



## Product Overview



Optical Communications Systems™

## MRV Communications

### Inspiring Optical Networks for over 20 Years

MRV Communications is a global provider of optical communications systems, providing Carrier Ethernet, WDM transport and infrastructure management solutions since 1988. MRV products enable the delivery of next-generation optical transport and Carrier Ethernet services over any fiber infrastructure. Since its inception, MRV has demonstrated expertise and experience offering solutions that address future challenges while reducing network complexity, optimizing network capacity and minimizing costs.

#### MRV solutions are deployed in prominent networks worldwide:

- Multinational Service Providers
- Wireless Operators
- Cable MSOs
- Mission-critical Enterprises

*Finance*

*Healthcare*

*Higher Education*

*Government*

*Military*

*Transportation*

*Utility sectors*

Delivering a continuous stream of innovative products, MRV has been recognized by industry forums with numerous technological awards. MRV's Optical Communication Systems offer powerful, flexible and cost-effective, solutions for simple configurations to the most demanding network requirements. The suite of features found in MRV's Optical Communication solutions allow network operators to respond to market demands quickly and maintain or even reduce capital and operational expense.

#### Innovative Solutions

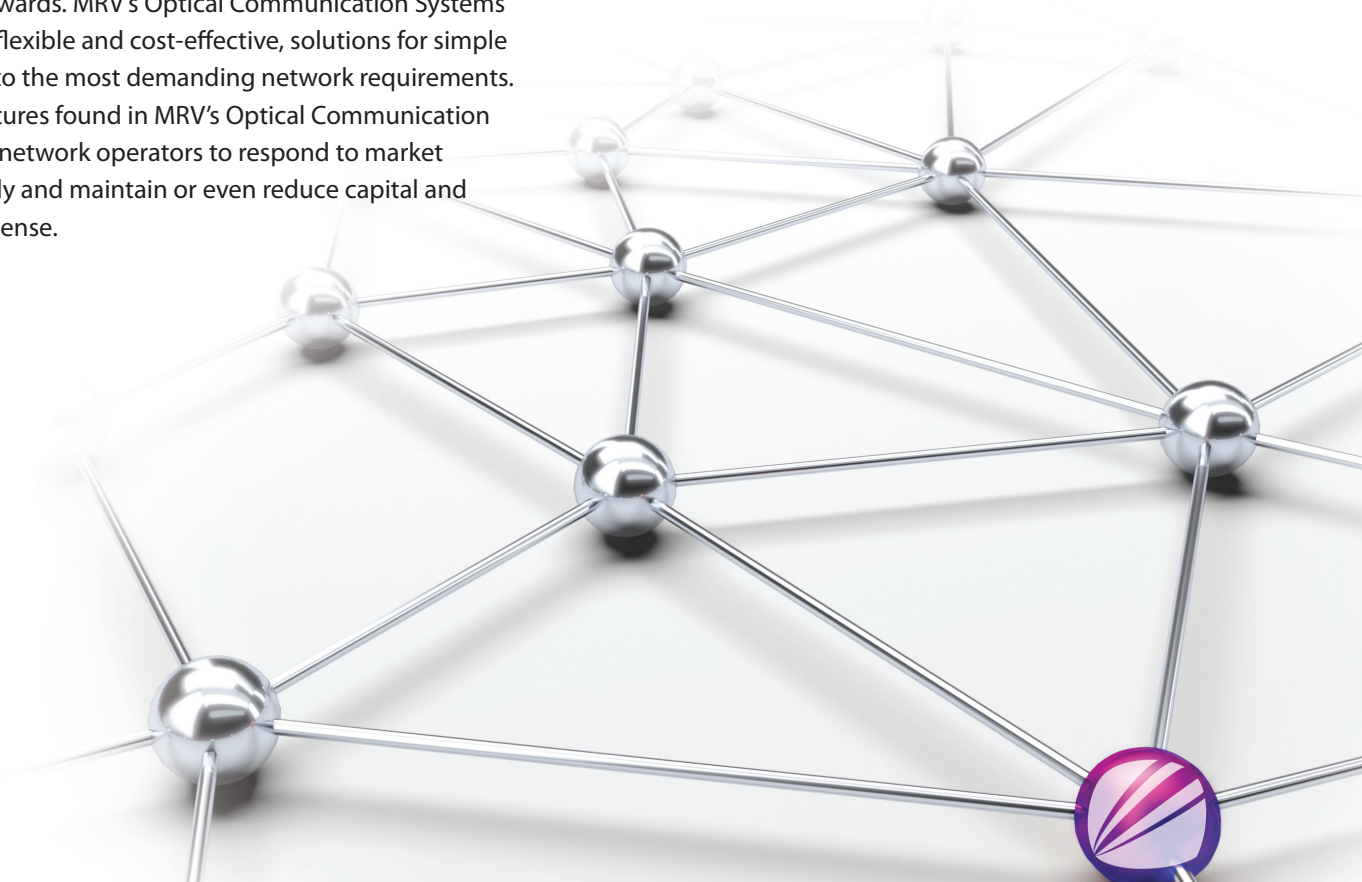
##### MRV Product Families

MRV's solutions include **Optical Communications Systems** for access, aggregation and demarcation and other high-bandwidth applications in optical networks, **Out-of-Band Networking** for complete IT infrastructure access and control and **Test Automation Products** maximizing the efficiency of the test lab and providing cost-effective network monitoring.

#### Global Infrastructure for Global Service

##### Worldwide Service and Support

MRV's a global infrastructure, includes R&D centers in the US, Europe and the Far East, along with 50 support centers, and 21 sales offices around the world. This worldwide presence and network of partners and resellers provides round-the-clock and round-the-world support. On-site maintenance and additional services including network design, site-surveys, consultation, system integration, installation, and training are available through MRV and partner network.



## MRV Optical Communications Systems

MRV's Optical Communication Systems offer powerful, flexible and cost-effective solutions for simple configurations to the most demanding network requirements. The suite of features found in MRV's Optical Communication solutions allow network operators to respond to market demands quickly and maintain or even reduce capital and operational expense.

MRV's Operation Administration and Management (OAM) capabilities go beyond the industry standards providing potent and useful tools for provisioning, monitoring and managing the network. MRV's network management systems can stand alone or be integrated with existing operational support systems.

MRV's arsenal of optical products also includes complimentary solutions such as pluggable optics and wireless/ free space optics. Solutions using a combination of these MRV product families allow you to achieve benefits of a single-vendor solution unmatched in the industry.

### OptiSwitch®

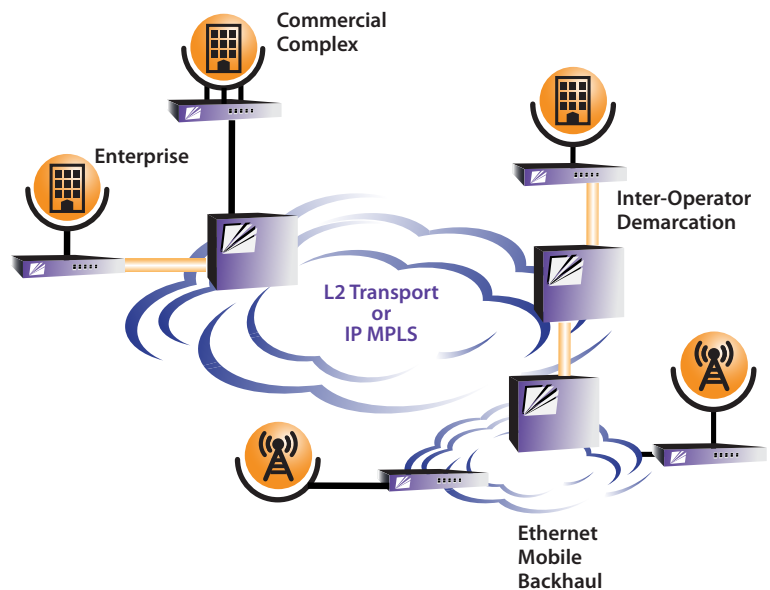
#### Carrier Ethernet Platform



MRV's OptiSwitch® is a mature, feature-rich Carrier-Ethernet platform for access, aggregation and demarcation. Supporting MEF compliant services up to 10G including fractional speeds and configurable interfaces, OptiSwitch® products offer a full suite of carrier-grade support with protection mechanisms that meet carrier fail-save requirements. End-to-end service quality monitoring and integrated hardware-based traffic generation supports guaranteed SLA's. Mobile backhaul applications are supported with full compliance including clock synchronization. With integrated hardware loopback and OptiSwitch® allows service providers to improve their competitive position by lowering network operation costs and improving delivery of new services.

### Benefits

- Enhanced quality of service and end to end performance monitoring for service level agreement support
- Greater network design flexibility
- Streamlined provisioning for rapid revenue generation
- Reduced capital and operational expense



### Applications

- Business Ethernet services
- Packet optical video services
- Mobile backhaul and mobile wholesale services
- 10G demarcation services

## LambdaDriver™

### Chassis-based Optical Transport



MRV's LambdaDriver™ is an ultra low latency optical transport system for building high-performance enterprise access, metropolitan carrier and long haul transport networks. The LambdaDriver™ is a multi-function, compact, modular WDM system that supports both dense wavelength division multiplexing and coarse wavelength division multiplexing technology. LambdaDriver™ also serves as a packet optical transport system by integrating Carrier Ethernet connection-oriented services and reconfigurable OADM for automated optical mesh topologies with wavelength-level switching. The LambdaDriver™ series can support data rates from 8 Mbps up to 40 Gbps with seamless future upgrades to 100 Gbps.

### Benefits

- Ultra-low latency performance for mission critical applications
- Multi-function common platform architecture; CWDM and DWDM in single chassis
- Scalable, pay-as-you grow, future safe implementation

## Fiber Driver™

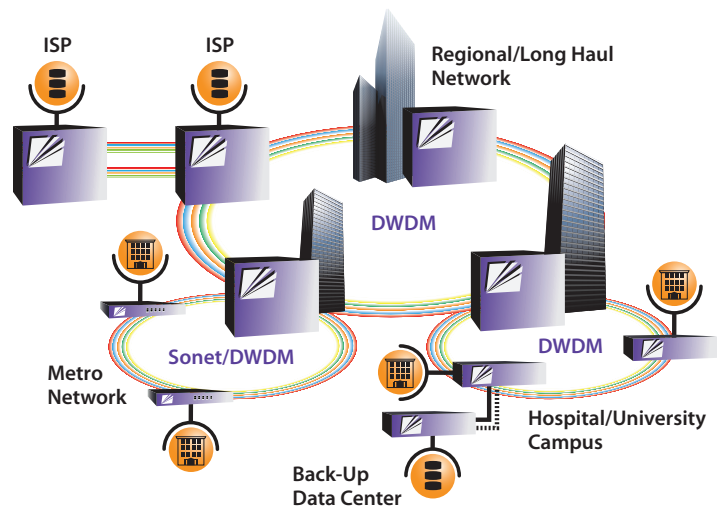
### Chassis-based Media Conversion and Access



The Fiber Driver™ optical multi-service platform provides a wide range of media conversion and access options with full support for industry protocols and data rates in a modular, managed, and economical package. Fiber Driver™ meets the high quality standards and rapid delivery requirements of the most demanding customers. Fiber Driver™ can simplify installation of new networks or breathe new life into legacy infrastructures. It provides managed optical transport solutions featuring ultra low latency, fiber optimization (single and dual strand), time division multiplexing (TDM) and wave division multiplexing (WDM) for most digital communication environments.

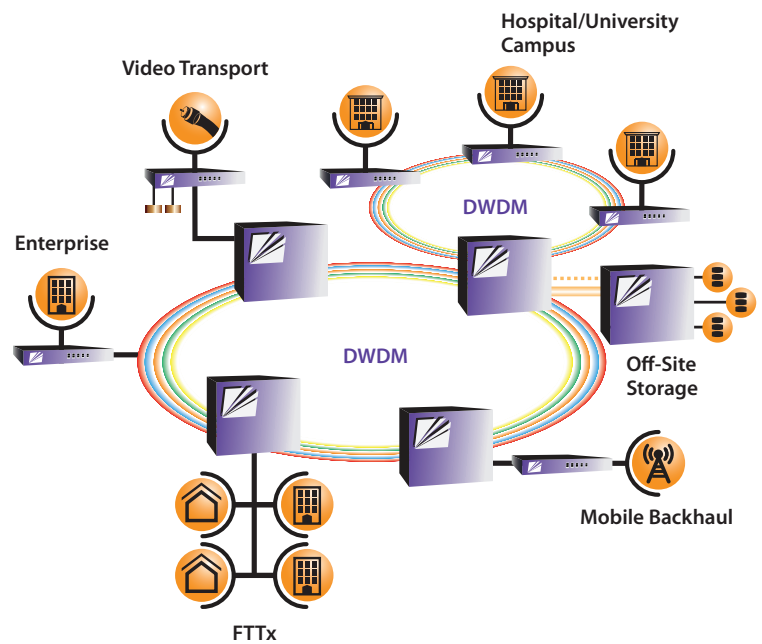
### Benefits

- Increase network capacity and capability
- Ultra low-latency performance
- Seamless migration from legacy networks
- Economical, pay-as-you grow, future safe implementation



### Applications

- Point to point data and storage extension
- Multi-site optical enterprise networks
- Long-haul regional/national backbone networks



### Applications

- Fiber grooming and optimization
- Business and virtual private line services
- Converter-based service demarcation
- Distance extension



## MRV Out of Band Networking Products

## LX Series

## IT Infrastructure Management



MRV's LX Series provides a complete IT infrastructure management solution including secure remote console access, intelligent power management and environmental monitoring optimized for data centers, remote sites, and test labs. MRV solutions reduce costs and improve service levels by providing remote management access to critical resources from any location. Remote management access provides a means to identify and correct issues, or manage\monitor power operation and consumption without a need for IT personnel to be present on site.

## Benefits

- 24/7 lights out operation of any facility
- Reduced capital and operational expenses
- Minimize downtime and facilitate disaster recovery

## MRV Test Access and Automation Products

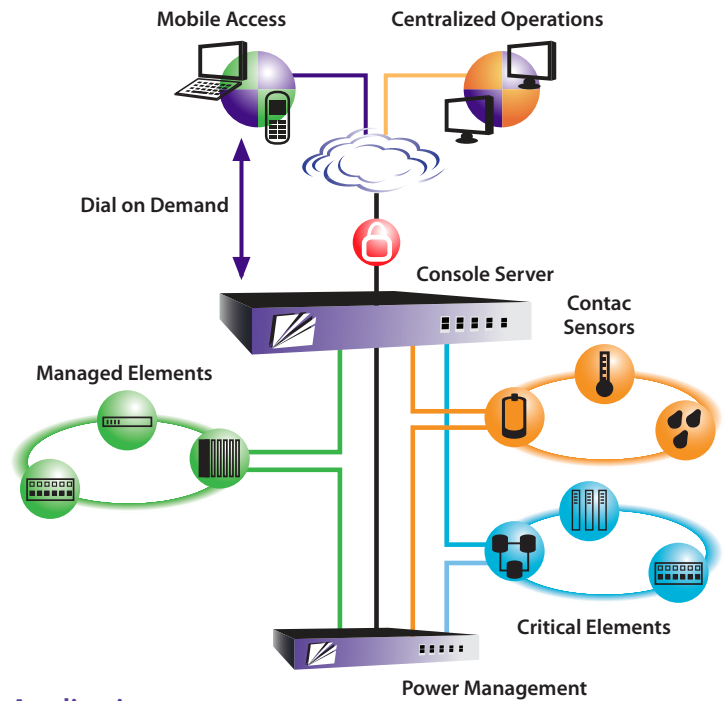
## Media Cross Connect (MCC) and TapIt

## Test Lab Automation and Network Monitoring

MRV offers the most complete solution for efficient test management. MRV's physical layer switches are used to minimize test configuration time increasing test throughput and reducing operating expense in the test lab environment. Increased efficiencies in the product development cycle accelerates time to market and revenue generation for new products. TapIt, MRV's fully passive, high density optical tap provides centralized remote access to the data center network for network troubleshooting and increased network availability.

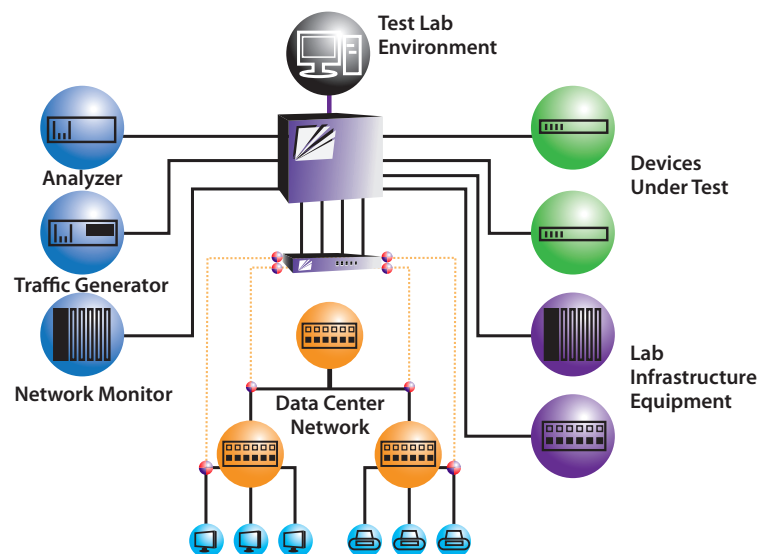
## Benefits

- Automate device connectivity to maximize test throughput
- Share equipment in central location to minimize capital expense and inventory
- Improved network performance and lower cost of network management
- Protocol agnostic access from T1 to 10Gbps copper and fiber



## Applications

- *Data center infrastructure management*
- *Test lab infrastructure management*
- *Centralized remote access and management*



## Applications

- *Test Labs - interoperability, proof-of-concept, soft regression*
- *Network Operating Center, Customer Service Labs, Data Center network management*
- *Non-Intrusive optical testing for performance management, trouble- shooting and capacity planning*

## MRV Additional Product Families

### TereScope®

#### Wireless Optical

The TereScope® family provides cost-effective, high-speed wireless connectivity for a variety of applications. Whether the need is narrowband voice or broadband data, TereScope provides scalable, wireless solutions at fiber speed up to 10Gbps. Requiring no right-of-way or government permits for installation, TereScope deployment is fast and provides flexible, high-bandwidth and secure communication.

#### Pluggable Optics

MRV is a market leader in design and manufacture of electro-optical components and is the leading provider of Fiber-to-the-Premise (FTTP) solutions in North America and offers a comprehensive array of pluggable optics, all Multi-Source Agreement (MSA) compliant. Digital video, long distance multi-mode and rate conversion transceivers are unique to the MRV product line. Used with MRV's optical transport and Ethernet products, MRV provides the only vertically integrated solution on the market today.

MRV has more than 50 offices throughout the world. Addresses, phone numbers and fax numbers are listed at [www.mrv.com](http://www.mrv.com). Please e-mail us a [info@mrv.com](mailto:info@mrv.com) or call us for assistance.

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