5-4-2016

Broadband Center of Excellence Newsletter, May 2016

Rouzbeh Yassini
University of New Hampshire, Rouzbeh.Yassini@unh.edu

From the desk of Rouzbeh

Dr. Rouzbeh Yassini

"... interfaces based on IEEE 802 standards are put in to service on a global basis at the rate of 100 per second 24/7/365. That's 3 billion per year and growing."

Welcome to our second newsletter and thanks to all who took the time to read and comment on our April issue. A lot is going on around broadband globally, and here is a brief glimpse of some key elements from our perspective.

Broadband in Coos County Project

The New Hampshire Broadband Mapping & Planning Program (NHBMPP) at the University of New Hampshire (UNH) is working to extend and enhance broadband availability mapping and related outreach activities in the 43 communities in **Coos County**, N.H. This comprehensive effort is incorporating data collection, data analysis, and data visualization/map generation, to: **1)** provide an enhanced and ongoing picture of the broadband landscape in Coos County by identifying areas that are unserved/underserved; **2)** work with communities, regional agencies, and broadband providers to ensure that they are aware of the broadband gaps identified; and **3)** utilize geospatial modeling tools to deliver a generalized cost estimate for additional broadband deployment in Coos County.

IEEE 802 Standards

The IEEE 802 LAN/MAN Standards Committee (LMSC) is the organization where the major contributors to the data communications industry (e.g., service providers, systems manufacturers and silicon vendors) come to develop global interoperability standards. To give the reader a sense of the impact and ubiquity of IEEE 802 and its 1,000 active participants, interfaces based on its standards are put in to service on a global basis at the rate of 100 per second 24/7/365. That's 3 billion per year and growing.

The applications enabled by 802 standards have a wide range:

- very high speed optical/copper 802.3 Ethernet interfaces and 802.1 secure bridging technologies for building networks of national scale, to enterprise networks, to data centers, to access networks based on Passive Optical Networking technologies
- high speed wireless 802.11 interfaces (commonly known as WiFi) provide secure, convenient access in the home, in the enterprise and in public places like stadiums, shops, airports and the like via smart phones, tablets, laptops and equivalent. We are constantly working to increase the speed and density of those wireless interfaces.
- wireless 802.15 interfaces (commonly known as Zigbee, Wi-Sun and others) are used to connect sensors for the utility industry, smart cities and the Internet of Things (IoT) in general

In addition to the above applications, the IEEE 802 LMSC is working closely with regulators to ensure adequate spectrum is available to support the growing number of wireless applications and we have begun to think about how 802 technologies will be used to satisfy the emerging next generation network applications that will require higher speeds, higher densities, lower latencies, lower power consumption, accurate location estimation and other needs.

Rural Broadband Funding Available

In early April, the U.S. Department of Agriculture's (USDA) Rural Utilities Service (RUS) said it began **accepting applications** for fiscal year 2016 RUS Broadband Loan and Loan Guarantee program. Federal funding ranging from$100,000 to $10 million in access loans and loan guarantees will be awarded for construction, improvement and acquisition of equipment and facilities that provide broadband services to eligible rural areas. All applications must be submitted via the agency's **online application system**. Online applications are available on the USDA website. The application window closes July 7.

Rouzbeh