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In-Reach 8000 Series



Overview

The In-Reach® 8000 (IR-8000) series of standalone secure *Remote Presence* management solutions controls a variety of local and remote network elements (NEs) in a cost-effective, secure, reliable and easy-to-use manner. By extending serial and console port access and facilitating power management capabilities over IP networks, the IR-8000 gives you visibility and control from virtually anywhere.

The IR-8000 includes a comprehensive set of security features including per port password protection, RADIUS, Access Control Lists, Secure Shell, SecurID, PPP, PAP/CHAP, PPP dial-back, on-board database and others.

With the IR-8000, network administrators can configure, troubleshoot and manage geographically dispersed NEs such as UNIX servers, switches, CSU/DSUs, routers and multiplexers from a central network operations center (NOC), reducing costly on-site visits, service disruptions and skilled personnel requirements.

The Need for Remote Presence

Today's market conditions dictate that any business, no matter how big or small, must develop and implement electronically driven processes to compete. Real-time electronic business processes are a necessity across all markets, including the e-commerce, financial, healthcare, telecommunications, retail, transportation, manufacturing and utilities industries.

This new business environment has led to geographically distributed networks, applications and systems. Enterprises have deployed extensive networks to carry distributed applications that facilitate business such as e-commerce, enterprise resource planning (ERP), supply chain automation, telemetry systems and industrial automation.

To meet the explosive growth in digital communications, carriers and service providers have built massive high-speed wireline and wireless networks. These networks enable enterprises to connect with supply and distribution chains, customers and themselves.

Features

- **Remote console access** Minimize downtime and lower operations costs
- **Serial to IP conversion** Access and acquire data from virtually anywhere
- **Industry-leading security** Grant flexible access without compromising security
- **Ease of use** Non-disruptive to install, simple to manage and maintain
- **Scripting and menus** Automated and guided processes save time and money
- **Sun Break compatible** Prevents inadvertent shutdowns of Sun Servers
- **Virtual management ports** Simultaneous multiple user access with individual rights
- **Out-of-band access** Secure, guaranteed access to remote sites
- **High port density, 1U form factor** Cost-saving compact design
- **Robust security protocol support** Non-disruptive to implemented operations procedures

Applications

- Data center console and power management
- Out-of-band IT infrastructure management
- Telecom, energy and utility remote site console management
- Point-of-sale, telemetry and SCADA data acquisition
- Legacy terminal server environments
- Unmanned equipment configuration, provisioning and management

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When applications and networks stop, business stops. No enterprise can afford the economic or business consequences of operational downtime. This, coupled with the demand that businesses do more with less, puts network, operations and systems managers in a very precarious position.

How do the people responsible for these applications, networks and systems cost effectively manage them and their countless remote elements to ensure minimal operational downtime? The answer is remote presence. In-Reach remote presence solutions make logistically difficult, skilled manpower-intensive tasks easy and cost-effective to manage. In-Reach remote presence solutions allow centrally located personnel and applications to monitor, manage and respond to globally distributed networks and systems.

IR-8000 Product Details

With over a decade of software development, the IR-8000 offers the industry's most secure and complete solution for enabling serial devices including equipment consoles, terminals, PCs, printers and bar code readers with IP connectivity. The IR-8000 series is also a scalable platform, providing from 8 to 40 ports of serial port connectivity all in under 1U of rack space.

Access to the system is achieved via an extensive Command Line Interface (CLI) or via a user-friendly browser-based Graphical User Interface (GUI), making it simple and cost-effective to deploy. Editable parameter files and SNMP management enhance the product's ease of use and simple management.

The IR-8000 software also includes a variety of command and data logging features that offer network administrators the ability to track previously entered commands and events from a system log file. With this feature, security breaches and last change events are much easier to isolate.

Key Capabilities

Terminal Server

The IR-8000 is one of a wide range of In-Reach platforms and form factors that fit any legacy terminal serving application. The IR-8000 has robust protocol support including Print Server, TN3270, Unix, LAT and DECnet multisession to enable a wide range of core legacy applications. The IR-8000 series also allows users to share printing resources in a widely distributed heterogeneous environment that includes VAX hosts, UNIX hosts, and Novell and NT servers supporting BOOTP.

In-Reach is the industry's most complete solution for enabling serial devices including PCs, printers, terminals and bar code readers with IP connectivity. These capabilities combined with the IR-8000 security and modem features make it an ideal choice for providing remote real-time access to point of sale and telemetry data provided by serial devices.

Additionally, extensive modem, scripting support and RADIUS accounting features make the IR-8000 ideal for remote access concentration.

Console/Out-of-Band Management

The IR-8000 series console management solution enables centrally located or remote personnel to connect to the console or craft ports of any network element or server. This serial connection allows administrators to manage and configure the remote network devices and servers as if attached locally. Software upgrades, provisioning and configuration changes of remote switches, routers and servers that once required a qualified technician on site are now trivial tasks. Additionally an editable parameter file enables automated scripting of repetitive provisioning tasks, making cost-efficient unmanned installation possible. The IR-8000 series is fully Sun compatible to prevent the industry common "Sun Break" issue from triggering inadvertent shutdowns of Sun servers.

Secure IP connectivity can be established in-band through the IR-8000's 10Base-T Ethernet port, or across a separate, dedicated management network. Alternatively secure IP connectivity can be established via the internal V.90 modem, either as standard practice or as a method of reliable back-door access in the case of a primary connection failure. This ensures the ability to respond to problems and guarantee maximum operational uptime.

Power Control

The IR-8000 series also provides a modular power solution for managing remote power. IROS, the In-Reach real-time operating software, enables the configuration of power master ports to manage and control the In-Reach IR-5100 power management units. The solution provides for remote current monitoring and AC power control of equipment at distant facilities.

With the IR-8000 and the IR-5100 series administrators have the ability to remotely power cycle a locked up server, bring a

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redundant system online or turn on an auxiliary air conditioner from anywhere. Current utilization can also be monitored on a per outlet basis to gain a solid understanding of faulty or power-hogging equipment and overall usage to effectively plan and deliver efficient power.

Service and Support

Delivering value added service and support for nearly 20 years, MRV Communications provides worldwide technical

assistance through a highly trained team of dedicated corporate and field based engineers as well as through certified channel partners. Whether your needs are for 24x7 dedicated support, same day replacement parts shipment, on-site support or network design and installation related professional services, you'll gain the opportunity to build a responsive and accountable partnership with the MRV service and support experts.

Technical Specifications

Model Name	IR-8008	IR-8020	IR-8040
No. of Console Ports	8	20	40
Rack Mount Form Factor	Desktop	1U (19/23")	1U (19/23")
Port Speeds	50 bps to 115.2 kbps	50 bps to 115.2 kbps	50 bps to 115.2 kbps
Power Requirements (DC)	-36 to -72 VDC 2A (max)	-36 to -72 VDC 3.3A (max)	-36 to -72 VDC 3.3A (max)
Power Requirements (AC)	100 - 250 VAC, 50-60 Hz 0.7 A at 120 V 0.3 A at 220 V	100 - 240 VAC, 50-60 Hz 1.58 A at 110 V 0.85 A at 220 V	100 - 240 VAC, 50-60 Hz 1.58 A at 110 V 0.85 A at 220 V
Dimensions			
Height	4.1 cm/1.62 in	4.45 cm/1.75 in	4.45 cm/1.75 in
Width	23.3 cm/9.9 in	48.26 cm/19 in	48.26 cm/19 in
Depth	19.5 cm/7.7 in	29.71 cm/11.7 in	29.71 cm/11.7 in
Weight	1.7 kg/3.8 lbs with external power supply	5 kg/11 lbs	5.4 kg/12 lbs
Common Specifications for all Units			
Network Interface	Ethernet/IEEE 802.3 AUJ (10Base5) or RJ-45 (10BaseT) one port		
Serial Interface	RS-423/232, modular RJ-45 connectors		
Base Memory	4 MB DRAM		
Expansion Memory	field upgradeable to 8 MB (6 MB on IR-8008)		
Non-Volatile Storage	32 KB		
Memory Card Interface	JEIDA/PCMCIA		
Network/ Terminal Server Protocols	TCP/IP, PPP, Telnet, BOOTP/TFTP, SLIP, LAT, TLI, TN3270 and Multisessions.		
Security Options	Per-port password, multi-level password, RADIUS, ACLs, PAP, CHAP, SecurID, IP filtering, Secure Shell		
Network Management	SNMP MIB I, MIB II, proprietary MIB extensions, Telnet		
Warranty	One year		
Environment			
Operating Temperature	32 to 113°F (0 to 45°C)		
Storage Temperature	-4 to 140°F (-20 to 60°C)		

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Technical Specifications

Humidity	10% to 90% non-condensing
Diagnostic LEDs	Run, LAN, console, port status, memory card status
Safety Compliance	Complies with UL 1950, third edition; CSA C22.2 No. 950; EN 60950
Emissions/Immunity Compliance	FCC Part 15, Class B; EN55022; EN55024; EN50082-1
EU Directives	Meets all applicable requirements of current EU directives
Telecommunications/NEBS Compliance	NEBS Level 3 compliant (GR-1089-CORE, GR-63-CORE), FCC Part 68, IC CS 03, CTR 21 (Applicable to specific 20 and 40 port models)

MRV has more than 50 offices throughout the world. Addresses, phone numbers and fax numbers are listed at www.mrv.com. Please e-mail us at sales@mrv.com or call us for assistance.

MRV Los Angeles
20415 Nordhoff St.
Chatsworth, CA 91311
800-338-5316
818-773-0900

MRV Boston
295 Foster St.
Littleton, MA 01460
800-338-5316
978-952-4700

MRV International
Business Park Moerfelden
Waldeckerstrasse 13
64546 Moerfelden-Walldorf
Germany
Tel. (49) 6105/2070
Fax (49) 6105/207-100

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