Windows Storage Server 2012 R2 on Supermicro
High-Performance 2U Cluster-in-a-Box

Supermicro's 2U SuperStorage Bridge Bay running Windows Storage Server 2012 R2 Standard is a fully redundant, fault-tolerant Cluster-in-a-Box designed to provide mission-critical, low latency storage for enterprise applications.

Mission-Critical, Enterprise Storage at an Affordable Price
Part of Supermicro's SuperStorage Bridge Bay (Super SBB) line, the SSG-2027B-CIB020H is designed to provide reliable, continuous availability storage with high transactional performance for SMB and remote office environments. Key features and benefits include:

- **Hot-swappable modules for all active components** – including storage controllers, power supplies, and disk drives.
- **Native integration with Active Directory** – enabling fast and easy deployment in existing Windows Server-based IT infrastructures.
- **Easily expanded** – built-in expansion ports make it easy to connect up to four Super SBB 937R-E2JB JBODs, each of which supports 16x 3.5" SAS2/SATA3 drives.

With the SSG-2027B-CIB020H running Windows Storage Server 2012 R2 Standard, you’ll have access to the latest storage innovations from Microsoft, including:

- **Data Deduplication and Storage Spaces** – for maximizing and scaling your storage capacity.
- **Storage Tiers, SMB Direct, SMB Multichannel, and NIC Teaming** – for maximum performance.
- **Enhancements to Failover Clustering and Hyper-V** – for improved reliability.

For more information on all the capabilities built into Windows Storage Server 2012 R2 Standard, visit www.microsoft.com/windowsserver.

Typical Deployment Model
The following diagram shows a typical deployment model for the SSG-2027B-CIB020H running Windows Storage Server 2012 R2 Standard in a datacenter environment.
### Base System Specifications

The SSG-2027B-CIB020H is a preconfigured system, built to the following specifications. Full specifications can be found at: [http://www.supermicro.com/products/system/2U/2027/SSG-2027B-DE2R24L.cfm](http://www.supermicro.com/products/system/2U/2027/SSG-2027B-DE2R24L.cfm)

**PRODUCT SKU**

<table>
<thead>
<tr>
<th>SKU</th>
<th>Description</th>
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<tbody>
<tr>
<td>SSG-2027B-CIB020H</td>
<td>SuperServer SSG-2027B-CIB020H (Black)</td>
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**MOTHERBOARD (PER NODE)**

1x Super X9DBS-F-2U

**PROCESSOR / CACHE (PER NODE)**

<table>
<thead>
<tr>
<th>CPU</th>
<th>2x Intel® Xeon® E5-2403 v2 processors (1.8GHz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cache</td>
<td>10MB/processor</td>
</tr>
<tr>
<td>System Bus</td>
<td>6.4GT/s QPI</td>
</tr>
</tbody>
</table>

**SYSTEM MEMORY (PER NODE)**

- **Memory Capacity**
  - 6x 240-pin DIMM sockets
  - 64GB installed (4x 16GB DIMMs)
  - Memory Mirroring supported
- **Memory Type**
  - 1600 ECC Registered / ECC DDR3 SDRAM 72-bit, 240-pin gold-plated DIMMs
- **Memory Voltage**
  - 1.35V

**EXPANSION SLOTS (PER NODE)**

3x PCI-E 3.0 x8 slots (on riser)

**NETWORKING (PER NODE)**

- **LAN Ports**
  - 2x GbE LAN ports (One for IPMI 2.0)

**Server Management**

- Intelligent Platform Management Interface (IPMI 2.0) with internal node to node link
- Virtual media and KVM-over-LAN support

See [www.supermicro.com/products/nfo/IPMI.cfm](http://www.supermicro.com/products/nfo/IPMI.cfm) for more information

**CHASSIS AND DIMENSIONS**

- **Form Factor**
  - 2U Rackmount
- **H x W x D**
  - 3.5” (88mm) x 17.2” (437mm) x 25.5” (679mm)

**INTEGRATED STORAGE**

- **Hot-swap**
  - 20TB raw capacity (24x hot-swap 2.5” drive bays populated with 20x 1TB 7200 RPM nearline SAS drives and 4x 200GB SAS SSDs)
- **Internal**
  - 64GB SATA DOM (disk on module) per node with Windows Storage Server 2012 R2 Standard preinstalled

**JBOD EXPANSION**

- 1x SAS2 expansion port per node (mini-SAS HD)

**BACKPLANE**

- SAS2 dual expander backplane, featuring:
  - Scalability through cascading
  - 6Gb SAS2/SATA3 HDD support
  - Inband SES-2 enclosure management
  - Redundancy dual ported SAS architecture
  - Robust AirMax server node connections (SBB specification)

**SYSTEM COOLING**

- **Fans**
  - 10x PWM Fans

**POWER SUPPLY WITH POWER DISTRIBUTOR**

- 920W high-efficiency AC-DC Redundant power supplies with PMBus and I2C

### Networking Options

The high performance and low latency provided by this model make it ideal for high-volume transactional workloads such as database and email storage. For even greater performance, the following Supermicro networking cards are supported and can be added in pairs to the PCI expansion slots:

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>SUPERMICRO PART NUMBER</th>
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<tbody>
<tr>
<td>Dual-port 10G Base-T</td>
<td>AOC-STG-I2T</td>
</tr>
<tr>
<td>Dual-port 10G SPF Plus</td>
<td>AOC-STGN-I2S</td>
</tr>
</tbody>
</table>

More information on Supermicro networking products can be found at [www.supermicro.com/products/nfo/networking.cfm](http://www.supermicro.com/products/nfo/networking.cfm).

### Easy Expansion

The use of Data Deduplication in Windows Storage Server 2012 R2 Standard can provide a significant increase in storage efficiency for many common storage workloads. After maximum capacity is reached, the SSG-2027B-CIB020H can easily be expanded by connecting its built-in JBOD expansion port to a Super SBB JBOD (Supermicro P/N SYS-937R-E2J8), which supports 16x 3.5” SAS2/SATA3 drives. Up to four JBODs can be attached, providing up to an additional 384TB of raw disk capacity when populated with 6TB nearline SAS drives.

For more information, call your Supermicro sales representative and ask about P/N SSG-2027B-CIB020H.