



KIT CARSON ELECTRIC COOPERATIVE, INC.

Broadband Is Like Oxygen to Rural America – What Technology and Companies Will Provide It?

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Objectives



This session will examine the broadband needs of rural America.

1. Will Gigabit Networks or wireless services best meet the needs of the nation's rural communities?
2. What options are rural communities missing without good-quality broadband?
3. And when commercial providers are in short supply, how will non-profits, cooperatives and municipal broadband providers help fill the void?

Hear the perspectives of a range of rural Internet providers.

Kit Carson Electric Cooperative Inc.



About KCEC

- ✚ Kit Carson Electric Cooperative (KCEC) is a member owned non-profit Electric Distribution Cooperative formed in 1937 and incorporated in 1944.
- ✚ KCEC is one of 17 cooperatives that serve rural New Mexico communities, and is currently the second largest cooperative in the state of New Mexico.
- ✚ KCEC serves over 29,485 members in Taos, Colfax and Rio Arriba Counties.

✚ “Owned by those we serve”

Kit Carson Electric Cooperative Inc.



- + **KCEC currently owns and operates 7 MW of DG solar energy or 10% of our load is solar powered and operates the most advanced smart green grid in New Mexico.**
- + **KCEC has also created three additional divisions to offer to our cooperative members; Internet Service, Telecommunications Service, and Propane Service.**
- + **KCEC's most current project is the "Fiber-to-the-Home". This project will provide high speed broadband to our surrounding rural communities.**

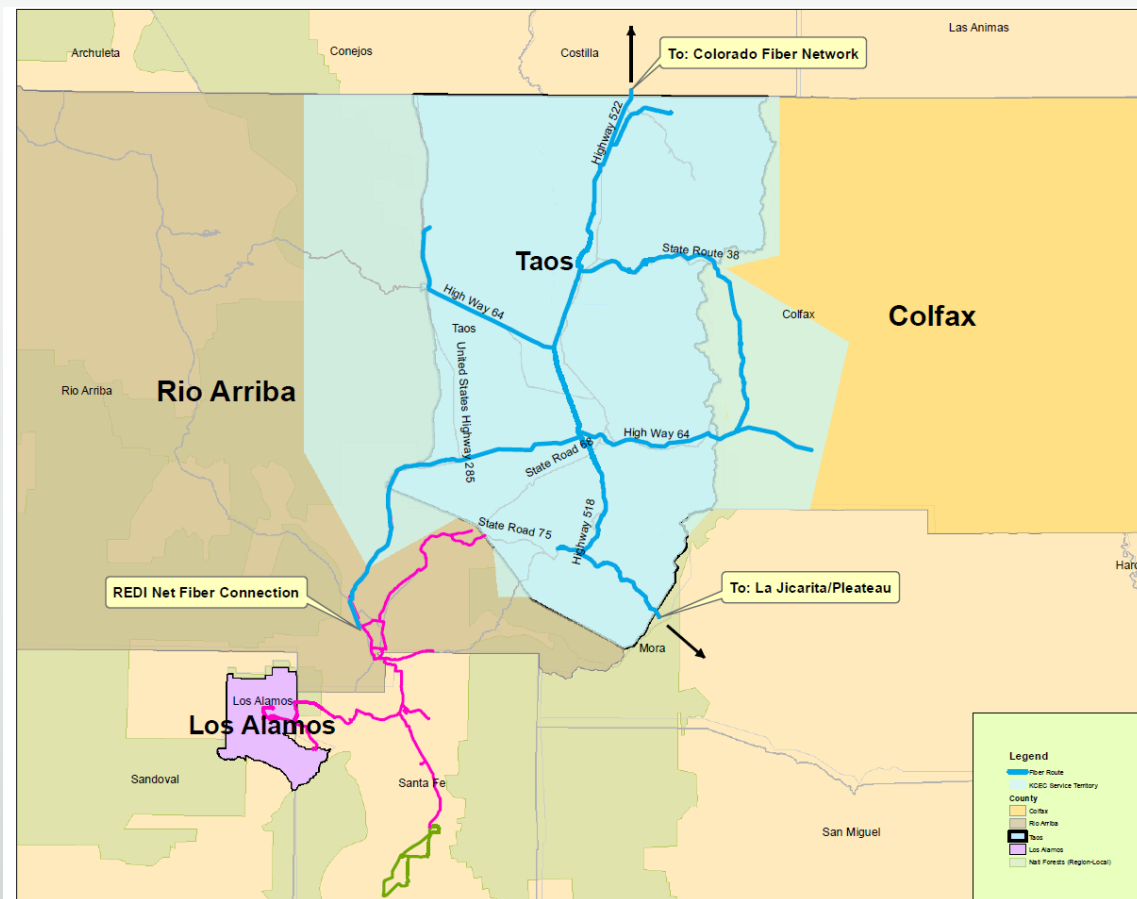
About Kit Carson and our project



Revolutionize Northern New Mexico communities with affordable and accessible high-speed broadband service and create a model for Rural Communities

Greater prosperity and quality of life for:

- ✓ 20,500 households
- ✓ 3,600 businesses
- ✓ 183 critical community institutions
- ✓ 2 Native American Pueblos



Kit Carson Electric Cooperative: The Case for Broadband



Economic Development

- Job creation (Clean & Sustainable)
- Business opportunities
- Sustainable economies
- Broadband based companies



Taos Pueblo



Kit Carson Electric Cooperative

Bridge the Digital Divide

- Online learning
- Telemedicine
- Affordable access to All
- Public Safety Deploy NG911



High-Speed Advanced Infrastructure

- Medical community
- Research & education
- Local businesses
- Member Choice
- Real Time Power Monitoring



Reliable Electric Grid

- AMI applications
- Smart Grid Services
- Efficient energy usage
- DG Integration (Renewables)



Transforming to become an integrated provider is critical to securing future economic & technical prosperity

Project Schedule and Milestones



- Secure Member Input and Acceptance
- Secure \$64M RUS funds to build and operate network
- 2012



- Identify reliable partner responsible for network planning and design, deployment, maintenance and support
- Begin Construction
- 2013



- Deliver 1 Gbps broadband service to home and business
- Connect Anchor Institutions
- Establish Redundancy and Reliability
- 2014



- Complete Deployment and Start Smart Grid Project
- Offer Member Based Value Added Energy Programs
- 2015

Requirements for Northern New Mexico and Kit Carson

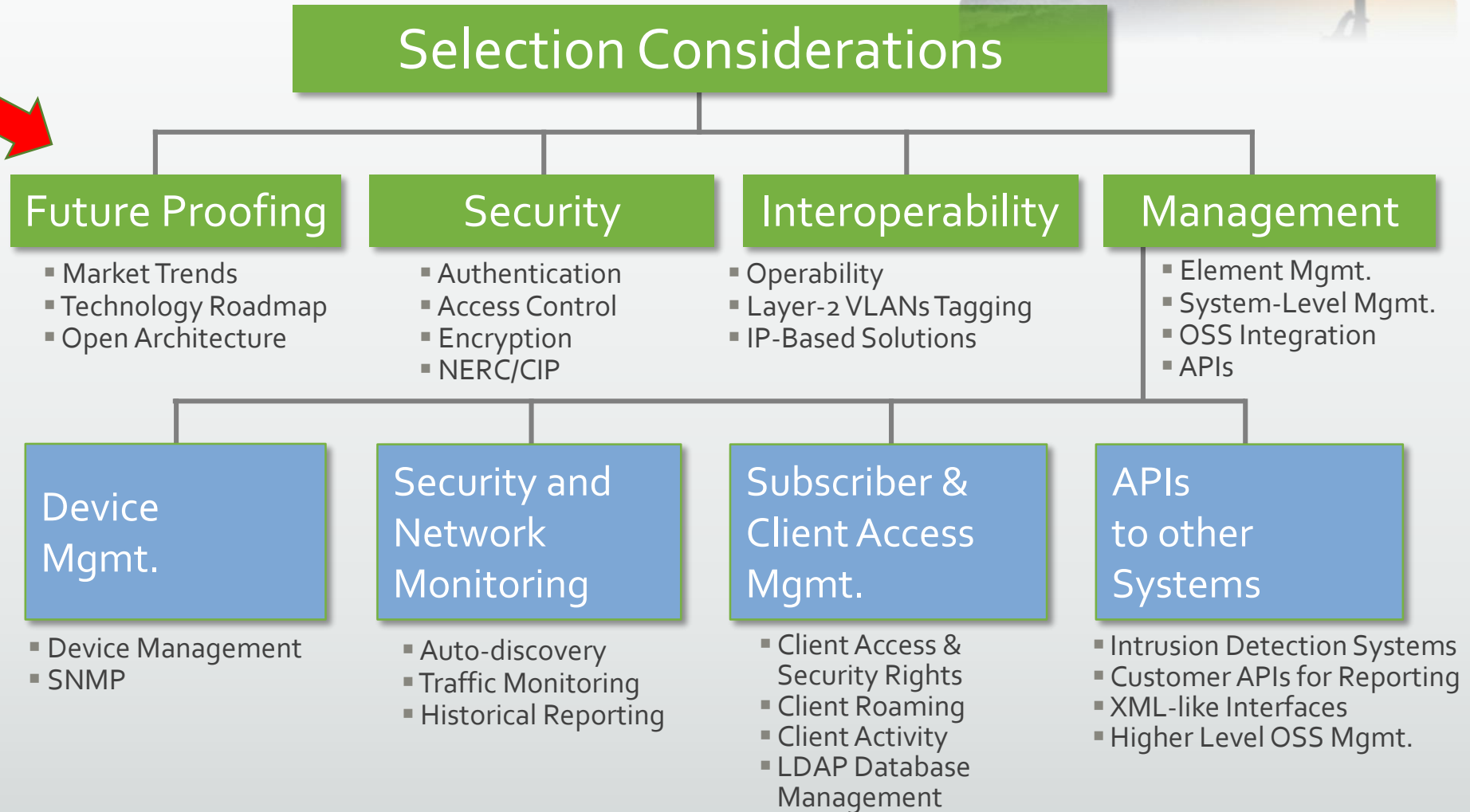


- Oxygen to Rural America- FTTH
 - Connectivity to the house
 - Economic Development Engine
 - Virtual Job Creation
 - Regional Approach
 - Speed & Price options
 - Affordability & Accessibility to all
 - Back office operations: - Customer care and billing
- NOC
 - Unbundled Services
 - Netflix, Apple TV, etc.
 - Voice (Voip)
- What else can the Network do for us?
 - Smart Meters
 - Smart Thermostats
 - Energy Efficiency programs
 - Peak load management
 - Electric Vehicle
 - Substation Automation
 - Distribution Automation
 - Solar inclusion (DG Option)
 - Grid Sensors
 - Auto Reclosers
 - Smart Outage Detection (Reliability)

Technology Considerations

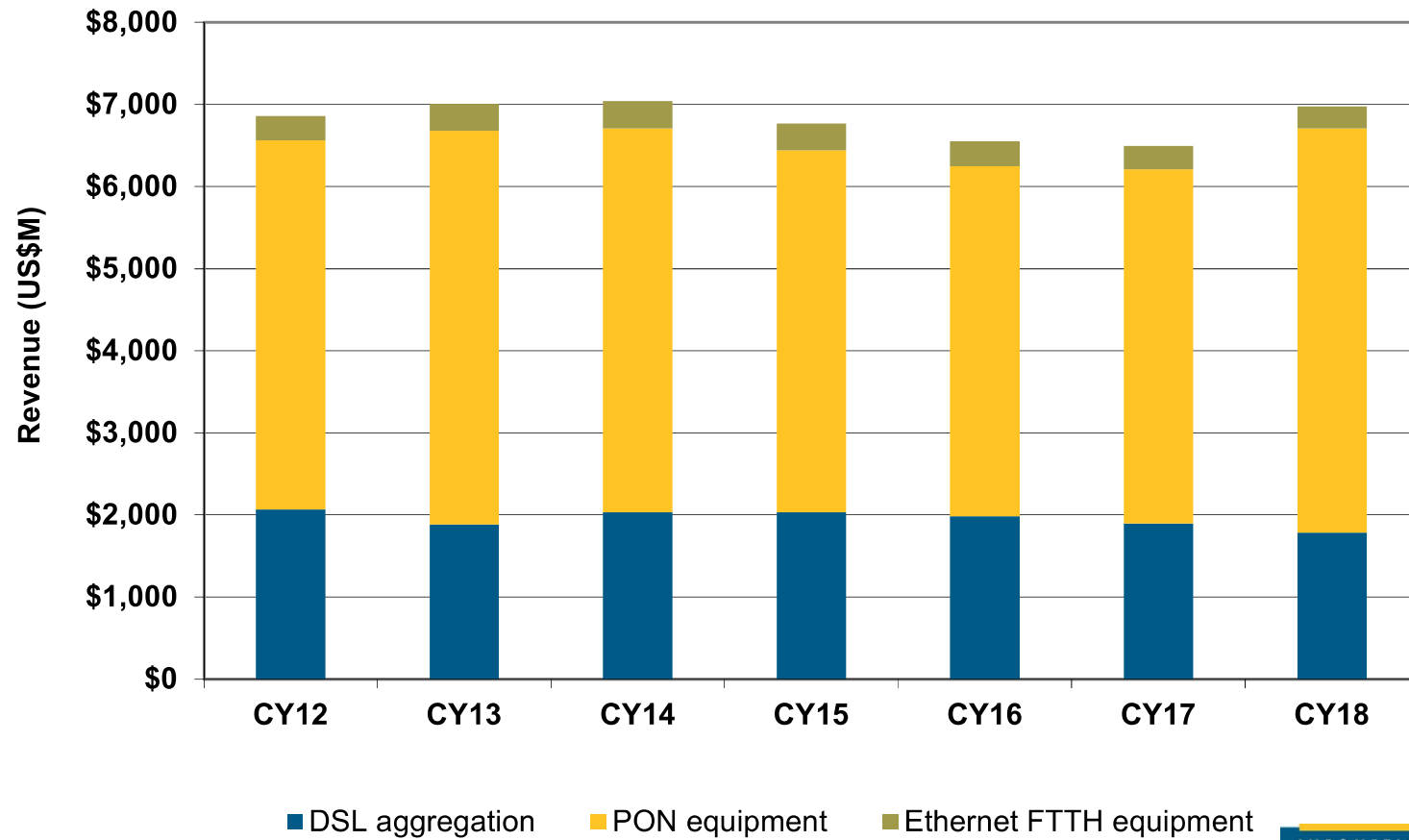


1. Will Gigabit Networks or wireless services best meet the needs of the nation's rural communities?



Technology Considerations

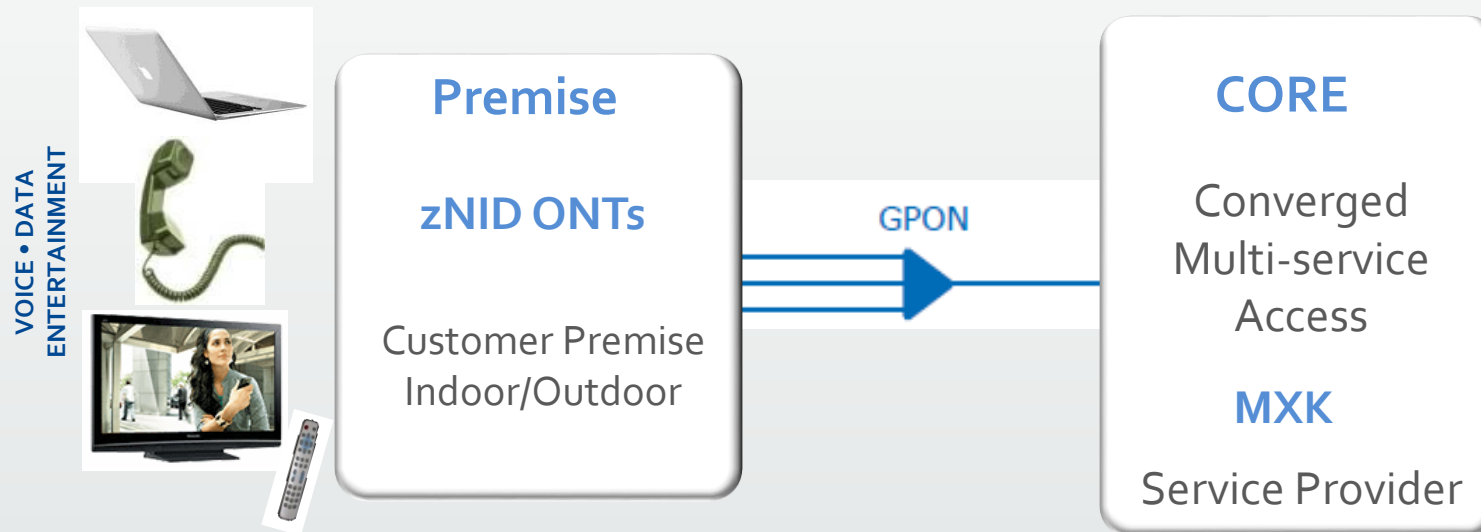
- GPON is the industry leader



Technology Considerations

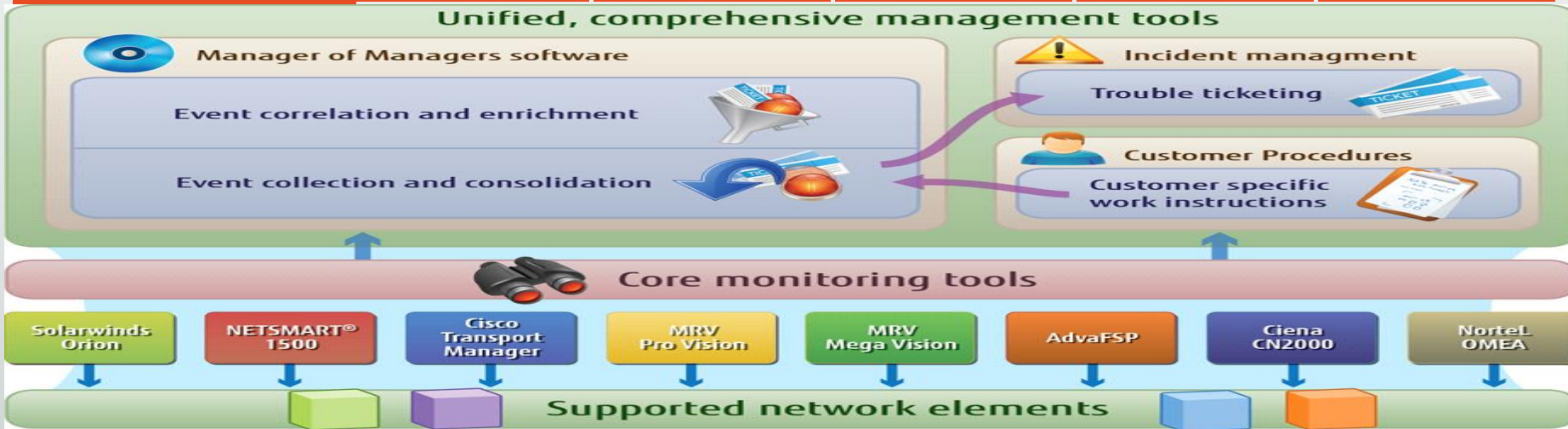


- GPON provides the Highest Performance access solution delivering Endless Bandwidth for today's demanding Applications



- GPON can operate at distances up to 20km or 12 miles
- GPON uses Passive Splitters not requiring Power or Air Conditioning
- Fiber is Highly Secure
- Single Mode Fiber can support speeds > 6g Tbps – Future Proof

Integrated Solution



KCEC Broadband Team



TCS COMMUNICATIONS, LLC

Q&A



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