



OPASTCO Summer Convention Smart Grid Panel July 25, 2011

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NECA Smart Grid Summit

- Took place in June '2010 in Boise, ID;
- Case Study– Albion Telephone and Raft River Electric
- Almost 50 attended–
 - NECA members– representing Idaho, Utah & Nevada
 - Local utility companies
 - State Associations

Smart Grid Summit Goals

- Gave NECA members in attendance the opportunity to hear what Albion Telephone and Raft River Electric were planning and possibly join in the efforts to expand Smart Grid implementation.
- Local utilities had the opportunity to express their needs in regard to Smart Grid;
- ILEC's had the opportunity to identify services which would meet the local utilities (their customer) needs;

Defining the need

- Electric utilities have some very specific requirements along the lines of access, security, reliability, survivability, and responsiveness that will have to be addressed by whatever broadband network solution they choose to deploy.
- Telecom carriers share these requirements for their communications networks.
- Power companies voiced opinions that ILECs excel in communications systems, Power companies excel in energy delivery system
 - *“Smart Grid technology is creating market opportunities for rural power and rural ILECs”*
 - *“SmartGrid will happen and will inject significant broadband and IP networking needs into the electric utility industry”*

Observations

- Our members saw the need to interact with their local utility;
- The local utilities got a better understanding of some the Telco issues;
- Well suited to serve this market with combinations of broadband over DSL and Ethernet networks.
- Co-market smart grid in home appliances and smart grid consumer applications with other over-the-top broadband services.
- NECA studying access tariff options that will help members offer the services necessary to implement smart grid solutions at affordable rates

Challenges

- ILEC Coverage Footprint doesn't match with the local utility
- Identification of communications needs
- Product availability
- Defining Network
- Consumer acceptance
- Security issues
- Reliability issues
- Managing consumer expectations

Common Issues

- Will the Smart Grid benefits justify the costs incurred by Electric and Communications/Networking entities?
- What are the Regulatory policy issues and challenges associated with designing business models for interactions between multiple electric utilities and communications networks to minimize consumer costs?
- Who should control the various networking domains in the Smart Grid?
 - In Home (AMI and appliances)
 - Local Distribution (Substation to Home)
 - Meters
 - Broadband Networking Equipment
 - Regional up-links and control

Opportunities

- Leveraging in place resources and expertise
- Exploiting market presence
- Effective management of consumer expectations
- Resolving common issues
 - Security
 - Reliability
 - Management

NECA Plans

- Member Company Training
 - Understanding our tariff offerings
 - Working with member companies to Identify needs
- Seek tariff options to help companies stimulate take rate for broadband
 - DSL enhancements
- Enhance Ethernet transport
 - More QoS options
 - More Slow Speed Options targeting smart grid

Telecom Provider Smart Grid Action Plans

- **Stimulate broadband take rates**
- **Seek options for POTs enhancements**
- **Engage your local utilities?**
 - Discuss communications needs
- **Review Fiber routes, or evaluate build out plans?**
 - Extend fiber to substations and other locations
 - Engage regional carrier partners
 - Evaluate use of wireless broadband
- **Leverage IT expertise utilities lack?**
 - Provide IT, data management and cyber security services
 - Provide Field Area Networks or Home Area Networks

Recent Tariff Revisions– Smart Grid

- **Ethernet Transport Service (ETS) Low Bit Rate Virtual Circuit Channel (went into effect on 11/12/10)**
 - 64 kbps two-way virtual circuit path
 - Metering/monitoring services
- **Symmetric Digital Subscriber Line (SDSL) – 256 kbps speed option (also went into effect on 11/12/10)**
 - Voice Data and Data-Only service
 - Attract dial-up Internet customers
 - Metering/monitoring services

Ethernet Transport Service (ETS) Low Bit Rate Virtual Circuit Channel (LBR VCC)

- ▶ **Used in ILEC broadband networks to provide:**
 - Home monitoring services
 - Security, smart grid functions and metering
 - Low speed and low cost
- ▶ **The basics**
 - 64 kbps two-way path for ADSL/SDSL applications
 - VCC between CDP and premises of DSL end user
 - Multiple 64 kbps increments may be ordered

Symmetric Digital Subscriber Line (SDSL) 256 kbps speed option

- **Lower cost broadband alternative for:**
 - Replacing Internet dial-up connections
 - Best effort applications
 - Home monitoring and metering
 - Smart grid functions
- **The basics**
 - Lower backhaul and switching expenses
 - Lowest DSL service rate
 - SDSL voice-data and data only
 - Entry level service
 - Upgrade to a higher speed A/SDSL service without a penalty