It's a WiMAX Smart Grid World In Australia

by Katie Fehrenbacher
JUN. 9, 2010 - 4:26 PM PST

SUMMARY:

One of Australia's first commercial-scale smart grid projects is moving forward, and it's leaning heavily on the high-speed next-generation wireless standard WiMAX. Partners include GE, IBM, and WiMAX software provider Grid Net.

gigaom.com/2010/06/09/its-a-wimax-smart-grid-world-in-australia/

UPDATED: One of Australia's first commercial-scale smart grid projects is moving forward, and it's leaning heavily on the high-speed next-generation wireless standard WiMAX. Australian energy retailer EnergyAustralia said this week that it's won a bid with the Australian federal government to build a smart grid network across five sites in New South Wales. EnergyAustralia confirmed last month that its next-gen smart grid wireless network would be based on WiMAX, and partners in the project announced this week include GE Energy (which makes WiMAX-based smart meters) and WiMAX smart meter software maker Grid Net, we've confirmed.

The fact that the Australian government has now solidly stood behind the wireless standard WiMAX for the smart grid should give the technology a real boost for the utility market. For those of you not familiar with WiMAX, it's a high-speed wireless technology that service providers are using for the next generation of broadband services. It competes with a high-speed wireless technology being deployed by cell phone companies called Long Term Evolution, or LTE. For the smart grid, WiMAX can provide a lot of bandwidth compared to many RF wireless mesh solutions.

EnergyAustralia's $100 million smart grid project — which will include the rollout of substation automation and electric vehicles, as well as 50,000 smart meters and 15,000 home energy displays — will also include integrator IBM Australia, utility AGL, transmission provider Transgrid and local governments. EnergyAustralia conducted a trial with Alcatel Lucent last year with WiMAX gear, but we're waiting to hear back if Alcatel Lucent will also be providing WiMAX gear for this larger commercial-scale project. **Update:** EnergyAustralia tells us that it has "called for tenders to select the most suitable 4G wireless equipment vendor for the deployment of" its network but has "not selected a vendor at this stage."

EnergyAustralia's WiMAX smart grid network will only be used for smart grid services, reports ComputerWorld, and will not be used to offer residents commercial wireless broadband service. ComputerWorld says EnergyAustralia's network is already in the process of deploying "800km of fiber infrastructure," and "140 WiMAX base towers over an 18-month period."

Other Australian utilities have been looking at WiMAX, too. In October, Australian utility SP AusNet announced its smart grid project that would work with Grid Net, GE, Motorola, Cisco, Intel and WiMAX service provider Clearwire. John Steel, project director for SP AusNet, told us back then that SP

AusNet has already started construction on the 600,000-700,000 smart meter-connected network and planned to have the network ready by 2013.

In the U.S. Texas-based CenterPoint was one of the first utilities to test out GE's WiMAX-based smart meters, and National Grid will be testing WiMAX gear provided by Alvarion to connect smart meters and distribution automation devices to the utilities' back office. San Diego Gas & Electric (SDG&E) said it's applied for stimulus funds to build a smart grid wireless network that would include about 30 percent of its network built with WiMAX, and Southern California Edison (SCE) has said it, too, is looking at WiMAX for part of its smart grid network. Michigan utility Consumers Energy is also working with General Electric and Grid Net on a smart grid pilot program based on WiMAX.

The biggest reason for using WiMAX for the smart grid is high bandwidth. SDG&E told us that WiMAX could be used around major grid assets, like substations, to collect a lot of data from phasor units, which monitor the reliability of the grid and collect information like voltage, current and frequency in real time. WiMAX could also be used to deliver services like mapping information and video tools for mobile workers, or provide video services for facility monitoring.

The other reason to use WiMAX for the smart grid is that it's an open standard that can benefit from the economies of scale created by participating companies. With GE, Motorola, Alcatel Lucent, Intel and Cisco all working on this technology, expect price points to come down pretty quickly. Ray Bell, CEO of Grid Net, told me last year that WiMAX chipsets would drop dramatically over the next couple of years.

SP AusNet's Steel told me in an interview that open standards and interoperability (in contrast with a proprietary system) were a major reason why the Australian utility chose Grid Net's smart meter software and the WiMAX standard. SP AusNet plans to build its own WiMAX network using Motorola hardware, using Unwired Australia's wireless spectrum, and Steel says the network will cost "hundreds of millions" of dollars to build. Steel says the main reason the utility wants to build its own network, and not use the network of a WiMAX service provider, is both to maintain security of the network and because it will be less expensive in the long run.

Smart grid network builder competitor Silver Spring Networks, which makes a smart grid wireless technology based on Internet Protocol, has a deal with Australian utility Western Power. When I contacted Silver Spring Networks to see if it were working on the EnergyAustralia project in any way, it would neither confirm nor deny it. The company is supposed to go public any day now, but there's been rumors that the IPO has been delayed.

Grid Net recently announced that Cisco has taken an equity stake in the company, and the startup is also backed by Intel Capital, Braemar Energy Ventures, Catamount Ventures, and GE Energy Financial Services.

Networking the Smart Grid
by Katie Fehrenbacher
JUN. 9, 2010 - 4:26 PM PST