

Preliminary Agenda

Sunday, February 4, 2018

12pm – 2pm

Silver Baron Board Room

Big Game Party Ticket Pick-Up

2:30pm – until

Reno Ballroom

Big Game Party

Monday, February 5, 2018

Sessions will be held in Hall C and exhibits will be in Hall AB

8:00am

Registration & Breakfast

9:00 – 9:15am

Welcome Remarks

9:15 – 10:15am

Can SCADA and other critical data traffic safely use unlicensed or regulated unlicensed spectrum

Much has been made of the need for exclusive licensed broadband spectrum to support utility OT network needs, but the licensed spectrum is scarce and the FCC has long declined to make a specific allocation for utility use stating that utilities should either participate in the secondary spectrum market or utility unlicensed or lightly licensed bands. Some vendors have come forward to sell wideband spectrum with very limited data rates that may not scale in the long term, and other vendors have partnered with carriers to provide leased spectrum with their equipment offerings. However, are these expensive offerings really all there is that can support critical data traffic, or can a utility successfully use unlicensed or regulated bands for their critical data requirements and secure them? Several utilities are doing just this and are having great success with it, enjoying data rates and secure connectivity that can't be matched by any licensed offering, at cost points that are far below the existing licensed spectrum options.

Join RAD while they discuss recent deployments of future proof 750 mb/s private broadband wireless systems to replace aging WiMAX networks and sunsetted leased lines. Also provided will be an overview of the beam-forming technology that allows the reliable operation of the wireless network in high noise floor environments, the success of those implementations to date, and how other

utilities can successfully deploy their own high-speed private wireless network that provides security and guaranteed availability without incurring the overhead costs of licensed spectrum.

Presenter: Mark Madden, Director, Critical Infrastructure RAD

10:15 – 10:30am

Networking Break

10:30 – 11:30am

Multi-Vendor Ecosystem for the Ingenious Grid

The utilities industry is undergoing a radical transformation, driven by the need to optimize existing communications network infrastructure while improving the customer experience. Simultaneously, utility network operators must contend with maintaining aging network assets and onboarding the next generation of utility operators.

This session will explain how Ciena and partners Schweitzer Engineering Labs (SEL) and Aviat Networks are trusted advisors for utilities seeking to build multi-vendor adaptive ecosystems. We will delve into how utilities can address the challenges in creating a flexible and responsive grid across all network elements, while remaining secure. The discussion will also explore:

- How SEL and Ciena Carrier Ethernet technology interoperate to provide deterministic performance (guaranteed latency) for critical traffic over Carrier Ethernet-based wide-area networks (WANs), including the solution's ability to support current differential protection channels across a Carrier Ethernet topology.
- Aviat and Ciena's validation of a hybrid fiber microwave solution that provides diversity to a fiber link and critical traffic, like teleprotection, can be protected over diverse microwave paths during a failure.
- Network visibility and automation of service delivery with network virtualization, SDN service orchestration, and analytics software across the ecosystem vendors.

Presenter: Mitch Simcoe, Senior Advisor - Ciena

11:30am – 12:45pm

Networking Lunch

Silver Baron A

12:45 – 1:45pm

Reducing Telecom Infrastructure Risk with a Consolidated Alarm and Network Management System

The demand for connectivity is tremendous – from the public, from industry, from governments – and the requirement is to provide an extremely high quality of service reliably, efficiently and securely. Failure to meet the requirement can have a significant impact on the consumer’s business and social integration, as well as the provider’s accountability, reputation and revenue stream.

A robust network management system is of paramount importance in achieving optimal performance – and fault management is only one prerequisite of a successful solution. Transparent redundancy, equipment management, performance management, security and audit control are among the necessities. Sophisticated network management applications will continue to evolve to meet today’s rapidly progressing technologies, and will address new operational challenges including secure cooperative sharing of network resources and changing regulatory compliances.

This presentation will outline key requirements for the selection and implementation of an effective network management solution.

Presenter: MegaSys rep TBD

1:45 – 2:45pm

How Tri-State Generation & Transmission Association is Training, Developing, Mentoring, Attracting, and Retaining Engineers in the Workforce

Tri-State Generation and Transmission Association is a not-for-profit generation / transmission cooperative wholesale power supplier who provides electric power to 44 distribution cooperatives in Colorado, Wyoming, Nebraska, and New Mexico. Tri-State’s employee base is approximately 1515 of which approximately 85 are engineers of various disciplines including electrical, mechanical, civil, chemical, and environmental. Tri-State recognized a number of years ago that the workforce “bubble” was about to begin with senior key technical staff beginning to retire. The implementation of a summer (3-month) engineering intern program as well as a rotation program for entry-level engineers and other technical professionals (IT, Environmental, etc.) was a strategy to help hire and mentor engineering professionals to fill the gap created by those retiring with a wealth of institutional knowledge. Also, an overall review and changes to Tri-

State's benefit and compensation package has been implemented for the recruitment and retention efforts.

Presenter: Jeff Selman, Senior Manager, Transmission Systems Support - Tri-State

2:45 – 3:00pm

Networking Break

3:00 – 4:00pm

Modernizing the Network Synchronization Infrastructure

As modern networks move away from traditional TDM and on to packet transport technologies the requirements and strategies for synchronization in the network have changed greatly. This 75-minute tutorial is intended to provide network engineers a better understanding of the latest synchronization technologies and strategies. Why "Precise Timing Protocol" is so much better than NTP will be made clear. The use of PTP for protection against local GNSS jamming will be discussed. PTP Telecom Profiles, PTP Power Profile, the Synchrophasor Initiative, Advanced spoofing detection, ePRTC will be discussed and more.

Presenter: Chuck Perry, Systems Consultant - Oscilloquartz

4:00 – 7:00pm

Exhibit Hall Grand Opening Reception

Tuesday, February 6, 2018

7:00am

Registration & Breakfast

8:00 – 9:00am

Convergence and Migration: Utility Packet Network Challenges and Opportunities

Utility networks will be going through unprecedented changes in the next years. The move from obsolete TDM to modern packet-based networks, the convergence of IT and OT functions and networks, and the increased security requirements necessary as a result of these changes all represent significant challenges. Fortunately, there are solutions being developed and deployed that can turn those challenges into opportunities for reduced complexity, improved capabilities, better network efficiency, and long-term network viability.

Presenter: Scott Wilkinson, Senior Portfolio Manager - ECI

9:00 – 10:00am

NERC Low Impact Substations Requirements: Using IT/OT Convergence and Regional Audit Teams to Successfully meet NERC Requirements.

Presentation will cover formation of representative team of Telecom, IT/OT, and compliance members, how the technical aspects were determined, involving the Regional Audit teams to field questions about technical direction, putting formal procedures in place, and how IT/OT convergence is making the project successful as we

work toward completion before the September 1, 2018 deadline.

Presenter: Matt Schnell, ITT Telecommunications Manager – Nebraska Public Power District, UTC Immediate Past Chairman

10:00 – 10:15am **Networking Break**

10:15 – 10:45am **Individual Regional Meetings**

*THESE MEETINGS ARE CLOSED TO INDIVIDUALS NOT CONSIDERED CORE MEMBERS OF UTC.

Meetings of UTC Rocky Mountain (8), Northwest (9) and Southwest (10) Regions. Discussions will focus on individual regional issues.

-Region 8 includes Colorado, New Mexico, Utah and Wyoming and will meet in the Silver Room.

-Region 9 includes Alaska, Idaho, Montana, Oregon and Washington and will meet in the Gold Room.

-Region 10 includes Arizona, California, Guam, Hawaii and Nevada and will meet in the general session room.

10:45 – 11:15am **Combined Regional Meeting**

*THIS MEETING IS CLOSED TO INDIVIDUALS NOT CONSIDERED CORE MEMBERS OF UTC.

All 3 regions will come back together for the combined meeting in the general session room.

11:15am – 12:15pm **The Digital Utility Transformation: Central Lincoln PUD's Journey to a New Paradigm in Grid Management and Security**

The digitalization of utilities promises to optimize the supply and demand of electric power, manage the increasing number of renewable sources of energy and micro grids, and offer efficiency improvements for consumers. Such a far-reaching digital transformation comes with many challenges for critical infrastructures, including cybersecurity, convergence between information and operational technology (IT/OT), equipment standardisation, and compliance. These challenges must be addressed before the real benefits of the digital transformation can be measured.

*Presenters: Ron Beck, Network Engineer – Central Lincoln People's Utility District
Gaetan Houle, Principle Security Architect – SNC- Lavalin*

12:15 – 2:15pm **Networking Lunch & Exclusive Exhibit Time**

2:15 – 3:15pm **UTC Leadership Address**

3:15 – 4:15pm **Federal Advocacy Update**

4:30 – 6:30pm **Gaming Happy Hour**

Wednesday, February 7, 2018

7:00am

Registration & Breakfast

9:00 – 10:00am

Power Utility Communications Network IP Migration Roadmap and Case Studies

When it comes to technology, power utilities in general have never been on the bleeding edge of technologies, especially when it comes to operational technology (OT). Power utilities, being a mission-critical infrastructure, require a high level of reliability and dependability with the hardware and software that is used to operate and protect the power grid. Therefore, they rely on mature technologies and do not constantly change technologies if the current mature technology performs the monitoring and/or the control of the physical devices with some degree of reliability. Because of the critical nature of power utilities operational infrastructure, when it comes to operating and protecting the power grid, they are typically 15-20 years behind current technologies. Therefore, as the current technology that is being used is phasing out or becoming obsolete, power utilities always find itself “between a rock and a hard place”, looking for a path forward to migrate from the old infrastructure to the new infrastructure with minimal operational impact, and assured comparable security and high reliability for their existing mission-critical applications.

As substation communications networks migrate away from the traditional Time Division Multiplexing (TDM) technology to packet-based technology, many engineers and technicians do not have a good understanding of what is involved when it comes to substation communications IP Migration. Understanding the IP Migration Roadmap is essential to a successful transition and making sure that all your substation services continue to operate safely, reliably and securely, both during, and after the migration.

This presentation provides an overview of the IP migration roadmap for substation communications. It addresses the need to understand the challenges, the advantages and the benefits of migrating to a packet-based infrastructure. It also addresses the two most-important concerns when it comes to IP Migration: Reliability and Security. It explores several solutions that are either comparable or exceed the industry standard of reliability for mission-critical infrastructure. Finally, the presentation

offers one or two successful case studies of substation communications IP Migration.

Presenter: Emmanuel Duvelson, Product Manager - RFL/Hubbell

10:00 – 10:15am

Networking Break

10:15 – 11:15am

Communications Structure Best Practices

This session will cover the following topics:

-ANSI/ASSE A10.48 "Criteria for Safety Practices with the Construction, Demolition, Modification and Maintenance of Communication Structures. "This is the Best Practice Standard for Communication industry.

-National Wireless Safety Alliance "independent assessments of knowledge and skills to enhance safety, reduce workplace risk, improve quality, encourage training, and recognize the skilled professionals who work on towers and other non-standard structures"

-Anchor Inspections – The age of infrastructures and conventional anchor systems are becoming a higher liability then every before. The Anchor Inspections module goes through the explanation of why Dig to Block Inspections are needed and the process to complete. With emphasis on cathodic protection and corrosion meditation.

Presenter: Justin Miller, VP of Sales & Marketing – EasTex Tower

11:15am – 12:00pm

Roundtable Discussion, Prize Drawings, Wrap-Up & Adjournment

1:00 – 5:00pm

Peoplesafe Training – Separate Registration Required

Presenter: Klaus Bender, Principle Engineer - SiteSafe