



## DATA SHEET



## Crossroads 6000 Storage Router

### Overview

The Crossroads 6000 Storage Router is designed to connect SCSI devices into a Fibre Channel (FC) fabric or loop. The Crossroads 6000 is neatly packaged in a 1U form factor with one 2 Gb/s Fibre Channel port and two HVD or LVD/SE SCSI buses.

External throughput is up to 160 MB/s for LVD connections. The Fibre Channel port can be set for 1 or 2 Gb/s speeds and can connect in arbitrated loop (including point to point configurations) or switched fabric topologies. SCSI buses are HVD or LVD/SE, with automatic negotiation for Fast, Narrow, Wide, and up to Ultra160 SCSI.

Crossroads believes that delivering quality means consistently meeting and exceeding customer expectations. Crossroads has been developing, testing, installing, and supporting storage routers for over seven years. No other storage router company can match the quality and experience of the Crossroads team.

### Key Benefits

#### Low cost 2 Gb/s connectivity for mid-range tape libraries

*Investment Protection:* With a 2 Gb/s Fibre Channel port and maximum throughput of 160 MB/second, the 6000 integrates SCSI tape libraries into high-performance Fibre Channel storage networks. With a simple two SCSI bus and one FC port design, the 6000 is the cost-effective choice for storage routing.

#### Ease of Use to Reduce Storage Network Management Costs and Complexity

*The best out-of-box user experience in the storage router industry:* The Crossroads 6000 storage router is significantly easier to install than other routers. Crossroads' patented technology ensures accurate device mapping and security, and Crossroads' leading interoperability ensures the 6000 works well with other SAN components.

*Easiest storage routers to manage:* The Crossroads 6000 storage router is significantly easier to manage than other routers. With Crossroads Visual Manager™ (CVM™), service professionals and end users simply "point and click" in the graphical user interface (GUI) for access to current status information and management settings. An embedded web server on the 6000 allows CVM to run as a web application from any computer with a web browser, providing a powerful software management tool to define how devices share resources on the storage network. Individual storage devices can be managed as an integrated system rather than as a collection of stand-alone devices.



### Highlights

- One 2 Gb/s Fibre Channel (FC) port.
- Two HVD or LVD/SE SCSI Buses
- Manageability: Manageability: Crossroads Visual Manager™ software, Command-Line interface, FTP utility, FA MIB 2.2 support, Interoperability with other SAN Management Applications
- LAN-free and Server-free backup enabled
- 1U form factor
- Integrate legacy SCSI tape libraries into FC storage networks
- Dynamic LUN mapping for device level configuration
- LUN masking for storage network security at the device level

[www.crossroads.com](http://www.crossroads.com)

[info@crossroads.com](mailto:info@crossroads.com)

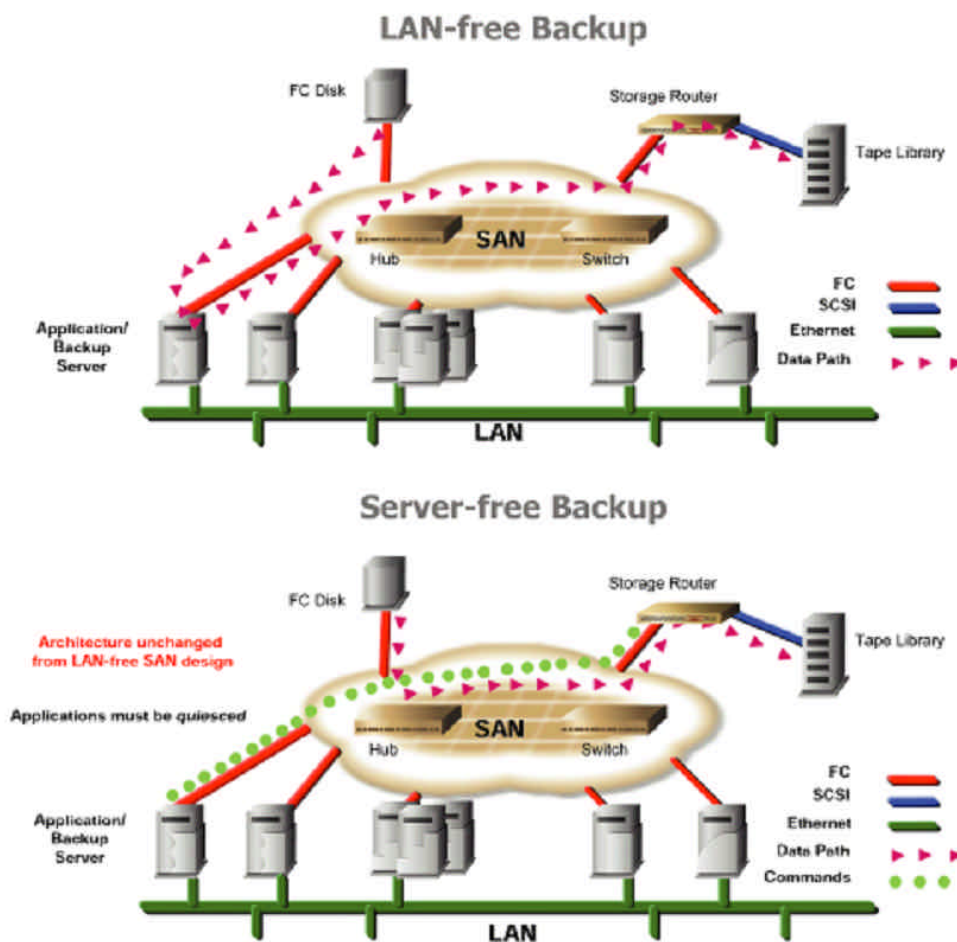
[sales@crossroads.com](mailto:sales@crossroads.com)

(800) 643-7148

## High Performance for Faster Backups

**Faster backups:** The Crossroads 6000 offers the industry's best value proposition in a 2 Gb/s storage router designed for entry-level, workgroup, and departmental SANs. Customers benefit from LAN-free backup and restore, which moves the bulk of data backup and recovery traffic from the LAN and into the storage network. Removing the LAN bottleneck ensures that SCSI devices can operate at full speed. Using the Crossroads 6000, existing data can be backed up or restored in less time, or in increasingly larger data sets within the customers' current backup window.

**Server-free Backup/Restore:** Server-free backup offloads the work of moving blocks of data from the application server to a specialized "data-mover" device (e.g. Crossroads 6000 storage router) located on a storage network. The application instructs the data-mover about what to do, using the new SCSI "Third-Party Copy" or "Extended Copy" command, and then the data-mover does the bulk of the work. CPU cycle use and I/O on the server are drastically reduced.



## Specifications

### Fibre Channel Features

- Single 2.125 Gbps port
- Full-duplex send and receive buffers
- Fibre Channel Arbitrated Loop (FC-AL) and Switched Fabric (FC-SW) topologies
- Class 3 connection with SCSI-FCP protocol
- Private Loop Direct Attach (PLDA) profile
- Hard and soft addressing modes
- Small Formfactor Pluggable (SFP) for HVD multi-mode (shortwave) optical fiber
- Small Formfactor Transceiver (SFF) for LVD multi-mode (shortwave) optical fiber

### SCSI Bus Features

- Two Buses, Very High Density Cable Interconnect (VHDCI) small form factor
- Auto-negotiation for Fast, Narrow, Wide, and up to Ultra160
- Ultra160 SCSI for data transfer up to 160 MB/s per LVD bus
- Ultra SCSI for data transfer up to 40 MB/s per HVD bus
- SCSI-2 and SCSI-3 protocols
- SCC automatic and custom addressing modes
- Concurrent and proprietary commands, tagged command queuing, and disconnect/reconnect
- Disk, tape, optical, and changer devices
- HVD or LVD/SE connections

### Management Access

- 10/100 Ethernet RJ-45 connector for FTP, Telnet and Web browser access
- Serial RJ-11 connector for terminal access
- CVM™ (HTTP) (see the Crossroads CVM data sheet)
- SNMP with FA MIB 2.2 and private MIB support
- DHCP for easier network administration
- Field-updateable firmware
- Copy Manager and Controller LUN Commands
- SCC (FC only), Indexed, and Auto Assigned addressing modes

### Physical Features

- Fibre Channel link and activity LEDs
- One activity LED per SCSI bus
- Ethernet link and activity LEDs
- One bi-color Power/Fault LED
- Internal power supply with power switch and detachable power cable
- Airflow with internal fan
- Rack mount or desktop enclosure
- Width: 43.18 cm (17.0 in)
- Depth: 27.3cm (10.75 inches)
- Height: 4.31 cm (1.70 in, 1U)
- Weight: 4kg (9 lbs.)

### Environmental Features

- Operating Temperature: 0 to 50 °C
- Humidity: 5 to 80% non-condensing
- AC Power: 100-240 VAC, auto-sensing
- 50/60 Hz, 1.0 Amps
- Safety & Emissions: FCC Class A, UL 06950, cUL, CE, VCCI, AS/NZS 3548, TUV GS, EN 60825-1

### SCSI Cable Specifications

- It is recommended to use LVD rated SCSI cables, which offer the best low-noise transmission of data for both LVD/SE and HVD configurations. Recommended cables have VHDCI 68pin .8mm D-shell/P-type to Standard 68pin SCSI D-shell connectors, and are rated at 24 Ohm impedance. D-shell connectors should utilize a low profile for connection to router buses.

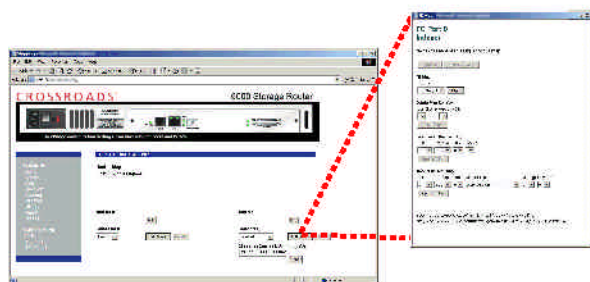
Optional SCSI cable kits available.

### Server-free Data Movement

- The Crossroads 6000 supports server-free data movement using extended copy commands. There are two industry standards for this command and the 6000 supports both versions (99-143r1 and SPC-2). Used with server-free application software, the 6000 supports off-load of data movement tasks from the server to the router, freeing up valuable CPU resources on the server.

### Crossroads Visual Manager™ (CVM™)

- The Crossroads Visual Manager™ is a powerful software management tool for storage networks that defines how storage devices share resources. The CVM runs as a web application and the 6000 storage router acts as a web server. The Crossroads 6000 offers the unique ability to manage storage routers and access tape device information from any computer with a web browser (as long as this computer has security access privileges to access the router). Other routers require a software agent to be loaded onto the computers that will be used to manage the router.



\*Contact Crossroads for supported hardware and software environments.

© 2003 Crossroads Systems, Inc. Crossroads and Crossroads Systems are registered trademarks of Crossroads Systems, Inc. CVM and Crossroads Visual Manager are trademarks of Crossroads Systems, Inc. All specifications subject to change without notice.