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# Case Study
# Midwest Fiber Network

"The Midwest Fiber Network and its member companies have worked with Fujitsu for about 15 years, and we value their commitment to quality and performance. As bandwidth demands increased, we saw the need to enhance our network capacity in the most efficient and flexible manner. With Fujitsu's help, our member companies came together, solved a shared challenge, and achieved a common goal."

**– Jeff Roiland, President, Midwest Fiber Network**

## The Customer

**Customer:** Midwest Fiber Network and its member companies
**Industry:** Residential and Business Communications Service Provider
**Location:** Southwestern Iowa, USA
**Customer base:** The Midwest Fiber Network serves residential and business customers across several thousand miles of fiber network, in addition to providing mobile backhaul services.

## The Vision

A future-proof, high-capacity, shared transport network capable of delivering much-needed additional bandwidth to support subscribers throughout southwestern Iowa

## The Solution

An overlay 100 GbE network based on the Fujitsu 1FINITY™ S100 Layer 2 Switch and Virtuora® Network Controller, delivering high-capacity Carrier Ethernet services and an easy upgrade path to 200G

### The Customer: Midwest Fiber Network

The Midwest Fiber Network (MFN) is a collaborative group of nine telecom carriers with the common goal of providing voice, video and data services to their subscribers. The network covers more than 300 fiber miles with redundant path capabilities, providing high-capacity services to consumers and businesses to 11 communities in throughout Southwest Iowa.

### The Vision

Communications service providers are striving to strike a balance between offering sufficient capacity to meet escalating demand and achieving maximum efficiency and return on investment (ROI). MFN's existing infrastructure was reaching capacity, and the 10 GbE infrastructure was not able to support future-proof evolution. As a consortium of carriers, MFN's requirements for bandwidth vary among the member companies, but the members agreed that the group was collectively in need of an upgraded transport network.

To ensure sufficient capacity for the foreseeable future, MFN was seeking a next-generation transport platform capable of 100G today and future scalability. The group selected the Fujitsu high capacity Layer 2 transport solution after an extensive RFP process.

### The Solution

In order to boost capacity, MFN opted to overlay the existing 11-node, 10 GbE transport network with a new 100 GbE system based on the Fujitsu 1FINITY S100 Layer 2 Switch. Although an N × 10G DWDM ROADM network was originally considered, high-capacity Carrier Ethernet technology was ultimately selected as the most efficient and flexible option to meet capacity needs today with room to grow for the future.

The MFN network upgrade involves deployment of Carrier Ethernet transport in a single 100 GbE ring, to provide a carrier-grade architecture with traffic management, network protection and performance monitoring.

With the 1FINITY S100 modular switching platform, MFN can achieve needed gains in bandwidth and unamplified reach, while saving on equipment upgrade costs. MFN is also better positioned for future growth, since a simple firmware upgrade will double the network capacity to 200G.

To manage the 1FINITY S100 switching platform, MFN selected the Fujitsu Virtuora software platform, including a network controller, network management, and packet control applications for carrier-grade reliability.

Deployment was provided as a full turnkey service, with Fujitsu conducting installation, fiber characterization, turn-up and testing, training courses, and a five-year support contract.

## The Outcome

With a new Carrier Ethernet system based on the 1FINITY S100 platform, MFN members have added functionality to deliver a range of new services, creating more value through innovation. Offering support for MEF-compliant E-Line and E-LAN services, this system enables more flexibility in size and class of service, as well as capability for both point-to-point and multipoint-to-multipoint bridging.

The upgraded transport system is designed to deliver sufficient capacity for now, with a flexible upgrade path beyond 100G in the future. As a result, MFN succeeded in finding the best possible solution that strikes the perfect balance between pay-as-you-grow scalability, maximum efficiency, and optimum ROI.

## Why Fujitsu?

After an extensive evaluation of available products, several factors drove MFN's choice of Fujitsu. These factors included the benefits of disaggregated architecture, best-of-breed equipment, and a flexible low-risk, upgrade path to meet future needs over time. In addition, since Fujitsu has a lengthy track record as a supplier to MFN, and the reliability of these products increased the level of confidence in a Fujitsu solution.

## Solution Summary

- 1FINITY S100 Layer 2 Switch with up to 1.2 Tbps bidirectional packet switching capacity
- Virtuora Network Controller, Network Management and Packet Control
- Fujitsu Services: Engineering, Furnish and Install, Turn-up and Test, and Training
- Fujitsu Maintenance and Support Package (MSP) includes a warranty for 24/7/365 remote technical assistance, software maintenance and upgrade, and hardware repair and return.

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