

SilverStorm 5000

Virtual I/O

The SilverStorm 5000 is the industry's most complete, modular clustering and I/O virtualization system. Modeled after SilverStorm's award-winning SilverStorm 7000, it can be used to create server fabrics that seamlessly integrate into existing Ethernet and Fibre Channel networks while providing the power of InfiniBand, an industry-standard high-performance interconnect.

The SilverStorm 5000 is key in enabling today's grid/fabric/cluster paradigm of providing on-demand compute, storage, and network resources for scaling applications such as distributed databases and parallel HPC applications, and for enabling I/O consolidation.

ENABLING HIGH PERFORMANCE CLUSTERING

The base SilverStorm 5000 contains a unique 12-port (10Gb/s), Full Bisectional Bandwidth (FBB) InfiniBand fabric with 2 I/O expansion slots, supporting the same proven I/O gateways used in the larger SilverStorm 7000. The 5000 can act as a single unit providing virtual Ethernet and Fibre Channel I/O to all InfiniBand-attached servers, or as a building block for larger InfiniBand fabrics.

Utilizing a single 10Gb/s port from SilverStorm's InfiniBand Host Channel Adapter (HCA) 7000 can provide all I/O and communications to the server, eliminating the need for other discrete cards and slashing complexity and costs. To ensure investment protection, the SilverStorm 5000 integrates seamlessly with existing servers, applications, and network

infrastructures to allow you to tap into the power of InfiniBand immediately, without risk of technology obsolescence.

ROBUST DESIGN

The SilverStorm 5000 is designed to exceed the high availability needs of enterprise data centers. Redundant AC/DC power, hot pluggable power supplies, and redundant cooling assemblies are supported. All I/O gateway cards are also hot pluggable. SilverStorm's software suite has been designed with advanced features such as port-to-port and module-to-module I/O fail-over, thus keeping all networks running in case of a failure. In keeping with our enterprise-class design philosophy, SilverStorm supports non-disruptive code load and activation for the InfiniBand switching fabric. Unlike most competitive products, power cycling or system resets are not required with the SilverStorm 5000. SilverStorm's hardware and software together ensure the highest availability today.

CONFIGURATION AND FABRIC MANAGEMENT

The SilverStorm 5000 is centrally configured and managed by the QuickSilver Fabric OS management suite. These management tools provide system and fabric-level management for topology, configuration, performance, and error management across the entire SilverStorm product portfolio, offering a consistent user interface. Integration with other higher-level management entities such as SNMP-based frameworks and API driven applications is also supported.

DATA SHEET

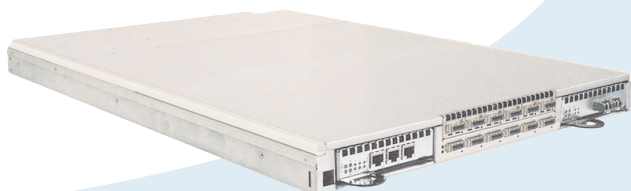
SilverStorm 5000

Strategic Benefits

- An entry-level high performance platform for I/O consolidation and server clustering
- Part of the industry's most comprehensive end-to-end InfiniBand operating environment
- Creates the industry's simplest way to build server fabrics
- Integrates InfiniBand attached servers seamlessly into existing Fibre Channel and Ethernet networks
- Simplifies data center infrastructures
 - Dual expansion slots support multiple interface types in a single chassis
- Lowers Total Cost of Ownership (TCO)

Key Design Features

- High performance 10Gb/s support
- Full Bisectional Bandwidth InfiniBand switching fabric
- Dual expansion slots for plug and play VEx and VFx gateways
- Plug and play personality modules support Ethernet and Fibre Channel
- Robust design for enterprise data center deployment
- Embedded management



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SilverStorm 5000 Specifications

Configuration

InfiniBand ports	12 (4X)
Expansion modules:	
• 2-port Fibre Channel Gateway (VFX)	
• 3-port Ethernet Gateway (VEX)	
Ethernet port (OOB maintenance)	1
RS-232 port (maintenance port)	1
Speed support (auto sensing)	4X (10 Gbps) 1X (2.5 Gbps)
Peak system bandwidth	240 GBps full duplex
Switching	cut-through
Switching latency	< 140 ns

Interoperability

- Interoperable with InfiniBand products
- IBTA 1.0a and 1.1 compliant
- Supports all current and future SilverStorm 7000 Fibre Channel and Ethernet Gateways

Availability

- Redundant power (AC/DC)
- Redundant cooling
- Hot-swap components
- Non-disruptive code load/activation

Management

- Embedded chassis management processor
- Supports optional embedded Fabric Management (SM, PM, and BM)
- Supports external InfiniBand compliant Subnet Manager (SM)
- Supports server-based InfiniBand compliant Subnet Manager
- SNMP management support
- QuickSilver Fabric OS chassis and I/O management

Physical Specifications

Height	1.7 inches (43.2 mm)
Width	17.32 inches (440 mm)
Depth	25.5 inches (647.7 mm)
Depth with fascia	26.75 inches (679.4 mm)
Weight	20 lbs. (9.09 kg)

Switch Chassis Functionality

Virtual Lanes (VLs) support	8 plus 1 management
MTU size	up to 4096
Number of partition keys per port	32
Number of service levels per port	16
Unicast forwarding table size	48K entries
Multicast forwarding table size	1024 entries

Power

Power Range

- 85 to 264 VAC
- 47 to 63 Hz

A/C Power Feed

- Two independent IEC 320 connectors

Environmental

Temperature

Operating	10° to 45°C
Non-operating	-40° to 75°C

Humidity

Operating	5 to 85% non-condensing
Non-operating	5 to 95% non-condensing

Power Dissipation

SilverStorm 5000	100 Watts maximum with 2 Gateways installed
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Agency Compliance

Safety	UL/CSA/EN
EMI	FCC/VCCI/EN
Marking	UL/TUV/VCCI/CE



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