Super WiFi may bring faster Internet

By Tim Hoskins, Lee Agri-Media Aug 22, 2012

Super WiFi might bring faster Internet service to rural areas.

Developed by Edward Knightly, professor of electrical and computer engineering at Rice University, super WiFi uses unused TV channels in the radio spectrum to send Internet signals.

Knightly said the benefits of his super WiFi system is it lowers the costs of high-speed Internet service because TV channels can travel farther and stronger than other WiFi technologies.

He said the development of Super WiFi came from a Federal Communications Commission decision that unused TV channels can be used for wireless Internet.

Knightly said there are more unused TV channels in rural areas than there are in urban settings that can be used for wireless Internet.

Some of the Internet speeds in his Super WiFi are 10-100 mps (megabytes per second), he notes.

However, speeds can vary based on amount of distance the signal travels and the number of users.

Knightly said there are strict rules about using the TV channels.

Those rules include checking a database to make sure no TV signals are being transmitted on that channel, and there are limits on interference into other areas.

The use of TV channels is not near the radio signals used for GPS, he notes.

The Knightly system has been tested in the Houston area. He is planning to test the system in rural Smithfield, Texas, in six months.

One of the challenges of the system is costs.

"It will be a challenge to get the costs down," Knightly said.

Since there is limited demand for the hardware, the costs are high at the moment, he explains.

However, he hopes increased demand will drive hardware costs down.

Knightly said the application goes beyond the United States. There are more TV channels available in other parts of the world since they have fewer broadcast signals.

Peter Stenberg, regional economist with USDA's Economic Research Service, said generally farms and rural areas still are behind urban areas in Internet availability.

However, the gap between rural and urban Internet availability is getting smaller.

Overall, 72 percent of people living in urban areas have Internet access, and 70 percent of people in rural areas have access. Sixty-two percent of farms have Internet access.

The numbers are similar in the access to high-speed Internet as well.

Ninety-six percent of people in urban areas have broadband Internet access, and 90 percent in rural areas, and 55 percent of farms have broadband access, Stenberg said.

The cost of extending cable to rural areas and farms is the biggest issue limiting high-speed Internet service to be extended, he explains.

Using high-speed Internet through cable is faster than other wireless systems, Stenberg said. However, the wireless systems are still better than the dial-up Internet access.

Some USDA funding has helped, Stenberg adds. It is still undetermined how higher-speed Internet access might be funded in the farm bill.

One option might be switching from loans to grants, he said.

Stenberg does not have any data on smartphone data and usage, yet.

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