

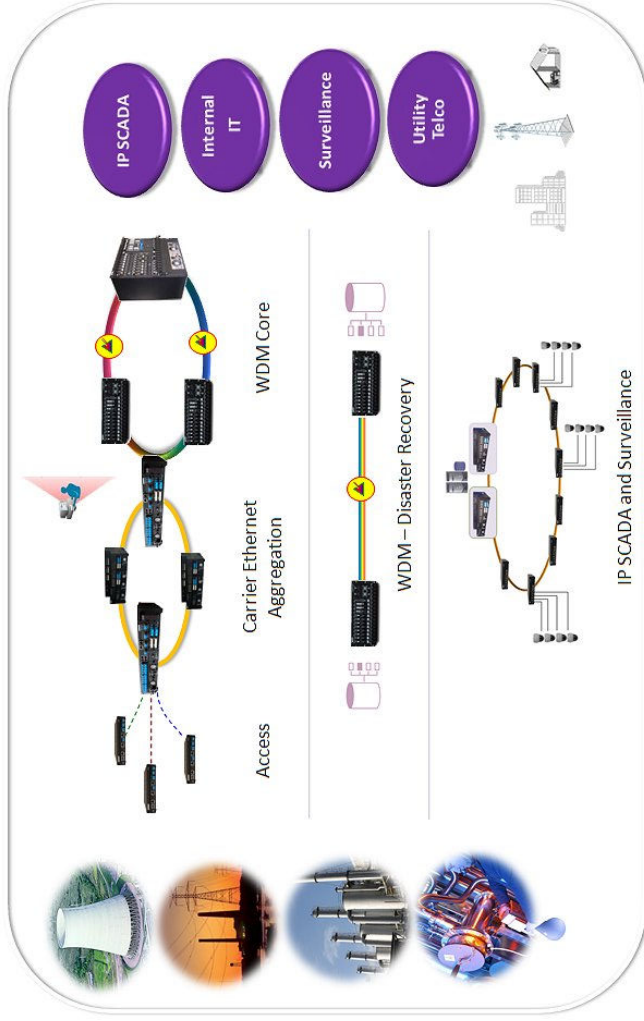
MRV Delivering Carrier-Grade Packet Transport Infrastructures for Utilities – Application brief

The rapid changes in the telecommunications market and recent economic pressures to increase revenues have created new opportunities for utility companies.

High capacity infrastructure based on fiber optics are widely deployed by; oil, power, electric, gas and water companies, offering a wide range of highly developed mission-critical applications for providing both internal and external networking services.

MRV has a proven track record in dozens of utility projects worldwide. Our broad experience with complex projects has created superior value for our customers who deploy reliable, cost-effective and flexible network solutions, based on in-house technologies along with an innovative customer-driven approach.

MRV Optiswitch® and LambdaDriver® Solutions



- ✓ End-to-end converged services
- ✓ Fast service activation
- ✓ Carrier-grade resiliency
- ✓ Cost effective solution
- ✓ Flexibility in network design
- ✓ End-to-end Service Management

MRV Solution enables

IP SCADA

- Supervisory Control and Data Acquisition of industrial element over Ethernet/IP networks using OptiSwitch
- Long range fiber optics communication and G.SHDSL mid band
- Extreme operating temperature
- Point & click management

Internal IT

- Fail-safe operation and disaster recovery over fiber for data centers and mission-critical application using LambdaDriver WDM
- Enterprise L2-L3 networking and Power over Ethernet (PoE)
- GE and 10GE Optical Wireless Connectivity between buildings

Surveillance

- Scalable solution to thousands of cameras and sensors
- Resilient – fully redundant ring and mesh based network
- Hardened for extreme environments
- Small form factor (compact) system design
- Variety of connectivity methods:
 - Fiber optics (short, long range, BX, CWDM & DWDM)
 - G.SHDSL bonded copper
 - Optical wireless
- Point & Click operation and management

Utility Telco (U-TELCO)

- Telecommunication & Data communication services for 3rd party operators and business
- End-to-End Packet Optical Ethernet solution from access to backbone using OptiSwitch Carrier Ethernet and Lambda Driver WDM Transport solution
- Leased line (Private) services, multiplexed virtual Point-to-Point and Multi-Points services
- End-to-end Point & Click services provisioning and management



WE ARE CONNECTED GLOBALLY.

www.mrv.com

About MRV Communications, Inc.

MRV Communications, Inc. (www.mrv.com) is a leading networking company with a full line of packet-optical transport (POTS), carrier Ethernet, 40G networking and out-of-band networking products for service providers and enterprises. MRV sells its products worldwide through its direct sales force, manufacturers' representatives, VARs, distributors and systems integrators.