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](http://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

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

PRODUCT SKU
SSG-2027B-CIB020H  SuperServer SSG-2027B-CIB020H (Black)

MOTHERBOARD (PER NODE)
1x Super X9D8S-F-2U

PROCESSOR / CACHE (PER NODE)
CPU  2x Intel® Xeon® E5-2403 v2 processors (1.8GHz)
Cache  10MB/processor
System Bus  6.4GT/s QPI

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)
PCI-Express  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 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 architecture, 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 (94%+) 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-E expansion slots:

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>QUALIFIED MODELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quad-port 1G</td>
<td>AOC-SG-i4</td>
</tr>
<tr>
<td>Dual-port 10G Base-T</td>
<td>AOC-STG-i2T</td>
</tr>
<tr>
<td>Dual-port 10G SFP+</td>
<td>AOC-STGN-i2S</td>
</tr>
<tr>
<td>Dual-port 10G SFP+ with RDMA</td>
<td>Emulex OCE14102-NX</td>
</tr>
</tbody>
</table>

More information on Supermicro networking products can be found at 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-E2JB), 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 sales representative and ask about P/N SSG-2027B-CIB020H.