

New network solution from On-Ramp allows for limited long distance WiFi

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(PhysOrg.com) -- Recognizing the need for long distance WiFi, even at the expense of bandwidth, On-Ramp Wireless has unveiled a product capable of delivering WiFi up to 45 miles in an un-obscured environment. Though only capable of sending less than 5 bits of data per second, On-Ramp chief technology officer, Ted Myers says that's not the point; he says the company's new technology, called Ultra-Link Processing, is intended for applications that don't need much bandwidth but could benefit from long distance wireless communications.

Ultra-Link Processing runs on the same frequency as regular WiFi, such as that used in people's homes to create a wireless network; the difference is in the algorithm used to hear the signal and decode it properly after it's been degraded due to noise. Regular WiFi is generally only useful in very small areas, such as in a café or at home; outside the house, the signal wouldn't get much farther than a couple hundred feet (60 or 70 meters) before being unrecognizable to most conventional devices. The new technology is implemented via a new proprietary chip currently being produced in Taiwan.

The main application being considered for the new technology is assisting electric utilities in installing "smart grids" that will allow them to monitor power usage and to make adjustments when necessary. Currently, most such networks use technology similar to regular WiFi or unlicensed radio bands. On-Ramp is currently working with San Diego Gas and Electric under a \$2.1 million grant from the DOE and has installed a test network that covers 4000 square miles, using just 35

transmission points; a network that would require some 1000 points of connectivity if traditional WiFi were used, according to an On-Ramp spokesman.

On-Ramp is also working with other companies such as Shell Oil in Europe to see if its transmitter technology might be used for monitoring pressure sensors on pipelines. It also appears the technology could also be used in other ways as well, such as monitoring remote outposts, or even as a bi-directional system for transmitting simple commands to a distant machine, or one that sits in a dangerous local. Also, it would seem that the new technology could also conceivably be used to replace some systems that now rely on Internet connections, possibly making them more secure.

More information: onrampwireless.com/

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