2018 ACE SCHOOL & RUS SYMPOSIUM
TERMINUS
CONNECTING POINTS OF OPPORTUNITY

Hybrid FTTP Builds

Speaker:

Bill Gerski

VP Business Development

CHR Solutions

Why a Hybrid Approach?

- **Options**
  - **FTTX**
  - **Fixed Wireless**
  - **Digital HFC Migration**
- **Challenges in rural America**
  - **Distance**
  - **Density**
  - **Terrain**
- **Reduce your cost of ownership (TCO)**
- **Speed to Market**
  - **Utilize fixed wireless initially**
  - **Upgrade aging cable plant**
  - **Gain customers inexpensively**
- **Gain distinction over competitors for meeting the needs of your *entire* community**

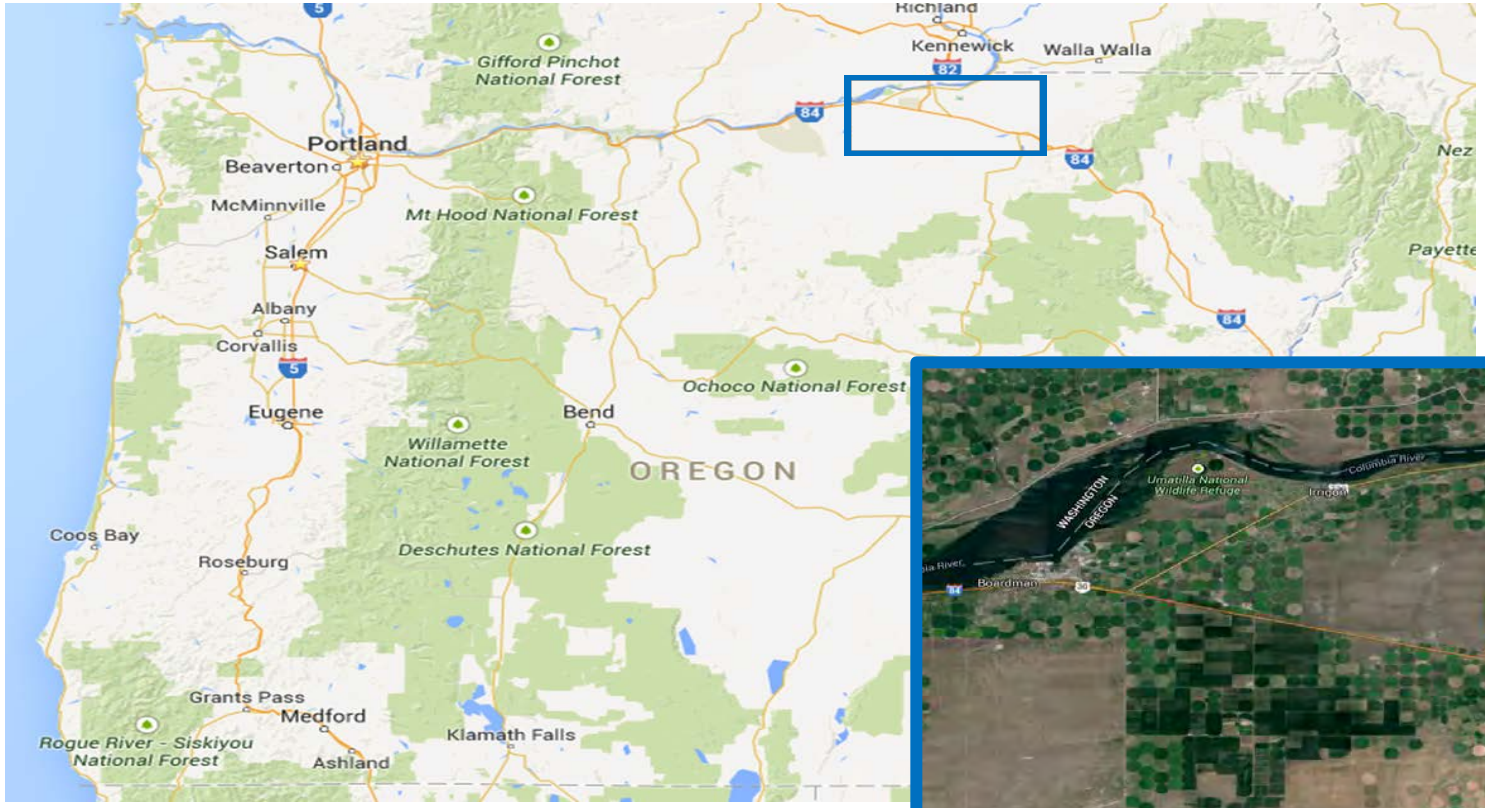
Article

“Google gets 'serious' about beaming wireless broadband into homes”

http://www.usatoday.com/story/tech/news/2016/06/08/google-gets-serious-beaming-wireless-broadband-into-homes/85627086/

- Solving what's called "the last mile problem" that requires laying fiber-optic cables.
- The technological breakthrough: Wireless solutions can carry the gigabit that is the 1 gigabit per second Internet speed that Google Fiber delivers through fiber-optic cables without the disruptive construction or high cost.
- Wireless allows you reach houses and users that are in lower density settings — where fiber becomes too expensive.
- Access CEO Craig Barratt, who oversees Fiber, said "We think, over time, there will be a sort of heterogeneous mix of technologies that we can use, depending upon the type of problem we’re trying to solve.

Case Study: Eastern Oregon Telecom



- Serving rural SE Washington and NE Oregon
- Average of 24 persons per square mile
- Agricultural based ecomony

History

- Formed in August of 1999.
- In 2001, launched voice and Internet service offerings.
- Began providing fixed wireless service in 2003 and commercial fiber connections in 2009.
- Began providing cable modem service in 2014.
- Started construction of GPON FTTH in late 2014

Service Offerings

- Distributed CMTS Cable modem service - speeds up to 100 Mbps.
- Point to multi-point, fixed wireless Internet - speeds up to 20 Mbps.
- Provides point to point, fixed wireless Internet access - speeds up to 1 Gbps.
- GPON – speeds up to 1 Gbps.
- Active E Fiber – speeds upDistributed CMTS Cable modem service - speeds up to 100 Mbps.

GOALS

PRIMARY GOALS

- Consumer demand for bandwidth growing (projecting 20+ connected devices per household by 2020).
- Desire to leapfrog the competition and “future-proof” our network.
- Minimize CAPEX while reducing OPEX.

SECONDARY GOALS

- Help reinforce a healthy economy.
- Promote diversification of economy.
- Attract new talent to the area.
- Bring Help reinforce a healthy economy.
- Enhance education, healthcare, public safety, and quality of life.

MEDIA COVERAGE

northeast oregon NOW

GOOD SHEPHERD HEALTH CARE SYSTEM

Home | Community Resources | Your Health | Who's Hiring | Relocates | Visitors | Contact Us

Please deliver Northeast Oregon Now's weekly e-mail alert to my inbox: Email Address Send

EOT Bringing Ultra-Broadband to Hermiston Area

Posted: 3:55 pm, Thursday, March 12, 2015 by Northeast Oregon Now

Eastern Oregon Telecom is partnering with Huawei to bring ultra-broadband to Hermiston and its surrounding areas.

BY MICHAEL KAME

Eastern Oregon Telecom is gearing up to bring a gigabit broadband network to rural homes and businesses in the Hermiston area.

EOT General Manager Joe Franell said this week that the company has selected Huawei, a global information and communications technology company, to provide its Gigabit Passive Optical Network (GPON) solutions throughout EOT's network footprint in Eastern Oregon, bringing ultra-broadband to over 8,000 homes and businesses in Hermiston and the surrounding area.

CNBC

Enter Symbols GO Enter Keywords GO

HOME U.S. ▾ NEWS MARKETS INVESTING TECH SMALL BIZ VIDEO SHOW

ELEMENTAL New White Paper: Live-to-VOD Services

PRESS RELEASES

Eastern Oregon Telecom Selects Huawei to Launch a Gigabit Broadband Network in Rural Oregon

Monday, 9 Mar 2015 | 10:00 AM ET

YAHOO! FINANCE

Search Finance Search Web

Watchlist

Quotes you view appear here for quick access

Quote Lookup Go

Finance Home
My Portfolio
My Quotes News
Market Data
Yahoo Originals
Business & Finance
Personal Finance
CNBC
Contributors

Wed, Mar 11, 2015, 2:23pm EDT - US Markets close in 1 hr and 37 mins

Eastern Oregon Telecom Selects Huawei to Launch a Gigabit Broadband Network in Rural Oregon

Gigabit Services to Bring Ultra-broadband to the City of Hermiston and Spur Economic Development in the Business Corridor

PORTLAND BUSINESS JOURNAL

News | People | Events | Jobs | Resources | Store

HEALTHSPARQ

Nearly $50 million i
That's the power of healthcare i

Sign Up to receive Portland Business Journal's Morning Edition and Afternoon Edition newsletters and breaking news alerts. Enter your email Sign Up

Next Article: List Leaders: Meet Portland's 5 biggest commercial real estate firms

A small Eastern Oregon town sets gigabit Internet pace

Mar 9, 2015, 1:16pm PDT

Save | Order Reprints | Print

Malia Spencer
Staff Reporter
Portland Business Journal
Email | Twitter

The residents of the small eastern Oregon town of Hermiston and the surrounding area will soon join the ranks of communities with super-fast Internet service.

A8 ▪ HERMISTONHERALD.COM SATURDAY, MARCH 14, 20

COMMUNITY ▪ FROM PAGE A1

EOT bringing ultra-fast Internet to Hermiston

BY JADE MCDOWELL
EO MEDIA GROUP

Internet in Hermiston is about to get a whole lot faster.

Eastern Oregon Telecom has announced it is bringing a fiber broadband network — boasting speeds 100 times faster than the average broadband Internet — to Hermiston and parts of Umatilla, Irrigon and Boardman.

The telecommunications company estimates the ultra-fast Internet will connect to about 8,000 homes and businesses by the end of 2016.

CEO Joseph Franell said about 200 homes in Hermiston and on Umatilla's Main Street are already hooked up, with a second phase of 550 homes in the works. The new Internet speeds, which can download an entire high-definition movie in 36 seconds, will help fill a demand for more Internet capacity that Franell said has skyrocketed in the last six years.

"Anyone who is at all connected understands the voracious appetite for connectivity," Franell said.

More and more people are using the Internet to watch television and play games, but Franell said it's about more than just entertainment. The fiber broadband will improve residents' ability to do everything from paying bills to taking college courses online. It will also increase efficiency for businesses and government entities that spend all day uploading and downloading data.

Franell said, once the project is done, all of Hermiston, as well as the commercial corridor of Umatilla, Irrigon and Boardman, will have better Internet connectivity than Portland and Salem. He said when Google Fiber rolled out fiber connectivity in Kansas City, the prices of homes connected to the lightning-fast Internet increased by 17 percent and business start-ups flocked to the area.

"When you start looking for economic development in the region, robust telecommunications is certainly going to help our economy continue to grow," he said.

Eastern Oregon Telecom was created by Umatilla Electric Cooperative about 13 years ago to help the community, and Franell said the company is as focused on serving the community as it is on profits. That's why it is reinvesting so much revenue into cutting-edge technology for the Hermiston area.

EOT is working with a Texas-based tech company called Huawei to create the infrastructure (known as Gigabit Passive Optical Network) necessary to bring Internet speeds of 1,000 mbps to the area.

Bill Gerski, Vice President of Sales for Huawei USA, said in a news release that the company was excited to bring its technology to the Hermiston area.

"Rural communities in America, which are typically under-served by broadband, are beginning to recognize the economic a social benefits of havi fast and reliable conne tivity," he said. "Huawei committed to working w rural carriers and commu ties across the U.S. to he them get connected."

Mayor David Dro mann said in a stateme that the high speed Intern will expand educatio and economic opportuni in the area.

"Super-fast, reliab and affordable broadba connectivity is becomi increasingly important helping our community a businesses stay compe tive," he said.

Endorsements

"Super-fast, reliable and affordable broadband connectivity is becoming increasingly important in helping our community and businesses stay competitive. We are pleased that Eastern Oregon Telecom and Huawei have partnered to bring this service to the community, and believe better broadband will help us create more economic opportunities and educational enhancements in the City of Hermiston."

Mayor Dr. David Drotzmann
Hermiston, OR

EXAMPLE

	Fixed Wireless	**Digital HFC Migration**	**FTTx**
Opportunities	• Low cost option for fringe/hard to reach customers. • New technologies (Fixed LTE, 802.11AC, etc.) allowing for faster, more reliable service.	• Lowest cost, most scalable fixed platform. • Distributed approach reduces issues with active components of architecture.	• Best, most reliable and scalable option for high density areas.
Challenges	• Limited unlicensed spectrum. • Costly licensed spectrum. • Line of sight challenges. • Interference.	• Underground construction costs. • More maintenance intensive than FTTx.	• Underground construction costs. • Electronics costs.
Actual Realized Speeds	• Point to multi-point (PTMP) = ± 20 Mb/s • Point to point (PTP) = ± 1 Gb/s	• DOCSIS 3.0 = 100 – 300 Mb/s • DOCSIS 3.1 = up to 1 Gb/s	GPON = 1 Gb/s Active E = 10 Gb/s

Cost	• Construction
	  • Per Tower (3 sectors each) = $10,000 - $100,000 (depending on type and height of tower)
	• CPE = $150 (PTMP) - $3,500 (PTP)
		• Construction
		  • Per Mile Aerial = $5,000 - $7,500
		  • Per Mile Underground = $35,000 - $80,000 (depending on # of bores and amount of rock)
		• CPE = $15 - $75
			• Construction
			  • Per Mile Aerial = $5,000 - $7,500
			  • Per Mile Underground = $35,000 - $80,000 (depending on # of bores and amount of rock)
			• CPE = $250 - $500

BILL GERSKI

VP BUSINESS DEVELOPMENT

CHR SOLUTIONS

702-493-6142

bill.gerski@chrsolutions.com