protocol with SAS Connection to SB1315 Head Node
- Quick Disconnect Hot-swap hard drives
- Individual drive LED indicators

\* - Additional Options May Be Available

## GPGPU BLADES



For customers demanding the highest density GPGPU solutions available in the market today, Cirrascale offers GPU blade server solutions that will meet your needs.

Our GPU blade servers utilize the latest GPU technology from graphics card partners such as NVIDIA® and ATI. By integrating the latest technologies before its competition, Cirrascale delivers GPU blade servers that are scalability, reliability and offer best price/performance value in the industry.

Cirrascale GPU blades are the ideal solution for GPU-based high performance computing needs.. Solutions can be tailored for use with computational fluid dynamics, seismic data processing, life sciences, electronic design automation and more.

Our GPU blades perform at the highest levels thanks to the award-winning Vertical Cooling Technology contained within the BladeRack 2 FE platform.

Cirrascale's Patented Vertical Cooling Technology creates a high velocity stream of cool air driving away hot air created by high performance components like GPU's and power supplies. Many blade server and storage installations utilize traditional front to back cooling, which creates hot and cold aisles in the data center as well as causing hot spots that lead to system failure.

## GPGPU Blade

## GB1315FE

## Internal View



## FEATURES AT A GLANCE

- Two Six-Core Intel® Xeon® 5500 Series Processors
- Up to 96GB DDR3 Memory
- Intel QuickPath Interconnect
- Native 12V Power Input
- Two Gigabit Ethernet Ports
- Intel HyperThreading Technology
- Up to 72 Blades per BladeRack® 2 FE Platform

**Processor**

Options include two of the following:

- Dual-Core Intel® Xeon® 5500 Series Processors
- Quad-Core Intel Xeon 5600 Series Processors
- Six-Core Intel Xeon 5600 Series Processors

**Chipset**

- Intel 5520 Chipset (Tylersburg-36D)
- Intel QuickPath Interconnect

**Memory**

- Supports up to 96GB DDR3-1333 ECC Registered Memory\*
- Twelve DIMM Sockets

**Storage**

Options Include Up to Four SAS or SATA Hard Drives:

- Up to 8TB Internal SATA Storage
- Up to 1.8TB Internal SAS Storage

**Networking**

- Two Intel 10/100/1000 Network Connections
- Intel 82576 Network Controller

**Expansion Slots**

- One x16 PCI Express 2.0 slot

**Expansion Card Options**

Options Include One of the Following PCI-E Cards:

- One PCI-Express SAS HBA (RAID 0, 1)
- One PCI-Express Infiniband 20GB DDR HBA
- One PCI-Express 4GB Dual Port Fibre HBA

**Regulations**

- Safety EN60950
- Regulatory Markings CSA, CD, Nemko (When Installed in BladeRack® 2 FE)

**Standard Interfaces**

- Two USB 2.0 Ports
- One 15-pin VGA Port
- Two RJ-45 Gigabit Ethernet Ports
- One RJ-45 Management / KVM-IP Port (optional)

**Integrated Graphics**

- ServerEngines LLC Pilot II
- Matrox G200eW Video Controller with 8MB

**Management and Monitoring**

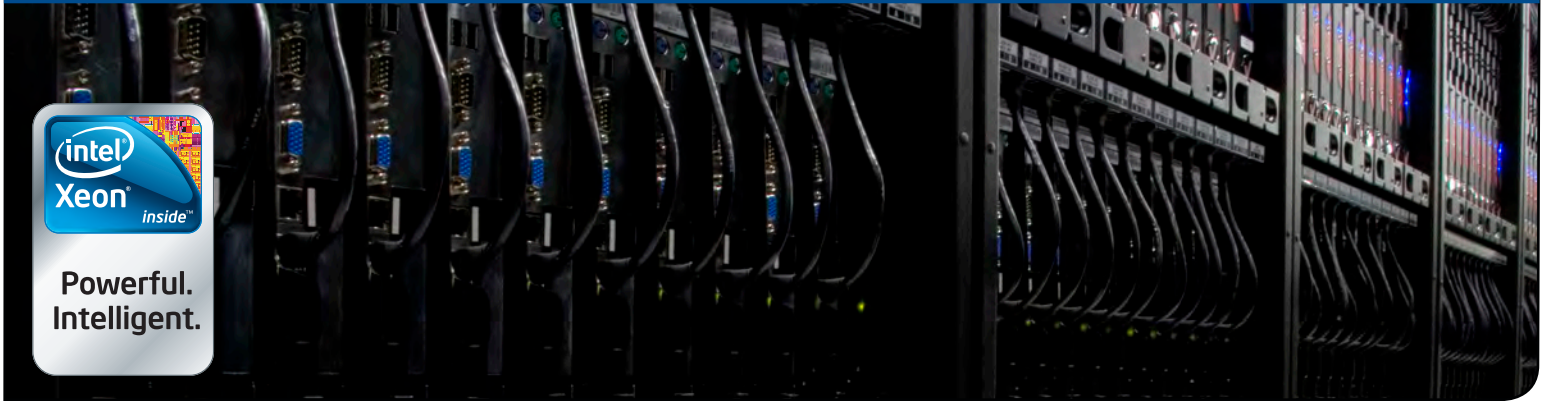
- IPMI 2.0
  - Remote power on/off/reset
  - KVM-IP (optional)

**Operating Systems**

- Windows® Server 2003/2008
- Red Hat® Enterprise Linux 5 x86-64
- SUSE Linux Enterprise 10 x86-64
- CentOS 5 x86-64

\*Memory speeds vary based on configuration

## WORKSTATION BLADES



Powerful.  
Intelligent.

The workstation blades for the BladeRack 2 FE (BR2-FE) platform are high efficiency blade servers that are optimized for space-constrained and data center installations. They are the ideal solution for a full range of enterprise computing or graphics intensive applications. Using the revolutionary PC-over-IP™ technology from Teradici™, Cirrascale introduces Connexus™, a desktop consolidation solution. Connexus provides a centrally supported and cost effective offering for today's data intensive environments, as well as it embraces the emerging requirement

for a more energy efficient data center.

Workstation blades enhance Financial Services applications by enabling system consolidation on the trading desks. Content creation and design houses can employ a multitude of remote workers without having to worry about proprietary data asset loss and supporting various platforms. With multiple offerings available, the BR2-FE will support blades ranging from a single socket entry level call center system to dual socket high end rendering systems requiring NVIDIA®

Quadro video or NVIDIA Tesla GPU cards. The Connexus solution provides support for copper or fiber connectivity, dual hi-resolution monitors (1920 X 1200), optional mounting features and a robust connection broker that allows your IT department the ability to deploy, manage and maintain your entire infrastructure.

### Workstation Blade

## WS1660FE

### Internal View



### FEATURES AT A GLANCE

- Supports Quad-Core Intel® Core i7 Series Processors
- Up to 16GB DDR2-667 ECC Registered Memory
- PCI Express x16 2.0 Graphics or GPU Card
- Cirrascale Connexus™ Desktop Over IP Solution Compatible

### Processor

- Supports One of the Following:
- Quad-Core Intel Core i7-800 Processor Series
  - Quad-Core Intel Core i5-600 Processor Series

### Memory

- Supports up to 16GB DDR3-1333 SDRAM Memory
- Four DIMM Sockets per Node

### Storage

- Up to 1TB Internal Storage
- Up to Two 2.5" SATA Hard Drives

### Networking

- One Intel Server Network Connection per Blade
- Intel 82578DM Gigabit Ethernet Controller

### Operating Systems

- Microsoft® Windows® Server 2003 32/64bit
- Red Hat® Enterprise Linux 4.0 x86-64
- SUSE Linux Enterprise 10 x86-64
- CentOS 4.x x86-64
- Windows XP Pro 32/64bit

### Chipset

- Intel Q57 Express Chipset

### Regulations

- Safety EN60950
- Regulatory Markings CSA, CE, Nemko (When Installed in BladeRack 2 FE)

### PCI-E Card Options

- PNY NVIDIA® Quadro® NVS Video Cards
- PNY NVIDIA Quadro FX Video Cards
- NVIDIA Tesla GPU Cards
- NVIDIA GeForce® Cards

### Integrated Graphics

- Integrated 16MB Video Memory

### Standard Interfaces

- Up to Fourteen USB 2.0 Ports
- One 15-pin VGA Port
- One RJ-45 Gigabit Ethernet Ports

### Video and I/O Transmission

- Cirrascale Connexus™ Host Adapter

## CUSTOM CONFIGURATIONS

Cirrascale supports multiple configurations and can tailor any system to your specific needs. If you have questions, please contact us today at (888) 942-3800 and ask to speak with a Cirrascale Account Manager.

## ABOUT CIRRASCALE

Cirrascale Corporation is a premier developer of independent blade-based cloud computing and cloud storage platforms for conventional and modular data centers that are defining a new era in the green data center. Cirrascale provides the industry's most energy-efficient and reliable standards-based solutions with the lowest possible total cost of ownership in the absolute densest form factor due to its patented Vertical Cooling Technology. Cirrascale sells directly to large-scale infrastructure operators and managed services providers, and through resellers and distributors to HPC and Cloud segments. Cirrascale also licenses its award winning systems-level designs to technology partners globally.



## CIRRASCALE'S GREEN INITIATIVE

Cirrascale is leading the way to the Green Data Center by providing several highly efficient, eco-conscious data center infrastructure solutions. Through innovation, Cirrascale has developed and implemented equipment and procedures to get more by using less. The Cirrascale BladeRack® 2 Series platform and FOREST Modular Data Center solutions are built on industry-leading technology that makes that possible.