SOLUTION BRIEF

Backbone for Your Broadband

Building the Capacity for Your RDOF & Broadband ReConnect Rollouts

Rural Broadband Program

To address the very real "digital divide" that separates urban and rural America, the U.S. Federal Communications Commission (FCC) and Department of Agriculture (USDA) are pumping over $21 billion from separate programs into unserved and underserved areas of the country by providing grants and loans to those communications carriers that have demonstrated both the willingness and ability to expand the availability of high-speed Internet services to those locations with a demonstrated need.

Facts & Figures:

- The FCC Rural Digital Opportunity Fund (RDOF) Auction 904 was the first phase of a two phase program
- Phase I awarded $9.2 billion of the $20.4 billion fund total in December 2020
- RDOF Phase II will distribute the remaining $11.2 billion in a future auction
- RDOF Phase I awarded bids to 180 entities covering over 5 million locations across 49 states—85% for Gigabit speed service
- Once allocated, RDOF winning bidders have six years to complete their buildouts—40% of eligible locations must be reached within the first three years and 20% every year thereafter
- The USDA Broadband ReConnect program is providing 88 awards valued at nearly $675 million covering over 112,000 locations in 35 states

The Challenge

As a winning bidder for one or both of these auctions, the challenge now is delivering your end of the bargain. This means delivering high-speed broadband to every location in your territories whether that number is under 100 or over 100,000 and for 85% of you this means Gigabit speed connections.

While much of your attention is likely focused on rolling out that last mile of connectivity using either fiber-to-the-premises (FTTP) or fixed wireless, your first step should be addressing your backhaul and metro connectivity network to ensure that you have enough capacity to meet your service-level commitments.

For some of you, this may be the first time you've had to address delivering this scale and speed of service and it's easy to underestimate not just the amount of bandwidth you are going to need, but how to effectively scale it and manage it to ensure you are getting the best return for your investment dollars. If that's the case, then you may find yourself asking the following questions:

- How do I make sure I have enough bandwidth to serve all my locations?
- How can I scale my transport network as my last mile buildouts progress so I don't have to overbuild it—and overpay—on day one?
- How do I optimize my network design for performance and cost?
- If a have an existing optical network, can I still add capacity?
- What if I only have access to a single strand of fiber?
- Can I put my optical transport equipment in outdoor cabinets?
- I'm a small service provider not a Tier I, what equipment vendor is going to spend the time to really understand what I need?
- Where can I find a reliable partner who will be responsive and that cares about my network?

At Ekinops, we have the answers.

A Partner for Your Business

Simply throwing bandwidth at your problem is not going to solve it and, in fact, will only create more problems further down the road while draining your budget. At Ekinops, we take a consultative approach to all of our customer engagements. Even before any contracts are signed, we approach each relationship as a partnership in which we collaborate closely with our customers to understand their pain points and develop the solutions that best help them meet not just their network requirements but their business objectives as well.

To complement that, we offer a complete range of professional services that can help you plan, build, operate and support your network to ensure you get the most from your Ekinops solution.

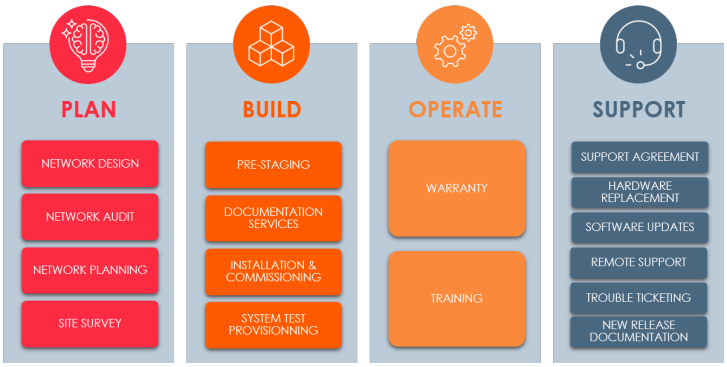

Figure 1 - Ekinops Professional Services

Ekinops360 systems are 100% qualified for the 'Buy American' provision required by the U.S. government and we maintain a complete customer demo lab facility, training and support center in Maryland dedicated to our North American customers.

360 Optical Transport Platform

The Ekinops360 is a dynamic, multi-reach optical transport platform that provides the capacity, scalability and performance you need to serve all your new customers at the lowest cost per bit whether you're serving your first subscriber or your last.

It uses common hardware, software and management across multiple form factors including modular chassis and fixed configuration "pizza box" shelves to most effectively address different applications and locations.

Features

- Pluggable modules for all services from 100Mbps to 400GbE
- FlexRate™ programmable line interface—100G to 600G—no license fee to upgrade
- Small footprint—only 300G/400G/500G/600G solution available in 300mm depth
- Multiprotocol support—Ethernet, Fibre Channel, SONET, OTN, Anyrate
- Multi-level service aggregation for low-speed transport over high-speed links
- Rack & stack ROADM scalability—full ROADM degree in 1RU (pluggable modular versions also available)
- Single-fiber working on all line rates from 10G to 600G
- Extended temperature range (ETR) operation from -40 °C to +65 °C including chassis, transponders, filters and amplifiers

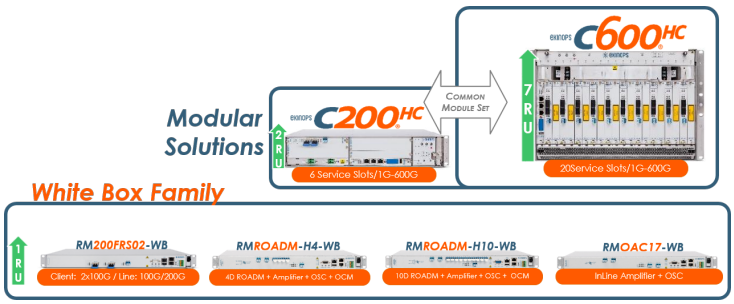

Figure 2 - Ekinops360 Product Family

Celestis NMS

Even with all these advanced features, optimal performance can't truly be achieved without being able to manage them effectively. Ekinops Celestis NMS network management system provides a single point of control for your entire transport network so all of your management tasks can be accomplished from your central NOC.

Once your Ekinops equipment has been physically installed, powered on and connected to your fiber there is no need to roll a truck to perform everyday management activities including network inventory, service turn up and commissioning or even capacity upgrades.

Advanced system automation features reduce the complexity, risk and operational cost of everything from network design to service commissioning to troubleshooting and resolving network problems. Key capabilities include:

- Auto-commissioning
- Auto-discovery
- Point-and-click provisioning
- Auto power balancing
- Protection & restoration

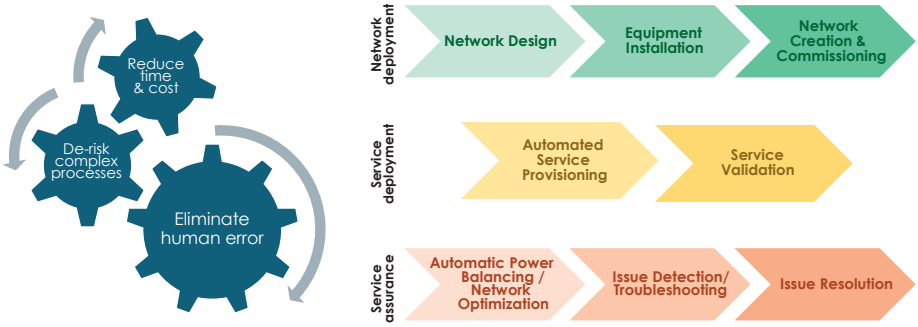

Figure 3 - Celestis NMS System Automation

Applications

The Ekinops360 platform can be deployed in a variety of both greenfield and brownfield scenarios for backhauling your traffic and providing the vital link to the Internet peering points (PoPs, data centers, COs) that you need to reach:

- Metro, regional and long haul connectivity
- Single span reach over 300Km without inline amplification
- Alien wavelength over an existing line system
- Single fiber networks with bi-directional transport on one fiber strand
- Unconditioned huts and cabinets

Cost Efficiency

The Ekinops360 provides the lowest total cost of ownership available both in terms of CAPEX and OPEX.

We control all of our design, build and manufacturing processes to ensure we deliver the lowest cost per bit solutions including chassis, amps, commons and optics.

Because we make it easy to deploy and simple to commission and operate, we can get your network up and running in hours, not weeks saving you not only the cost of a long deployment but accelerating your time to revenue to further enhance your ROI.

Conclusion

The RDOF and Broadband ReConnect programs have delivered the funding to make your broadband projects viable, now you need to deliver on your promise of delivering high-speed connectivity. But before you focus on the last mile, you need to make sure you have the backhaul network in place to support your service obligations.

Many small providers lack the resources and know-how to design and build a scalable, cost-effective infrastructure that will provide the capacity they need. Even larger providers need help when it comes to understanding how to best utilize today's advanced transport technologies.

No matter what size you are, Ekinops can provide not just the solutions but also the expertise you need. With 15 years of experience working with over 250 Tier II and Tier III service providers just like you, we can deliver you the backbone you need for your broadband rollout.

About Ekinops

Ekinops is a leading provider of open and fully interoperable Layer 1, 2 and 3 solutions to service providers around the world. Our programmable and highly scalable solutions enable the fast, flexible and cost-effective deployment of new services for both high-speed, high-capacity optical transport networks and virtualization-enabled managed enterprise services

Our product portfolio consists of three highly complementary product and service sets: Ekinops360, OneAccess and Compose.

- Ekinops360 provides optical transport solutions for metro, regional and long-distance networks with WDM for high-capacity point-to-point, ring and optical mesh architectures, and OTN for improved bandwidth utilization and efficient multi-service aggregation.
- OneAccess offers a wide choice of physical and virtualized deployment options for Layer 2 and Layer 3 access network functions.
- Compose supports service providers in making their networks software-defined with a variety of software management tools and services, including the scalable SD-WAN Xpress.

EKINOPS CORP. is a U.S. entity with an office in Rockville, MD. It is wholly owned by EKINOPS SA based in Lannion, France. Ekinops has operations on five continents serving customers in over 70 countries and works extensively with Tier 2 and Tier 3 service providers both in the North America and across the globe.

Contact us

sales.eu@ekinops.com | sales.asia@ekinops.com | sales.us@ekinops.com | www.ekinops.com