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ALASKA TRIBAL BROADBAND LLC

The Tribal Priority Window

- to acquire Valuable **5G** Wireless Spectrum

- *Huge opportunity for native communities*
 - *Enhanced broadband services at lower cost*
 - *Sustainable income stream*

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ALASKA TRIBAL BROADBAND

- ***Total Focus on Tribal BB Support***
 - ***Give tribes and villages a Seat at the “BB Table”***
 - ***Voice in setting BB priorities and planning***
 - ***Negotiations & Joint Plng. w/Service Providers***
 - ***Regional Tribal Broadband Plan***
 - ***Access to Federal & other funding***
 - ***Infrastructure ownership***
 - ***Tribal Jobs: operations & maintenance support***

The 5G OPPORTUNITY:

- *U.S. in race to be “5G” Technology World Leader*
 - *All major carriers transitioning to 5G*
 - *5G is called “Internet of Things”*
 - *Devices talking to other devices and people*
 - *Faster, More Capacity, Reduced Latency*
 - *Availability of 5G-supported frequencies is critical*
 - *FCC will auction prime 5G spectrum mid-2020*
- But before opening this spectrum to auction***
- *FCC established “Tribal Window” for free license*
 - *Eligibility: Federally recognized tribe & land*

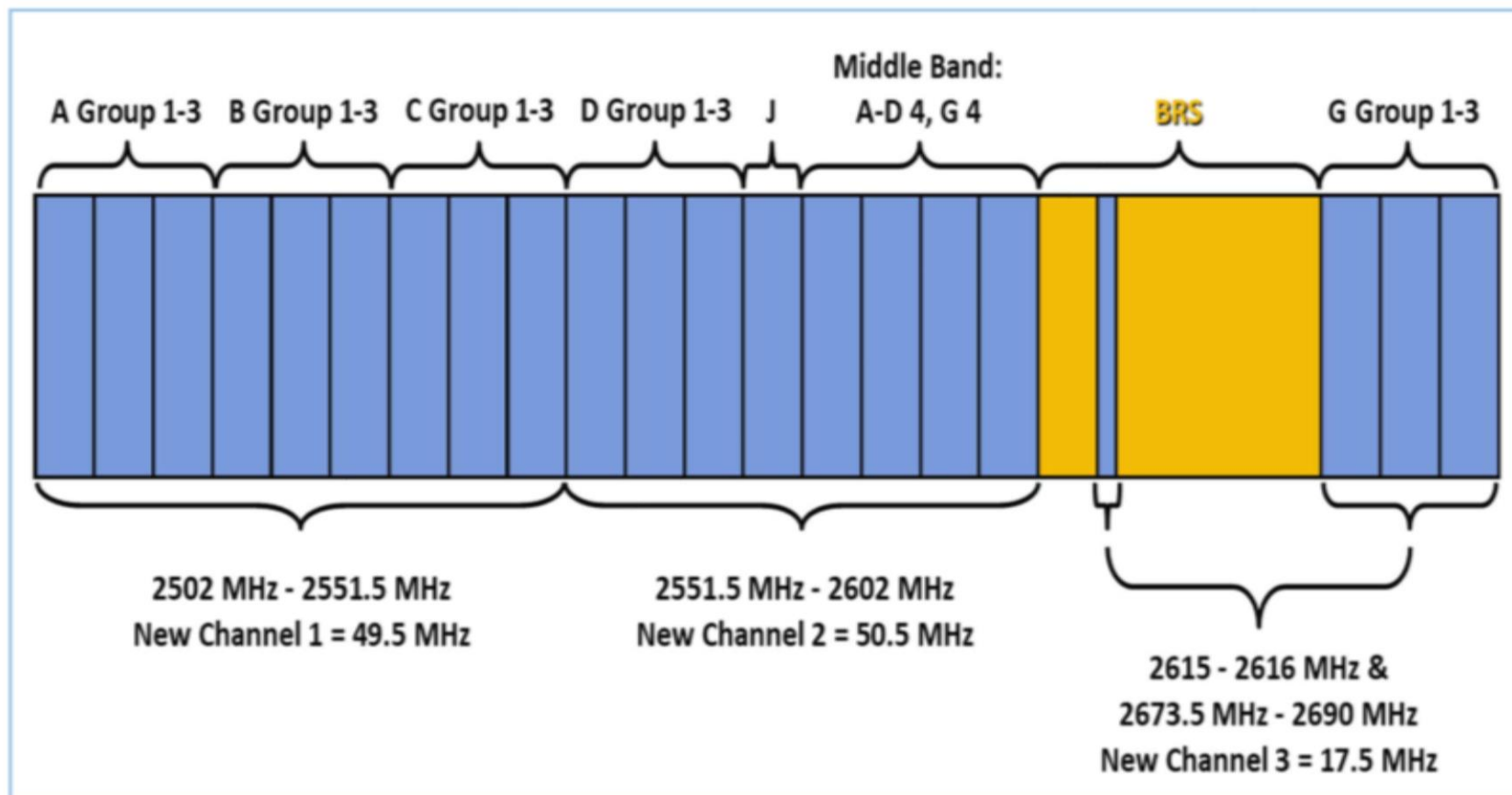
5G Spectrum Bands

5G Band	Spectrum Frequency	US Carrier Frequency	Speed	Data Capacity	Distance	Penetration
High	> 6 GHz	26 GHz 28 GHz	Fastest	High	Short	Poor
Mid	1 GHz – 6 GHz	1900 MHz 2500 MHz 3500 MHz	Fast	Medium	Decent	Medium
Low	< 1 GHz	600 MHz 700 MHz 800 MHz	Slowest	Lowest	Farthest	Best

- What makes a spectrum 5G is combination of properties and BW
- Carriers will use multiple 5G frequencies for different applications
 - T-Mobile will use its 600 MHz for distance & 2500 MHz (2.5 GHz) as its workhorse for its target markets: rural, residential, mobile
- 5G devices (i.e., cell phones) will accommodate multiple frequencies

THE EBS BAND PLAN

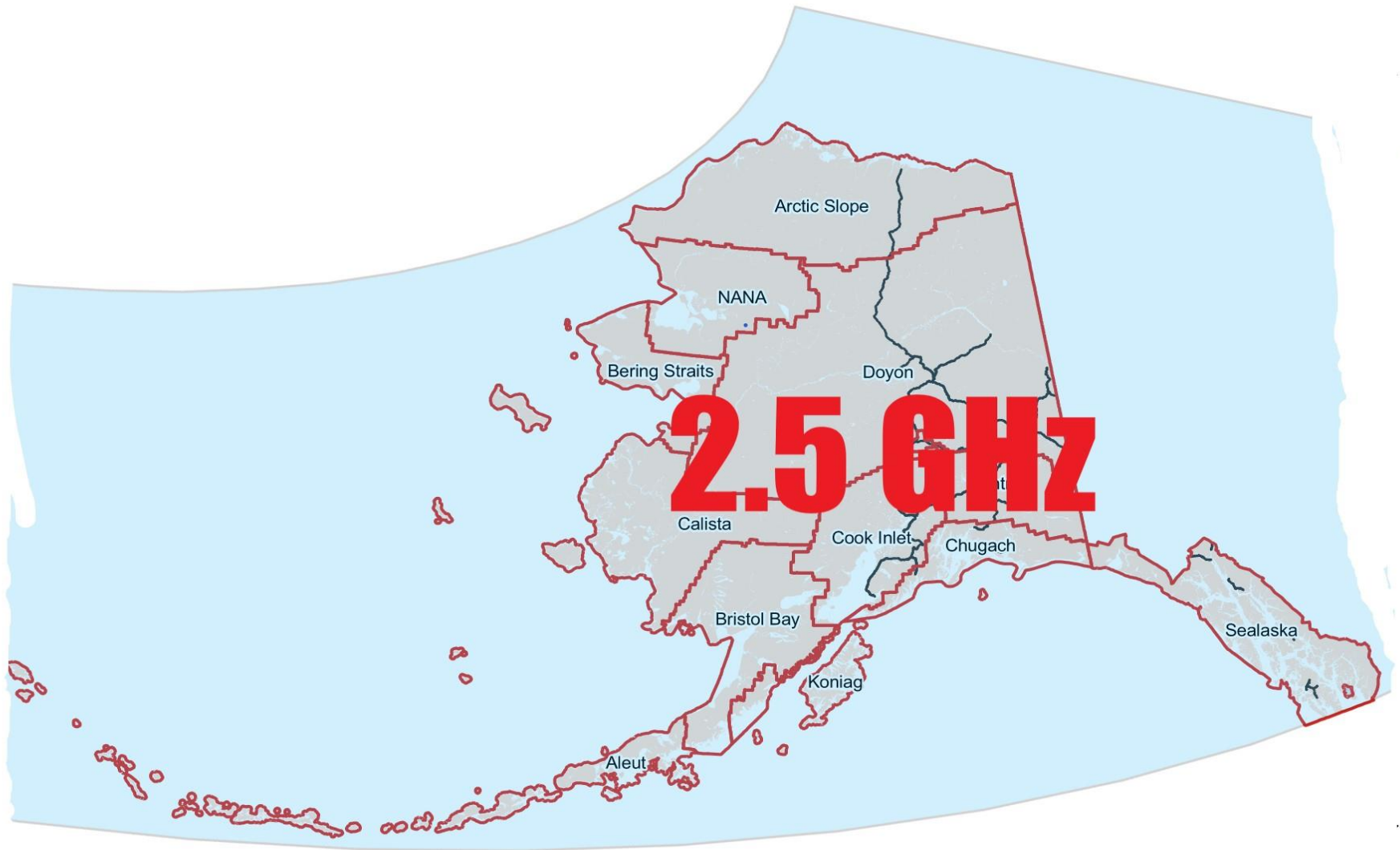
2.5 GHz Spectrum – 2494 -2690 Megahertz of Bandwidth
117.5 MHz (Blue) avail to Tribes vs. Carriers own orange band)*



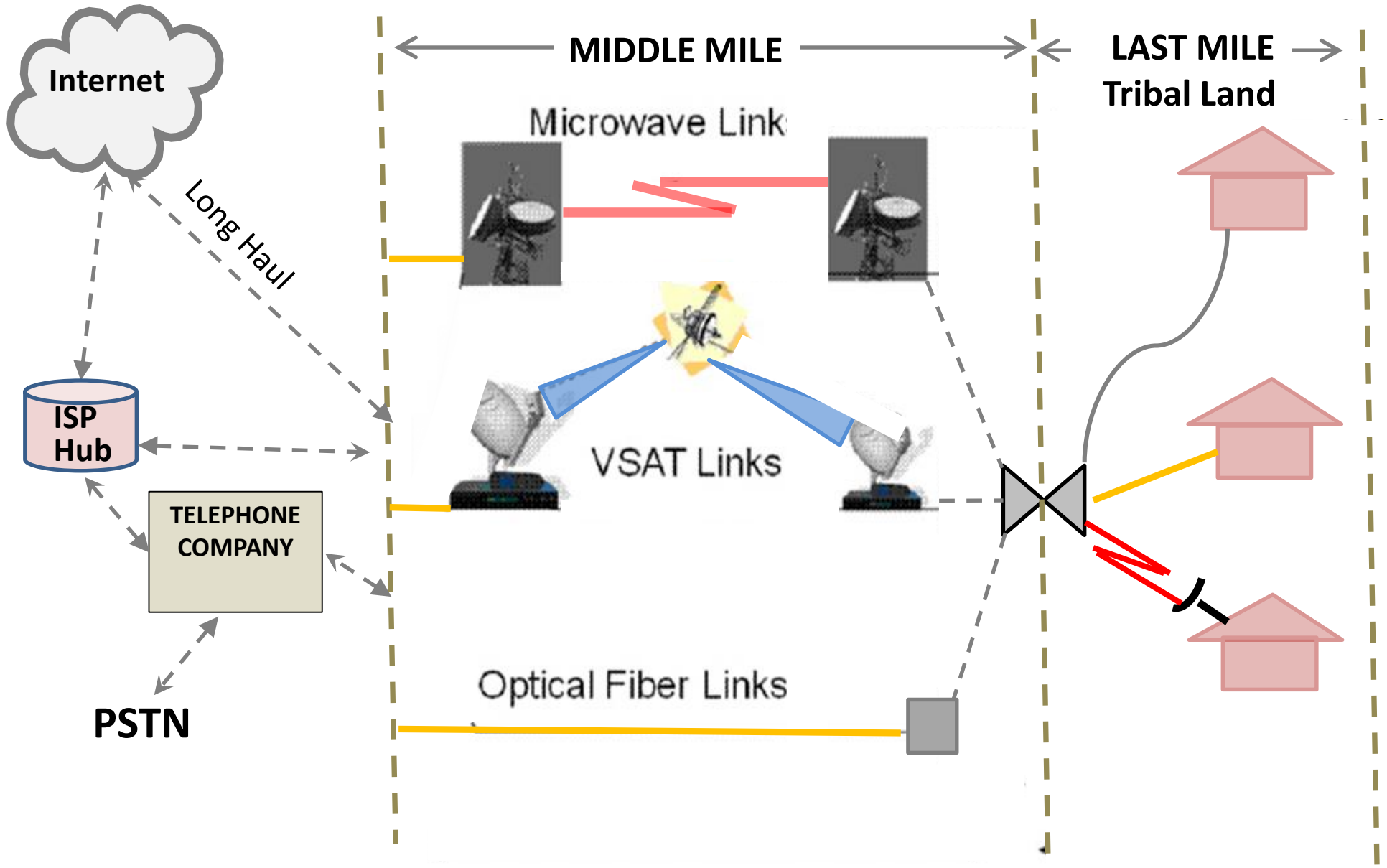
* Not all BRS channels shown

CONTIGUOUS PRIME 5G

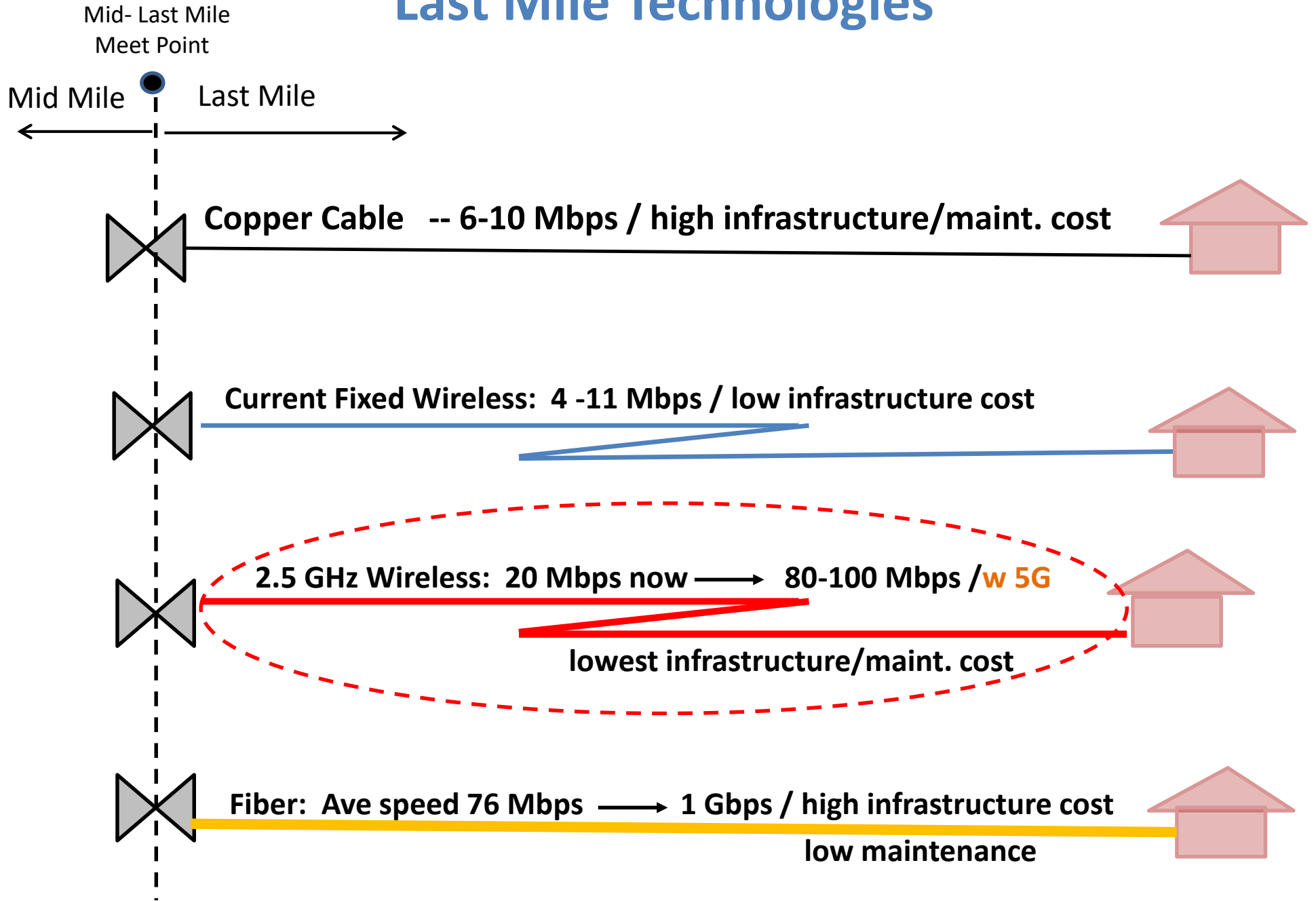
- exceptional asset for Alaska Natives & State



Tribal Middle & Last Mile



Last Mile Technologies



How do Alaska Natives benefit from owning 2.5 GHz?

Strategic long term asset

- *Won't solve today's middle-mile issue, but*
 - *5G last mile ready now to max service for any mid-mile transport*
- *Valuable asset – spectrum like “real estate”*
 - *Spectrum expensive: 30-35% of carrier asset value*

Near term benefits

- *Of all new 5G spectrums, 2.5 GHz is proven and ready*
 - *T-Mobile (Sprint) – equipment / infrastructure in place*
- *Contiguous 5G spectrum attracts potential partners*
- *Reduced latency, excellent rural coverage properties*
 - *Distance and data throughput*
- *Lease revenue income stream*

What are the Tribal opportunities ?

- **Spectrum ownership**
 - Lease revenue
 - Leverage spectrum lease for services
 - Own portion of infrastructure
 - Commerce / Economic Development
- **Early application of 5G benefits**
 - Increase speed and data capacity
 - Education, Health Care, Commerce
- **Reduced cost of service**
 - Spectrum is part of external service provider's costs
 - Ease of installation

Requirements

- **Requirements**
 - **Must be Federally recognized tribe**
 - **Land must be eligible**
 - **Can file for eligible land not associated with tribe**
 - **Work or live there**
 - **Provide goods or services**
 - **Fishing / Hunting / other Tribal-related interest**
- **STATUS**
 - **FCC Tribal Window started February 3 – ends August 3**
 - ***DISINFORMATION***
 - ***FUNDING NEEDED TO HELP TRIBES APPLY OR NOT GOING TO HAPPEN***

What do you do w/the license?

- *Planning should begin as soon as you file*
 - *2 & 5 year buildout plan*
 - *Broadband Service Plan*
 - *Best on regional basis*
 - *Network & Business Plan*
 - *Joint planning with service providers*
 - *Their plans?*
 - *Lessee Negotiations*

ATB committed to Tribal BB Support