

# MRV Out-of-Band Networking

## Product Overview

### Who is MRV Communications?

MRV Communications (NASDAQ: MRVC) is a leading provider of network equipment and optical components for enterprises, universities, service providers and government agencies.

### What do MRV Out of Band Networking Solutions provide?

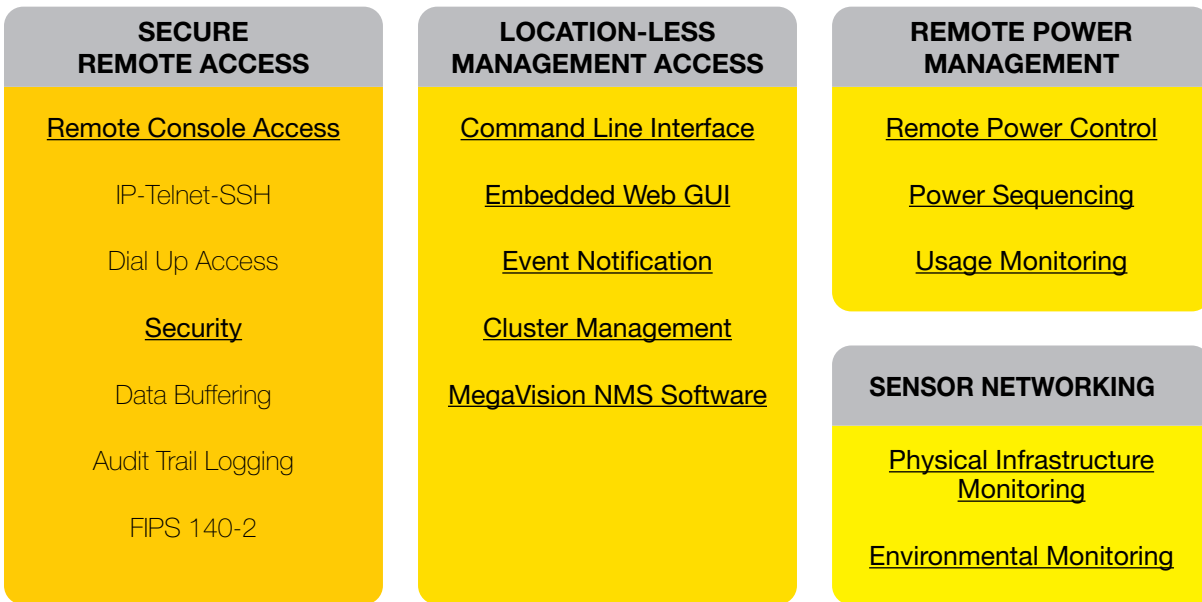
An Out-of-Band Network provides secure remote service port access and remote power control to devices in an organization's networks and infrastructures. MRV solutions reduce costs and improve service levels by providing access to critical IT resources from any location. Routers, switches, Unix/Linux/Windows servers, sensors and a wide variety of other equipment can be monitored and controlled remotely through a reliable cost effective serial connection.

MRV is the only Out-of-Band Networking vendor to offer powerful automation tools to meet an enterprise's individual needs, providing proactive automated support to respond to critical events without user intervention. For example, turning on a security camera in a remote facility when a break-in occurs, and notifying different people based on the day and time the breach occurred. Or disabling power outlets, to reduce, secure or manage power use.

### What are the MRV Out of Band Networking products?

- **Console/Terminal Servers:** The full line of LX Series console/terminal servers supports 1, 2, 4, 8, 16, 32 or 48 RS232 serial ports with an optional V.90 or wireless cellular modem, dual Ethernet, and multiple AC/DC power options. Rich security and management features are supported, in addition to distributed clustering, sophisticated automation capabilities, very strong encryption and US Government FIPS 140-2 security certification.
- **Power Management:** Power management provides the ability to enable or disable power to managed devices from any location, to reset equipment, enhance troubleshooting, enable redundant equipment, or control power access. With an LX Series Console Server providing a single management interface, the LX Power Control Series supports AC and DC solutions with 8 to 32 individually controlled outlets, and horizontal or vertical mounting options.
- **Sensor Networking:** Sensor networking support in the LX Series console servers provides an IP based method to monitor and automate physical infrastructure resources including heat, humidity, fire alarms, and security cameras as well as physical entry points such as doors and windows.

## Out-of-Band Networking Solutions



## Typical Applications

### Remote Management

**Used By:** organizations with over 100 servers, routers, switches, storage or other server, security or network devices. Enterprise organizations with any number of branch offices or remote locations deploying IT infrastructure devices.

**Needs:** high uptime requirements, resource challenges or dispatching on-site support, troubleshooting challenges, or need to manage remote locations, or lights-out facilities. Sarbanes-Oxley or HIPPA compliance create security, logging, and audit trail tracking requirements

**Think about:** how is IT infrastructure managed when a failure occurs? What is staffing plan for remote locations, after-hours support, disaster recovery plans? How important is secure access to your equipment?

**Benefit:** Remote service port access to equipment and resources via a secure IP connection or dial up connection.

### Remote Power Management

**Used By:** Sites with critical uptime or power management needs, such as datacenters or development labs

**Needs:** Sending personnel to remote locations to reboot devices. Need to reduce, manage or secure power usage due to costs or other technical issues.

**Think about:** how to manage power, impact of power costs, frequency of power outages, recovery challenges

**Benefit:** Immediate recovery of hung equipment, and alternative to expensive redundant systems. Power capacity and usage monitoring.

### Environmental and Physical Infrastructure Management

**Used By:** Sites with potential problems created by overheating equipment, flooding, or unauthorized location entry.

**Needs:** Ability to identify unauthorized entry into datacenters and remote un-staffed locations. Environmental monitoring needs for heat, ventilation, air conditioning, etc.

**Benefits:** Cost effective integrated solution consolidates and expands monitoring capabilities. Multiple automatic actions including notification via email, text message and SNMP as well as enabling additional equipment such as air conditioning, generators, pumps, etc.

## The MRV Differences

- Rich security and management features, including Cisco style Command Line Interface and a browser GUI which allows configuration of all features.
- Distributed clustering allows an unlimited number of console servers to be combined into a single management entity, greatly simplifying network planning and troubleshooting. site wide updates without a separate management platform that adds cost, complexity and a single point of failure.
- Unique Trigger/Action feature allows proactive automated measures to notify administrators of critical events without user intervention, or initiate recovery.
- High density power management and IP address consolidation, including site specific power usage monitoring and emergency notification, and customizable automated recovery. For example, by enabling or disabling specific power outlets without user interventions to improve service levels.
- The only major console vendor with the respected FIPS 140-2 security certification issued by the Federal Government.
- 20+ years experience in out-of-band management technologies with its acquisition of Xyplex in 1998.

## Sample Customers



GENERAL DYNAMICS

