

Ed Meece:

(silence) So anyways, Elvis is with us from the Lake County Internet Co-op. Correct? As you all know, what we heard about during the pandemic and it's going to just be bigger as we go forward. Fiber Broadband connectivity, it's a huge issue for our community and Forever community. Elvis, you have the floor, sir.

Elvis Nuno:

Great. Thank you, sir. Good evening everybody. I am the President of the Pacific Northwest Rural Broadband Alliance. We are a nonprofit that is dedicated to building community owned and operated networks for rural underserved and unconnected area's. Go ahead and get to my next slide here. [inaudible 00:00:57] Got it. All right. Great. So a little bit about our organization. So we are an organization of three individuals, so we are seasoned individuals in the telecom industry. So we worked at Nashville Telecoms building large 4G networks across the country for over a decade. When COVID hit we really saw that broadband became a front and center issue for everybody. The internet for a very long time has been an absolute vital service, but it was always really kind of thought of as a luxury.

Elvis Nuno:

We really realized that COVID really forced into everybody's attention that it's absolutely a lifeline service. It's required for working from home, for children to have distance learning, for telemedicine, and for every aspect of our daily lives. So we found a particularly revolutionary technology that allows us to build these community owned and operated networks very quickly, very efficiently at a very low cost. So we formed this organization to really help world areas that particularly suffered the most and closed the digital divide. Go ahead and hit then ext slide.

Elvis Nuno:

So the digital divide is turning points to describe the areas that are cut off from broadband service, and really a very large portion of our country does not have access to adequate broadband. If you add up everybody in the country that has cut off from broadband right now that equals the combined population of Texas and California. That's obviously a very large part of the population. Particularly in Montana, we are particularly hard hit because we are 50th in broadband access, we are dead last in the country. So, that means there are very few areas in our state that really needs serious improvement in broadband infrastructure.

Elvis Nuno:

We pay the highest prices for the slowest speeds and that's a problem that every community deals with in one way shape or another. It's really only our sort of larger towns that might have better access, but you don't have to go very far outside the center of those towns and people are hurting, and it's really not an economic issue. It's not that people can't afford it. In rural areas, as much as a third of homes that make over \$75,000 a year, still don't have access to products. So that's something that we absolutely have to solve. Let's go ahead and next slide.

Elvis Nuno:

So what we've come along with, with technology platform known as Althea, and that is an open source technology that's designed to build mesh networks that are entirely community owned and operated. What that means is that everybody that participates in the network and hosts a relay, that they get a

portion of the revenue that people pay for the service speeds, and that people actually literally own the infrastructure that gets delivering broadband to their neighbors. So the network has kind of built out in the sort of peer to peer way that one neighbor posts an additional antenna on their home that transmits the signal to the next home over, or the next neighborhood, or the next geographic area that needs signal. So this is particularly advantageous for rural areas because these wireless signals are able to go a very long distance.

Elvis Nuno:

Obviously wiring never [inaudible 00:05:13] individual home, it's very difficult for us in Montana. We're pretty spread out, particularly in Lake County. So what this means we're allowed to build out our network very quickly and very efficiently, and it helps keep the service fees that are generated inside the local economy. It creates a lot of highly skilled jobs around people that would help build these networks, help support these networks. That's something that obviously we really hurt for in Montana, sustainable jobs. For a long time Montana has really relied upon mining, or logging, and industries that bring along jobs for a period of time, but then leave Montana right back where we were in the beginning. So we really need to start working on building more technically skilled jobs that are sustainable careers that can really help the local community thrive, and build these services that allow people to work from home, allow their kids to learn from home, and to allow businesses to operate more efficiently.

Elvis Nuno:

Certainly businesses have found that a lot of jobs can be done from home, and historically businesses had large offices that cost a lot of money in terms of leasing office space, in terms of keeping up that office. They find that they can now allow people to work from home and operate much more efficiently. They don't have to maintain that office infrastructure that they had. They can hire from a much wider variety of areas, but they can't do that if people don't have broadband. So, that's something that we just have to improve here in Montana, and so that's what we're looking to do with Lake County internet call. So go ahead, next slide.

Elvis Nuno:

So here's an example of what a sort of mesh network looks like. This is an example in Missoula, we have our flagship network that we launched back in December. So as you can see these little white dots here are places where people would host relays. There are these wireless antennas that send a signal from one home to another. What's particularly nice about this is that it builds the more people that sign up to be relays, it makes the network faster, it makes the network more reliable, and it makes the network a lot cheaper for everyone involved. So any one of these relays can have hardware problems or the power could go down at their home, and the network allows us to self-heal and route around, and so it creates a service that's much more reliable in typical telecoms.

Elvis Nuno:

What's particularly revolutionary about this, is that allowing the community to own its own infrastructure gives a community the power to develop the infrastructure in the way that they need it. To ensure that broadband speeds continue to upgrade because there's always increasing need for faster speeds, and broadband to serve different areas as its towns grow. Corporate ISPs are not particularly interested or invested in local communities that they serve. So putting that power in the actual community's hands, it's really ultimately the only this problem is everyone going to get solved. I can guarantee you that Spectrum, probably doesn't go where Polson Montana actually is.

Elvis Nuno:

It's just a line item on their ledger and so they don't really have any sort of investment, and those service fees just go to a national telecom that, that money goes right out of the local community, goes right out of the state, and goes into the back pocket of some corporate CEO so they can buy another rig out. This style of network allows the service fees to stay local, allows creations of local jobs, allows local businesses to work more efficiently. All of those benefits really allow the community to be the master of their own destiny in terms of providing the broadband service that everybody needs. Go ahead, next slide.

Elvis Nuno:

So here you can kind of see some example of what this equipment looked like. When I started in building wireless networks a decade ago, this equipment was incredibly expensive, incredibly slow. Now we can build these networks with hundreds of dollars where it used to cost tens or hundreds of thousands of dollars. So these sometimes are very small, they try and keep them as unobtrusive as possible. In some cases where we might blame on businesses or something, they might look a little more similar to what cell tower equipment might look like, but ultimately there's equipment that fits every need so that we can tailor the network to everybody's individual need, and expectations. Next slide.

Elvis Nuno:

So this Althea technology that we use, this is an example of just some of the areas that this Althea technology is being deployed right now. It's a project that's being deployed, not only across the country, but across the world. What's a particular note as you can see some of those locations such as Ghana, Costa Rica, South Africa, Nigeria. These are examples of places that don't have a lot of money to invest in telecom equipment. Traditional telecom wireless ISP would cost a hundred thousand dollars, just turn the lights on and at least 50 skilled people to get it up and running. This technology is much more accessible and allows areas to start building networks with much lower upfront capital, and allow them to grow much more quickly. It's something that's growing very rapidly and having a lot of success. So go ahead, last slide.

Elvis Nuno:

So here's the information on this Lake County project that we're doing. So right now we have three registrations open. So pre-registration isn't an obligation to sign up for service or anything, but it allows us to help plan out the network to see where the demand is and where broadband is needed. So we really encourage everybody here, your neighbors spread by word of mouth, and let anyone that you know that currently needs broadband to go to our website, Facebook page, linked to the pre-registration campaign, and put your name down on a preregistration. Hopefully soon, certainly before the end of year, we'll have a network up and running that will grow very rapidly, and deliver people the broadband that they need.