FUJITSU

shaping tomorrow with you

Transitioning Utilities Networks for Growth and Success

Utilities networks traditionally have relied on Time Division Multiplexing (TDM) connections, such as DS1, DS3 or OC-3 interfaces, for connectivity. In areas without fiber, microwave systems with TDM interfaces have been installed.

Today, as networks face increasing demands on bandwidth, network administrators are looking to integrate Ethernet solutions to help meet those demands. However, when migrating networks, it's not feasible to simultaneously replace all TDM/circuit-switched elements with Ethernet/packet elements.

Furthermore, applications such as data collection require low-speed connectivity, so retaining a native TDM interface is essential.

The ideal migration solution is one that integrates Ethernet while still supporting critical TDM applications and allowing smoother transitions as the network grows.
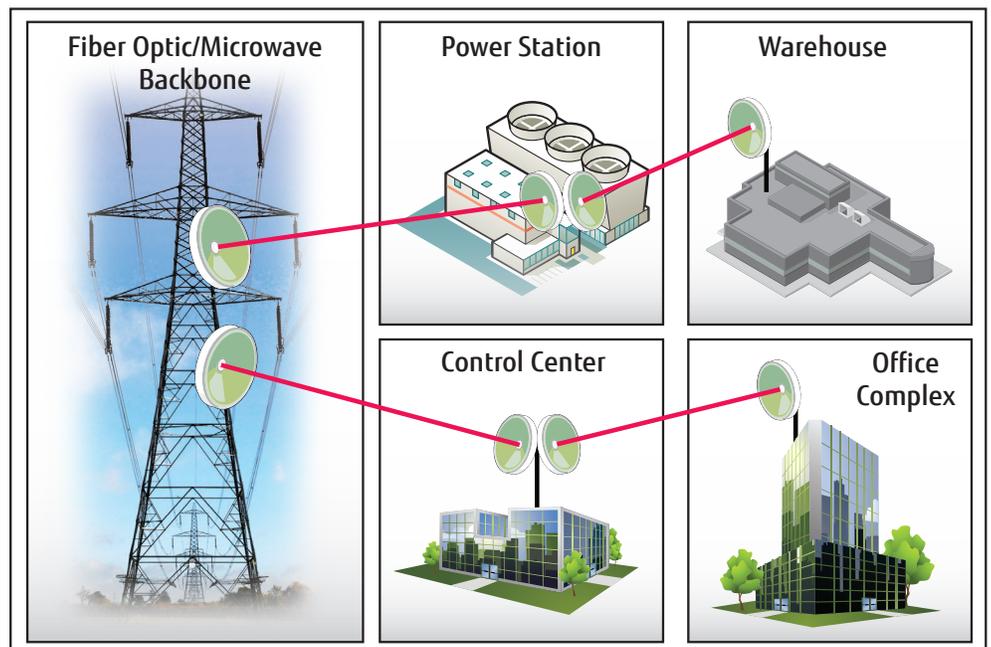
When migrating a utility network, consider these issues:

- Supervisory Control and Data Acquisition (SCADA)—could be DS0-level applications
  - End devices—gates and pumping stations
  - Metering devices
  - Monitoring flow meters
- Surveillance video
- Distribution of services
- Point-to-multipoint applications— distribution of network services
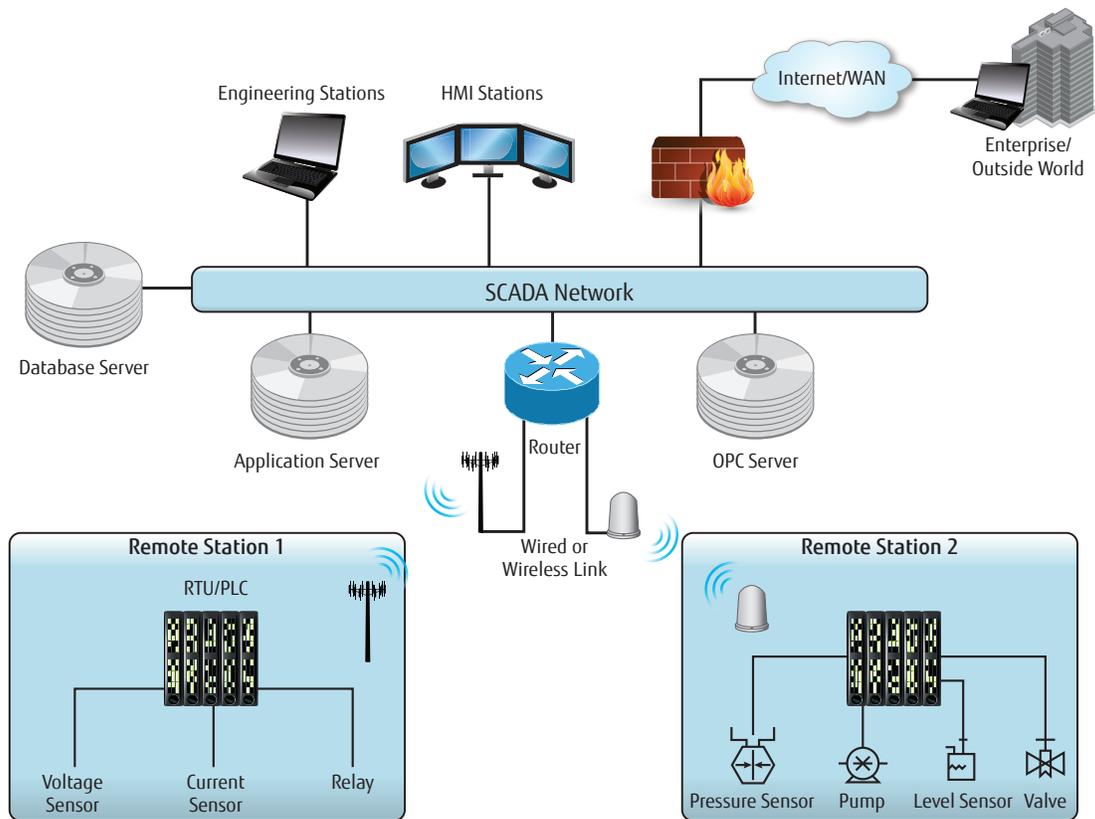- Backhaul to network operations

Ethernet Benefits in Utilities Networks
- Supports high-bandwidth applications including streaming video for site monitoring and line maintenance
- Hierarchical priority of traffic—Virtual Local Area Networks (VLANs) or Multiprotocol Label Switching (MPLS)
- Voice over IP—communication from site to site instead of Engineering Order Wire (EOW)

Fiber Optic/Microwave Backbone

Power Station

Warehouse

Control Center

Office Complex

A microwave Ethernet link can provide point-to-point or point-to-multipoint backhaul.

Modernize Your TDM Network with Fujitsu

Most of the microwave systems deployed today are considered backhaul systems. They predominantly have been located indoors, mounted in cabinets or stand-alone shelters with waveguides run to the antennas. These designs reduce the need for technicians to climb towers.

Fujitsu can help you migrate your all-TDM network to a hybrid TDM/Ethernet design to all-Ethernet/packet with turnkey microwave solutions. With this approach, you can maintain existing TDM interfaces without losing your investment. As for capacity, this solution is scalable, so your network can grow as needed.

Fujitsu also provides a unified network management solution and integration with existing network management software. The use of a common management tool reduces ramp-up time for network operations.

Fujitsu Microwave Design and Integration Solutions
- Engineering and design
- IP, Ethernet and TDM
- Complete lifecycle service and equipment

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