

UTC Region 4

Great Lakes Region



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Thursday, September 20, 2018

8:00 AM – 5:00 PM Registration

8:00 – 9:00 AM Attendee Breakfast

Sponsored by: CIENA, DATA COMM FOR BUSINESS, AND ECI TELECOM

9:00 – 9:15 AM Welcome Remarks

9:15 – 10:15 AM 4K QAM Radio – Technical Presentation

Utility networks are undergoing massive transformations with an increasing demand for data driven by new security, high definition video and other data heavy applications. Fortunately, newer technology options are now available to help meet this demand. In this session we will explore the emergence of very high modulation techniques and how to effectively design a reliable and robust high capacity network.

Presenter: Ronil Prasad, Director Regional Marketing, North America - Aviat Networks

10:15 – 10:30 AM Networking Break

Sponsored by: pdvWireless & RAD

10:30 – 11:30 AM UTC Leadership Address

Presenter: Greg Angst, Vice-Chairman UTC Board of Directors, CenterPoint Energy

11:30 – 12:00 PM UTC Region 4 Meeting

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

12:00 – 1:00 PM Networking Lunch

Sponsored by: [AVIAT](#)

1:00 – 2:00 PM

Bridging the Digital Divide – A Utility’s Role in Enabling Broadband Connectivity

In an effort to bridge the digital divide, utilities across the country are investigating their ability, and the feasibility, of enabling broadband services or broadband connectivity to customers in their service territory. Prior to making any investments in this area, utilities will need to consider and analyze a number of key questions to ensure their investments are prudent and aligned with their respective regulatory commission.

Presenter:

Tim Valin, Director – Energy and Utilities - West Monroe Partners LLC

2:00 – 2:15 PM

Networking Break

Sponsored by: [pdvWireless & RAD](#)

2:15 – 3:15 PM

Federal Advocacy Update

Presenter:

Bob Lockhart, UTC – VP Cybersecurity, Technology and Research

3:15 – 4:15 PM

Securing the Digital Utility Transformation: Opportunities and the Way Forward

The digitalization of utilities promises to optimize the supply and demand of electricity, manage increasing renewable sources of energy and micro grids while offering efficiency improvements for consumers. Furthermore, the large volumes of data generated, combined with predictive analytics allows utilities to transition to a proactive mode of asset management. Such a far-reaching digital transformation comes with many challenges for critical infrastructures, with cyber security near the top of the list. The session will touch upon the digital utility transformation, point out some of the opportunities that it can bring, and highlight some of the industry’s best-practices for transitioning to secure, digitally

integrated electrical grid amidst increasingly sophisticated threats.

Presenter: Gaetan Houle, Principle Security Architect – SNC-Lavalin

4:15 – 5:15 PM

Reliability Compliance Beyond NERC CIP

Many professionals in the utility Information and Communication Technology (ICT) community have at least a high-level familiarity with the Critical Information Protection (CIP) reliability requirements instituted by the North American Electric Reliability Corporation (NERC). NERC CIP compliance receives a great amount of attention in most electric utility IT and OT departments and has been the subject of many UTC presentations. There are however, other NERC reliability requirements that can affect implementation of ICT systems. While professionals who deal with the specific technology areas are aware of these standards, often broader awareness of these reliability standards can be lacking, which can lead to some unfortunate surprises for those ICT professionals who work just outside these highly-specialized areas. This presentation will give a high-level overview of these non-CIP NERC reliability standards and their applicability to different aspects of the utility environment. The presentation will also highlight a few specific requirements that have compliance impacts to ICT professionals who work at electric utilities, particularly in environments centered on the Bulk Electric System (BES).

Presenter: Paul Zawada, Principal Engineer - AEP

5:30 – 7:00 PM

Networking Reception

Sponsored by: [POWERTRUNK](#)

[Friday, September 21, 2018](#)

7:30 AM – 12:00 PM

Registration

8:00 – 8:30 AM

Attendee Breakfast

Sponsored by: [CIENA](#), [DATA COMM FOR BUSINESS](#), [ECI TELECOM](#)

8:30 – 9:30 AM

Wireless Network Design, Multiple Sector Master Station, Frequency reuse and Interference Mitigation

As many utilities are deploying wireless systems with purchased spectrum in the 220 and 700 MHz bands a new challenge has emerged in how to properly plan for frequency assignment at base stations with multiple transmitters. Through efficient selection of base station sites, sectorized antennas and properly spaced frequency pairs a utility can cover large territories through frequency reuse and antenna down tilt angles. In our presentation we will review the differences between a conventional system with omni-directional antennas and the advantages of sectorized antennas with coverage distances limited by antenna pattern and down tilt. With proper frequency spacing a utility can also minimize self-interference at the base station or path overshoot from distant, unrelated remote sites.

We will show examples of frequency planning, sectorized coverage and high-density remote distribution. Additionally, we will discuss systems where there are mixed channel bandwidths for moderate speed DA and high-speed substation SCADA in 25,50 and 100 KHz wide frequency channels. At the conclusion of the session a utility will understand the basics of a cellular-like approach to wireless networks and how hundreds of remote sites can interconnect through base stations with where there are multiple transmitters.

Presenter:

Tisha Hayes, Sr. Engineer, 4RF

9:30 - 9:45 AM

Networking Break

Sponsored by: [pdvWireless & RAD](#)

9:45 - 10:45 AM

Developments in Licensed, Unlicensed and Shared Spectrum for Utilities

Utilities are being pushed to deliver higher reliability while they simultaneously adapt to the cancellation of telco leased lines and the addition of customer-operated renewable sources of energy. As part of their plans to cope with these changes and to generally improve grid performance and efficiency, utilities are deploying advanced wireless networks. Topics will include:

- o Examples of deployments by utilities using the Upper 700 MHz A Block
- o Replacements for cancelled telco leased lines for SCADA and other applications
- o Alternatives to unlicensed spectrum in areas where reliability and uptime is important
- o Government efforts to make more licensed, unlicensed and shared spectrum available – will they be relevant to utilities? If so, when?
- o Licensed Spectrum alternatives available today to critical infrastructure industries
- o Private LTE networks – will they become a realistic alternative for utilities?

Presenter: Robert Finch, President – Select Spectrum

10:45 - 11:45 AM

Power Utility Communications Network IP Migration Roadmap and Case Studies

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. Finally, the presentation offers one or two successful case studies of substation communications IP Migration.

Presenter: Emmanuel Duvelson, Product Manager -RFL/Hubbel

11:45 AM - 12:15 PM

Roundtable and Wrap Up
