

# North America Regional Service Provider - Network Architecture and Design Services Case Study

Regional service provider partners with Tellabs Global Services to plan next-generation network for expanded services and increased customer satisfaction.

## Business Challenge

A small, rural, century-old telephone company providing voice and data services to regional business and residential customers with about 210 employees and about 23,500 access lines is obsessively focused on customer responsiveness and satisfaction. It's the kind of company where customer service comes first not because of some abstract principal but rather because the customers are literally next-door neighbors. Customers are loyal for the same reason, but they expect great service - which often places great demands on company management to keep up.

As with most telephone companies, their customer demand for bandwidth has increased dramatically in recent years as businesses and consumers move toward an always-on lifestyle with broadband video and online collaboration along with voice and email.

Determined to stay ahead of the demand curve, the service provider's management agreed to upgrade its data transport network to 10GigE - and opted to install the Tellabs® 8860 Multiservice Router 10GigE platform.

With minimal in-house resources, however, the company needed an outside partner to architect and design the new network - a partner with extensive experience in next-generation design, proven methodology and a track record for success that would minimize their risk of missteps or delay.

Looking ahead, the company needed to know that its partner would design the new network in a way that would maximize opportunity for new services and revenue while lessening incidents of customer downtime or dissatisfaction. After all, their customers literally know where the company's executives and support personnel live.

## Tellabs Solution

Tellabs Network Architecture and Design Services fit the bill perfectly. Tellabs' experience with similar network projects, its knowledge of and past experience with the provider, and its successful record of delivering implementation-ready architecture and design plans for next-generation networks provided ample confidence to the service provider's management that it could get the work done quickly, affordably and with all the requirements for a successful implementation.

The first step was developing a high-level architecture plan for network implementation — based on both industry best practice and the specific equipment, applications, customer requirements and growth opportunities in the provider's environment. Key concerns addressed in the architecture phase include

- Business and technical requirements



Tellabs Global Services delivers implementation-ready architecture and design plans to help you reduce time-to-market and improve quality.

## Executive Summary

### Customer

Regional North American Service Provider

### Business Challenge

Upgrade existing network to meet new customer service demands and dramatic increase in data transport

### Tellabs Solution

Network Architecture and Design Services to design a new Ethernet ring

### Business Results

- Creation of a next-generation, implementation-ready design based on industry best practices within aggressive timeframes
- Comprehensive Final Engineering Design Package to support effective implementation
- Knowledge transfer to service provider staff on all aspects of new network architecture and design

- Network requirements
- Network performance, including Key Performance Indicators (KPI)
- Network security
- Potential network and customer growth
- Network management
- Architectural decision factors



Having completed the architectural assessment, the Tellabs team produced a high-level implementation project plan with complete documentation, covering such specific issues as:

- Traffic flow patterns
- Capacity limits
- Points of product interface (indicating need for integration)
- Redundancy and failover
- Provisioning
- Future expansion and growth

With the architecture in hand, Tellabs moved into the more detailed Design phase. In this phase, Tellabs engineers dig deep into the realities of translating the general architecture into site-specific implementation.

As is common in this phase, the move from basic to detailed design meant working through a host of issues related to equipment configurations and connections at each individual site. Most important, the design needed to address both near-term migration from the old network as well as longer-term flexibility to make future upgrades as easy as possible.

As Issa Abudi, Senior Network Consultant at Tellabs, explains:

“The network design is not just a technical project. You need to accommodate long-term requirements. You need to prepare for growth to avoid big problems down the road. I’ve seen the impact of short-term thinking, and it might mean that you literally have to go to each customer’s house and reboot each modem. You know you’re going to make changes in the network every few years, no matter how well you design it, so you have to do the design with that in mind.”

## The Result

Within a short timeframe, Tellabs Global Services produced a complete, implementation-ready, next-generation design for the provider’s new network based on aggressive growth targets for the years ahead.

Time-to-market for the new network was important; every week and month without it represented significant lost revenue opportunities - along with continued risk of network downtime and other problems leading to damaged reputation and lost customers.

The design process was an iterative one, with Tellabs engineers walking the provider’s staff through every step of the plan to minimize any risk of mistakes. To maximize confidence in the new design, Tellabs also provided a Comprehensive Final Engineering Design Package, including:

- All network equipment layouts and physical connections
- Detailed configuration information for each element
- Naming conventions for customer sites
- Circuits
- IP addressing scheme
- Application layer design
- Node configuration
- System installation and equipment requirements
- Port listings with protocol and traffic engineering details as well as design criteria

Finally, Tellabs engineers used the project not only to produce a great plan, but also to educate the provider’s staff on all aspects of network architecture and design as another way to maximize the changes for a successful implementation of the new network.

## Tellabs® Global Services

Tellabs Global Services delivers quantifiable results that help you succeed. Our deep expertise and specialized services are designed to help reduce costs, optimize performance, minimize risk and speed time-to-market. We solve the complex business, technical and operational challenges you face in deploying advanced networks - anywhere in the world. Tellabs Global Services’ reputation for providing a better customer experience is the result of an open and honest approach, the ability to provide an objective viewpoint and dedication to customer satisfaction.

## About Tellabs

Tellabs helps customers succeed through innovation. That is why many of the top global telecom service providers choose our mobile, optical and business solutions. We help telecom service providers, independent operating companies, MSO/cable TV companies, enterprises and government agencies get ahead by adding revenue, reducing expenses and optimizing networks. With wireless and wire-line networks in more than 90 countries, we enrich people’s lives by innovating the way the world connects™. Tellabs (Nasdaq: TLAB) is part of the NASDAQ Global Select Market, Ocean Tomo 300™ Patent Index, the S&P 500 and several corporate responsibility indexes including FTSE4Good and eight KLD indexes. [www.tellabs.com](http://www.tellabs.com).

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