



Daniel McCarthy
President and Chief Executive Officer

August 11, 2015

The Honorable Tom Wheeler
Chairman
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Dear Chairman Wheeler:

It has been five years since Frontier Communications completed the \$8.6 billion acquisition of Verizon rural wireline properties in 14 states, an acquisition that tripled the size of the company. At that time, we committed to bring the benefits of broadband to rural America and to increase broadband access to 4 Mbps for 85% of households in the acquired areas within five years. That was an aggressive commitment because 38% of the households lacked any broadband access and 50% of the households did not have speeds greater than 3 Mbps. We met that commitment, continued investing and today 83% of our customers across all of our markets have speeds of 6 Mbps or greater and we have extended broadband to over 1.2 million households.

In addition to the broadband investments described above, we have embraced the Federal Communications Commission's (FCC) Connect America Fund (CAF) program. In 2012 and 2013 Frontier accepted a combined \$133 million in interim CAF Phase I support, and we have already deployed broadband to nearly 200,000 unserved or underserved, high cost households. Under your leadership, the FCC has successfully undertaken the CAF Phase II program, a landmark effort to extend broadband further to rural areas. Most recently, on June 15, 2015, Frontier accepted the FCC's CAF Phase II offer for all of our 28 states which will enable us over the next six years to provide broadband to more than 650,000 households and businesses located in some of the most rural parts of America.

I am providing this background information as context for Frontier's future plans for broadband deployment. Our pending acquisition of Verizon's local exchange, broadband, and video operations in California, Florida, and Texas offers another opportunity for Frontier to deliver on our broadband promise. As we double in size this acquisition will provide us with enhanced scale, scope, and resources.

Over the last five years we have invested heavily in broadband infrastructure and I commit to continue that investment. Across the entire Frontier footprint, including the properties we propose to acquire in California, Florida and Texas, I commit to deliver broadband to an additional 750,000 households at speeds of 25Mbps/2-3Mbps by the end of 2020. We will deliver these increased speeds by committing our own private investment and leveraging all currently available technologies, such as VDSL2 (bonded

and un-bonded) and ADSL2+ (bonded), and deploying other new technologies as they become commercially available, such as vectoring. Frontier's network engineering teams will coordinate this deployment effort with our six year CAF build to ensure maximum benefit to our customers.

While this commitment is aggressive, we have spent the last five years building out our network and identifying ways to achieve high speeds over our copper loops for our rural customer base. We have invested heavily in our core network and by the first quarter of 2016 we will transport over 2 Tbps of data at peak from the Internet to aggregation routers located in each state we serve. New core aggregation routers and distribution switches, combined with our upgraded backbone transport, today enable high speeds by supplementing the copper network with our fiber backbone. More specific engineering details associated with how we deliver high speed broadband today are outlined in the attached presentation.

At Frontier, we know what it takes to deliver high speed broadband products and services to some of the most rural communities in America. We thank the FCC for supporting these efforts with the CAF program and we are committed to supplementing the CAF investment with our own private resources to ensure that more Americans have access to these life-changing benefits.

Sincerely,

A handwritten signature in black ink, appearing to read "Daniel McCarthy". The signature is fluid and cursive, with a long, sweeping tail on the final letter.

Daniel McCarthy

Attachment

cc: Commissioner Clyburn
Commissioner Rosenworcel
Commissioner Pai
Commissioner O'Rielly
Maggie Wilderotter

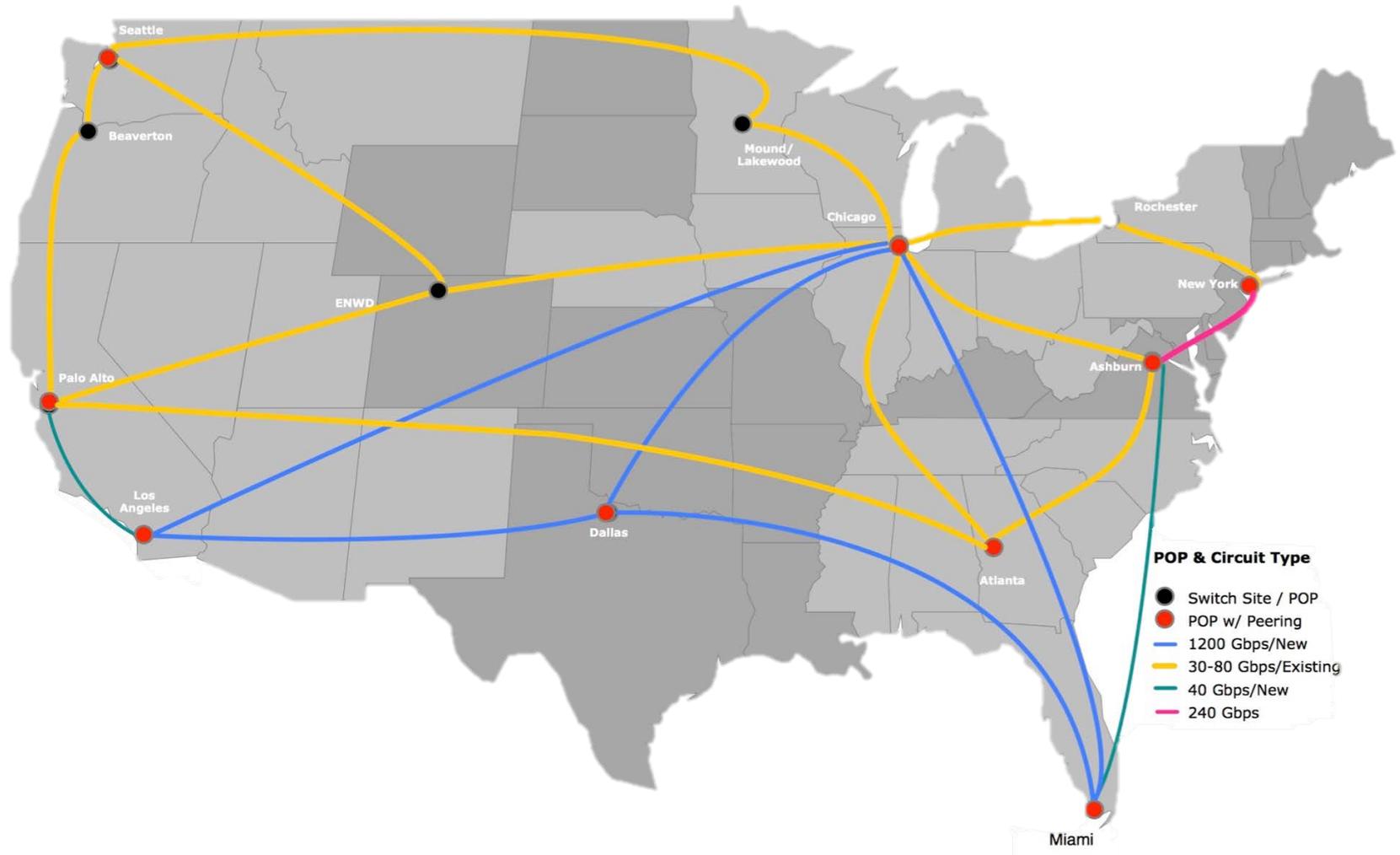
Frontier Communications

Broadband Expansion

August 2015



By Q1 2016 Frontier's core will transport over 2Tbps at peak from the Internet to aggregation routers located in each state Frontier serves

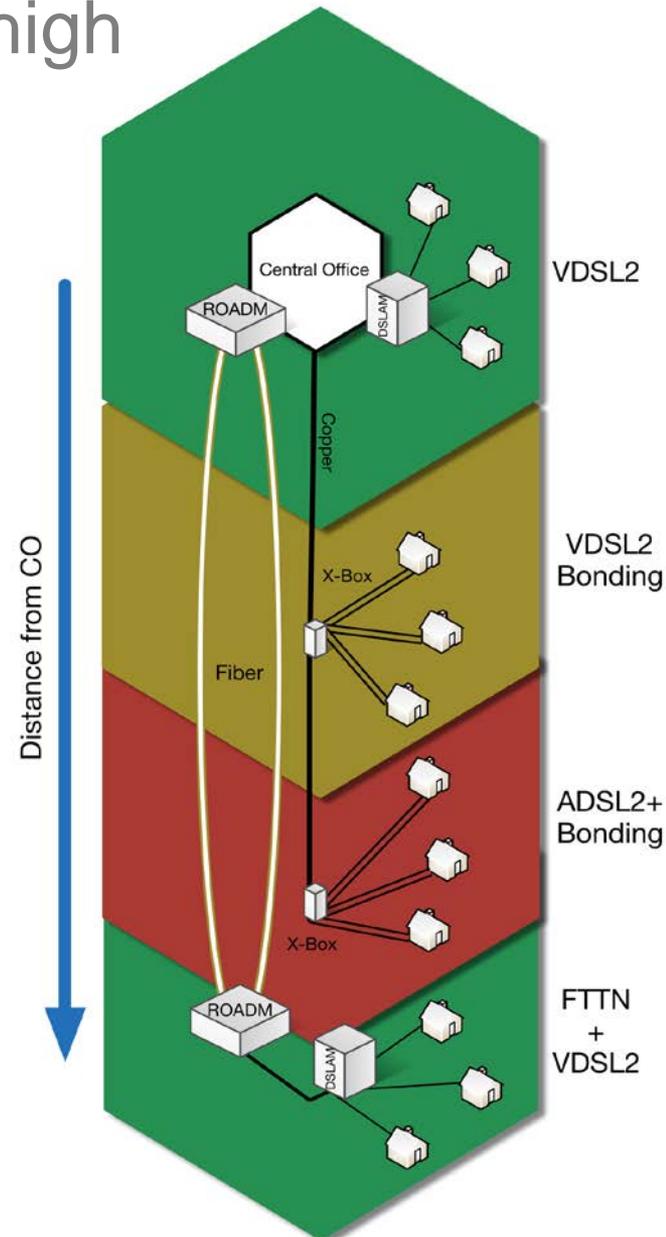


There are multiple ways to achieve high speeds on copper loops

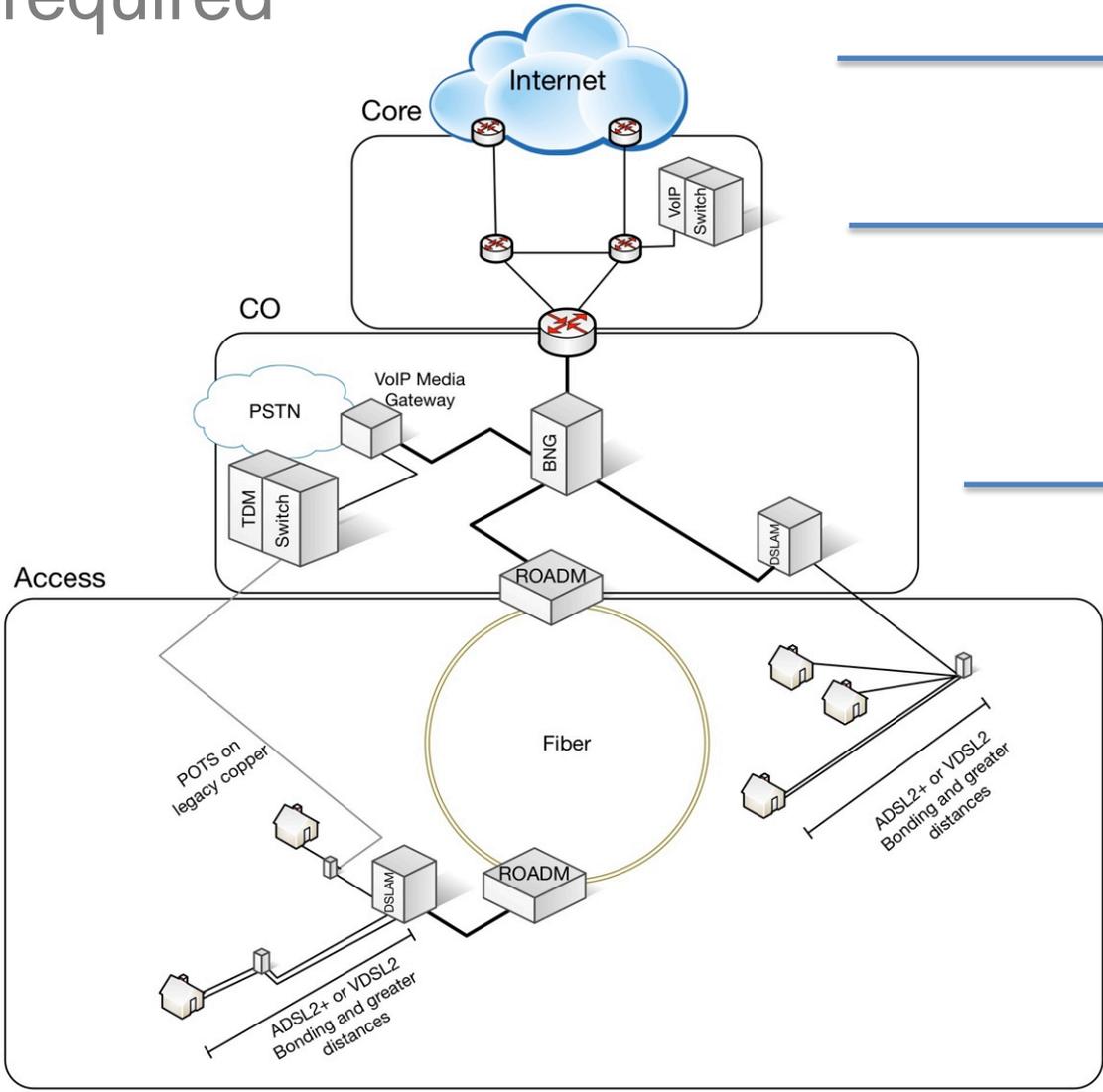
As distance from the CO increases, various technologies can be used to provide 25/2 or greater

- **VDSL2**
- **VDSL2 Bonding**
- **ADSL2+ Bonding**

Once significant distances are reached, **Fiber-to-the-Node (FTTN)** may be used to effectively “shorten loops” by backhauling traffic over fiber



VDSL2 and ADSL2+ Bonding: Total Network upgrades required



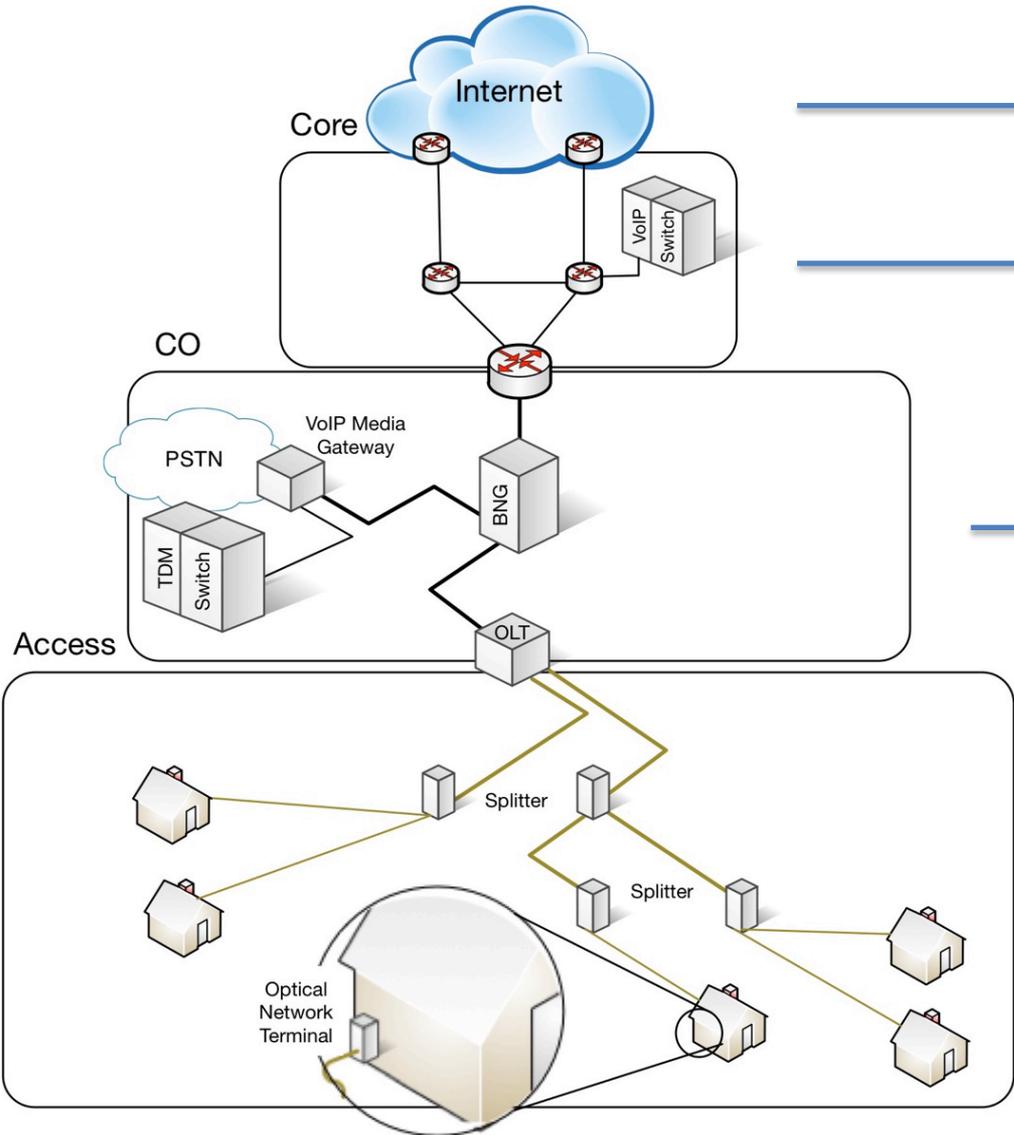
- Internet transport and peering

- Core routers and transport to peering locations
 - VoIP switch capacity

- Aggregation routers and transport
 - VoIP Media Gateways (in VoIP markets)
 - PSTN trunks
 - Broadband Network Gateway (BNG) capacity

- Fiber optic cable
 - Reconfigurable Optical Add Drop Multiplexer (**ROADM**) and other fiber transport equipment
 - DSLAM chassis and cards
 - Copper cable (feeder and drop)
 - POTS splitters
 - Customer Premise Equipment (CPE)

Fiber to the Home: Total Network upgrades required



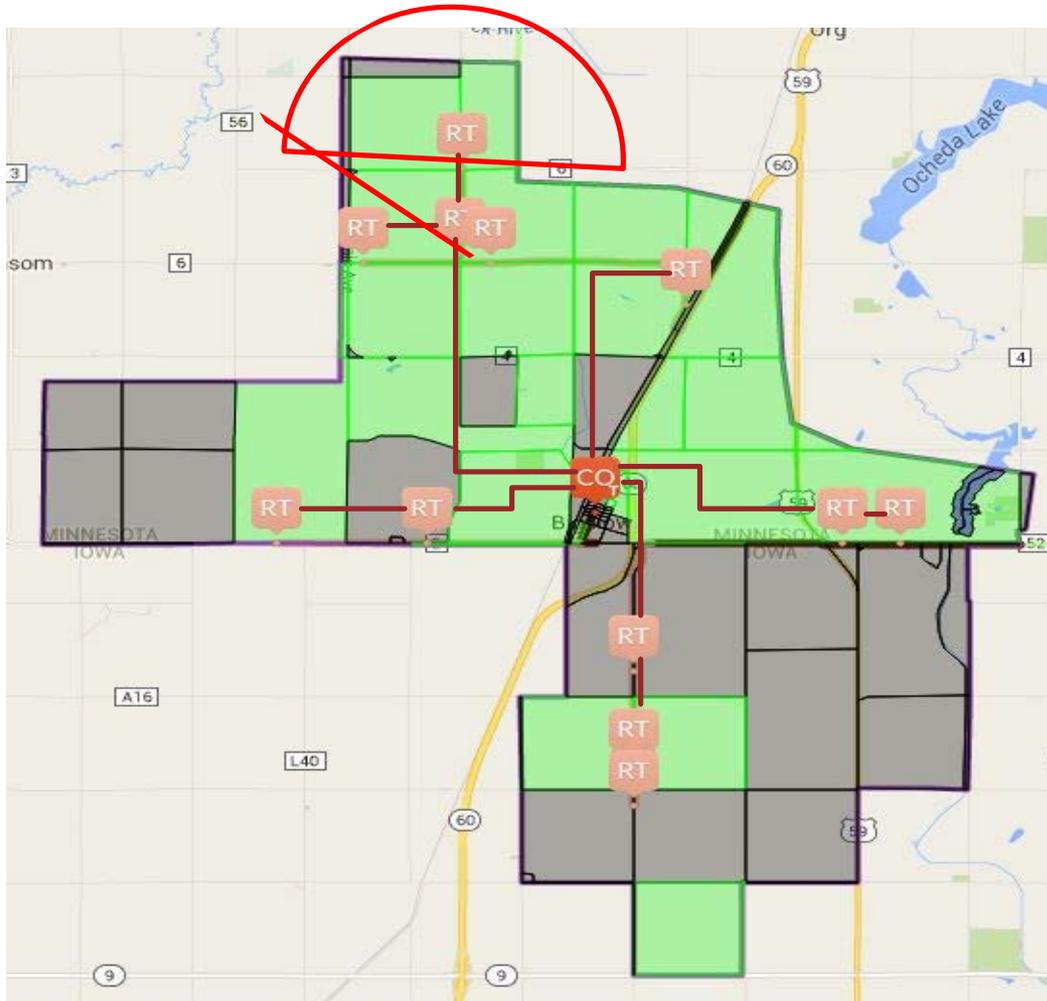
- Internet transport and peering

- Core routers and transport to peering locations
 - Voice over IP switch capacity

- Aggregation routers and transport
 - Voice over IP Media Gateways (in VoIP markets)
 - PSTN trunks
 - Broadband Network Gateway (BNG) capacity
 - Optical Line Terminals (OLT)

- Fiber optic feeder cable
 - Packet Optical Networking (PON) splitters
 - Optical Network Terminator (ONT)
 - Customer Premise Equipment (CPE)

Exchanges are engineered in a series of interconnected Distribution Areas (DA) to cover the most homes with the fewest locations



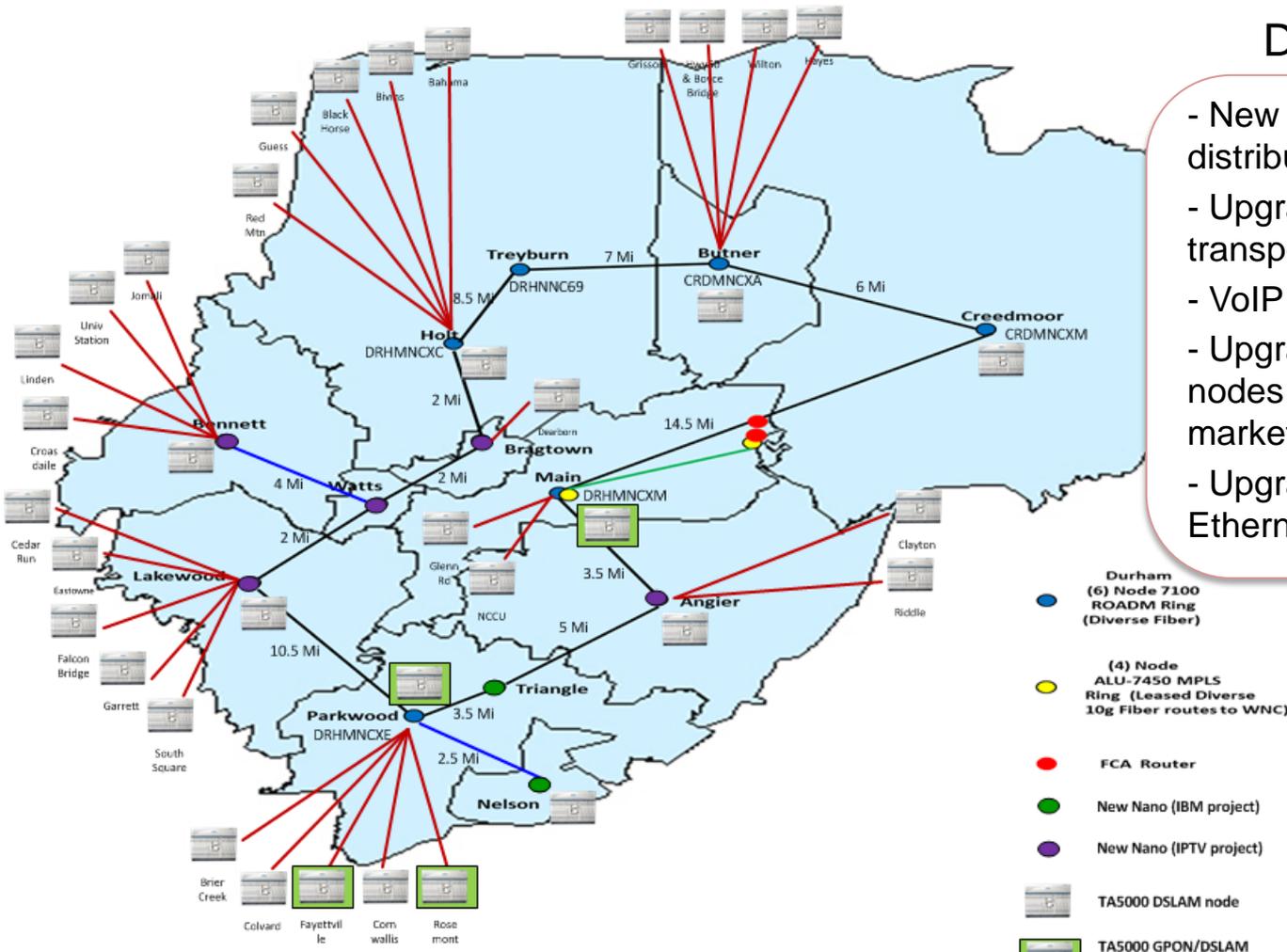
Other Broadband Expansion Tasks

- Upgrade or install new BNGs, aggregation routers, and core circuits
- Build new inter-office fiber to connect COs to DAs
- Deploy new ROADM and other fiber optic transmission equipment in COs and DAs
- Gain rights of way for and deploy new equipment such as DSLAMs near homes
- Upgrade Customer Premise Equipment (CPE)

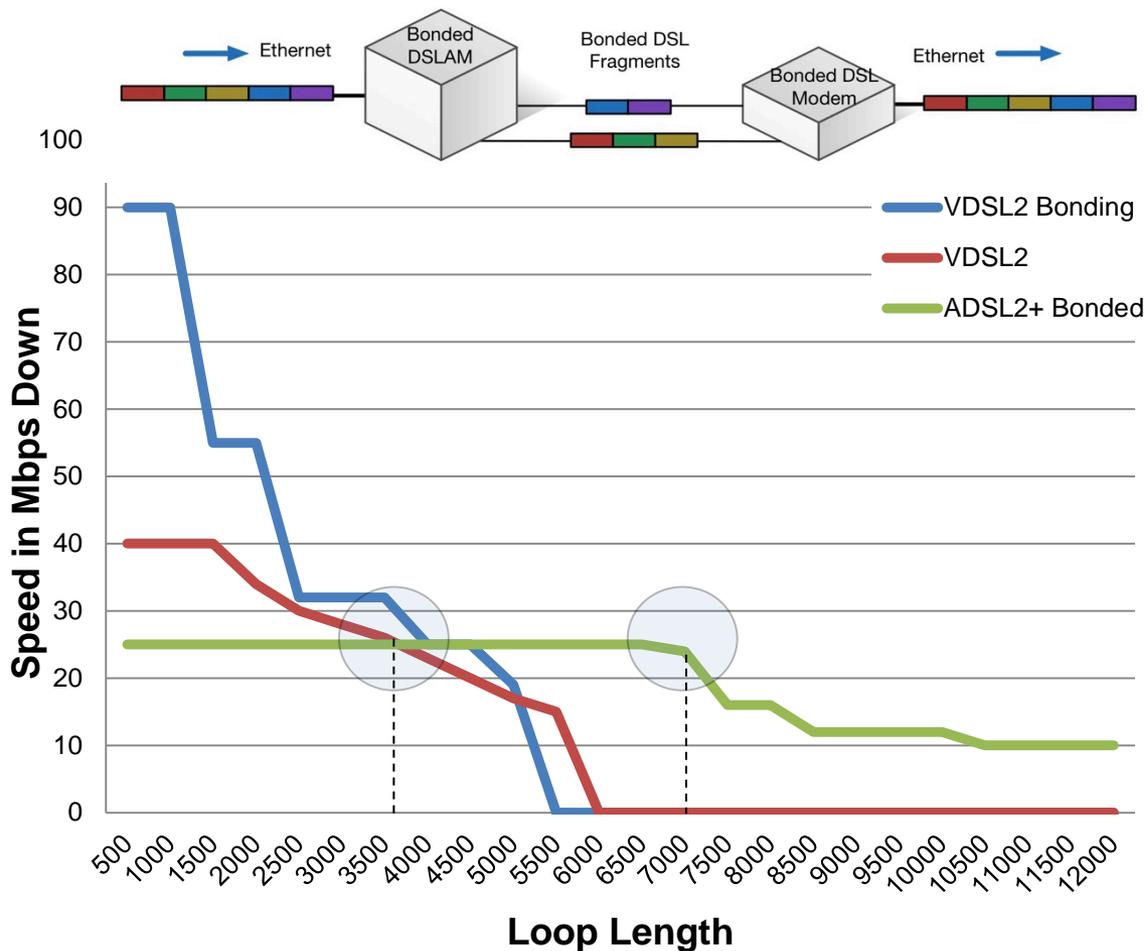
Durham, NC example of Frontier currently increasing speed to 25/2 or greater with VDSL2 and FTTH technology

Durham Expansion

- New core aggregation routers and distribution switches
- Upgraded 20G Ethernet backbone transport
- VoIP system upgrades
- Upgrade and add new ROADM nodes and cards throughout the market
- Upgrade 37 DSLAMs with 10G Ethernet backhaul and bonding cards

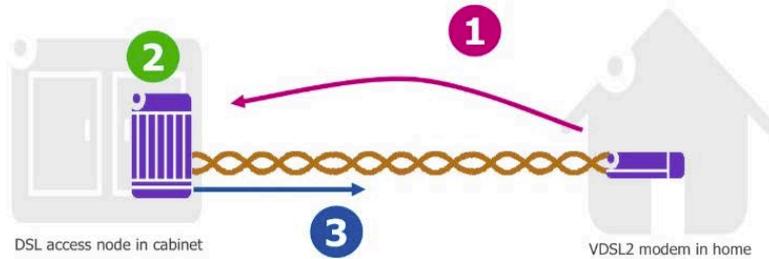


Although VDSL2 at shorter lengths may be preferable, a significant number of homes could still achieve higher speeds using ADSL2+ Bonding



ADSL2+ Bonding provides similar speeds to VDSL2 at twice the distance

Vectoring cancels noise between loops to provide higher speeds at longer distances in a single pair or bonded configuration

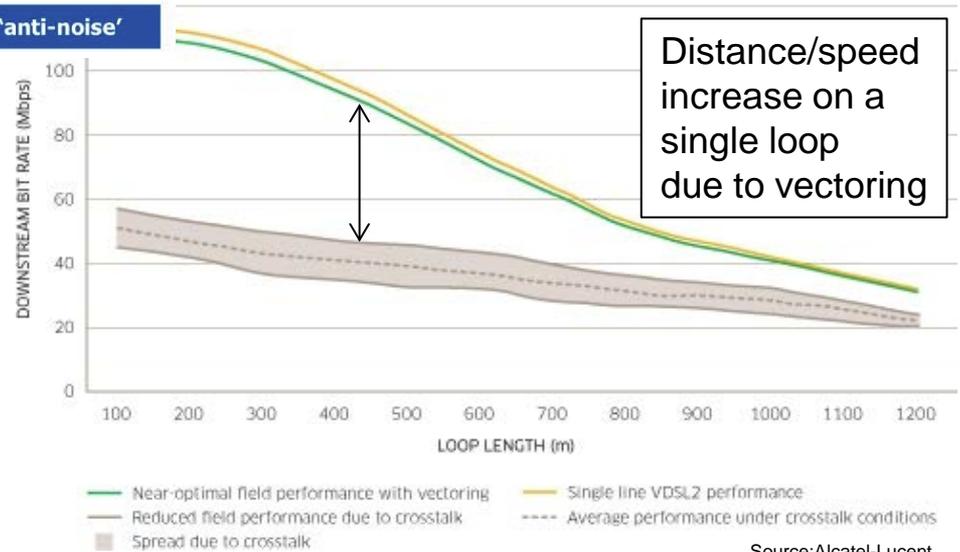


1 Measure noise

2 Estimate Xtalk

3 Generate 'anti-noise'

Source:Alcatel-Lucent



Source:Alcatel-Lucent