

Oral History Interview with Eric Smith, December 7, 2021

Eric Smith worked at NMU for several decades including as the longtime Director of Broadcast Services and AV. Eric Smith played an influential role in NMU's laptop initiative, the WiMax initiative, and the Educational Access Network (EAN).

KJ 0:01

We are now recording. Today's December 7, 2021. My name is Kathryn Johnson. I'm in the History Department at Northern Michigan University. And I am interviewing Eric Smith. Eric, would you please spell your first and last name?

ES 0:16

Sure. Eric; e r i c... Smith; s m i t h.

KJ 0:20

Thank you. And can you please state your current role with the university before we dive into the background of the origins of the WiMax and EAN initiatives?

Unknown Speaker 0:30

I'm a project coordinator for the LTE secure supply chain networks replacement project.

KJ 0:38

And could you just briefly tell us what your previous role was in the university? And congratulations on your recent retirement.

ES 0:46

Thank you. I was Director of Broadcasting for NMU, which included Public Radio 90 Public Television, Public TV 13, and the engineering and audiovisual departments.

KJ Speaker 1:00

Thank you. Alright, we will dive into the origin questions. This interview will be split up into sections. And in the origins sections, can you tell me what you know about the origins of the WiMax and the EAN initiatives? Who was involved? And what were their roles?

ES 1:15

Well, this initiative actually began around 2000 when NMU launched its notebook computer initiative, becoming one of the first universities nationwide to offer notebook computers as part of tuition and fees to faculty, staff, and students. And that project progressed, you know, faculty began using the tool to help students with their assignments, students reported that they really appreciated having a computer, parents actually loved the fact that when their student came to NMU, they didn't have to worry about what computer do I buy. And along with that was the software. So as students would enroll in classes, any software that was required, was automatically loaded onto the computer so that the students had those resources.

On campus, they had a network to connect to the internet. But once students went off campus problems began to surface. We had students reporting, especially those who lived off campus, that they couldn't get an internet connection, or if they could, it was so expensive, they couldn't afford it, and how to solve that problem. So Northern began experimenting with Wi Fi hotspots. We actually went to some public groups in the city of Marquette, like the library and so on, and asked if we could put an antenna on the roof and broadcast a Wi Fi signal from the top of their building. We had limited success with that project. And truly, it was a hotspot. If you move 10 feet in one direction, you might get the signal or you might lose it, and it was it just wasn't satisfactory. So I remember in fact, the day I got the phone call from our Northern Chief Technology Officer, Dave Maki. He simply said, Do we have EBS spectrum? And as a broadcaster, my role at the university was to manage our radio frequency spectrum that included two-way radios, broadcast and TV, TV and radio licenses. All of those require authorizations from the FCC. So I began digging through my files and to be sure, we did not have any EBS spectrum. EBS is educational broadband service in the 2.5 gigahertz band. So, Dave said we need some, and I said, Okay, we'll see what we can do. So my quest began for EBS spectrum and quickly learned that EBS Spectrum was frozen. The FCC was not providing allocations at that particular time, and this was around 2008, when we were beginning to look at this, what to do.

One of Northern's alum, Kevin Boyle, who was a Washington DC attorney, a communications attorney has been, and he continues to stay, involved with WUPX radio when he was a student at Northern. He was actively involved in that radio station. And I thought, you know, I'll just give Kevin a call and see what the story is. And I did. And Kevin said yes, indeed, the spectrum is frozen. You can't get it. But it's possible to apply for a waiver and the condition the commission might look at the special circumstances and say we'll grant what's called a special temporary authority or STA so that you can operate in those frequencies. The problem was getting that proposal put together and making sure that it was compelling. And in, you know, Kevin's unique way. He said, What northern needs to do is become a Purple Cow. And I, you know, I began to scratch my head. And, you know, what does it mean to be a Purple Cow? And he explained that in that's kind of an inside term at the FCC, in order for the commission to grant a waiver. The case that's before them needs to be so compelling that they can with a straight face, say we're going to grant licenses to this organization, but if somebody else applies, the answer will be no. So that you can see where that would have, you'd have to make a strong case. So that's what we did. We set about becoming a Purple Cow. And make a long story short, we were successful. The Commission listened to our story. One of the commissioners, incidentally was from the Upper Peninsula, he grew up as a boy down in the Felch. area. That was Commissioner Michael *Copps*

(last name spelling unconfirmed), We actually had a chance to meet with Commissioner Copps, and, you know, then he understood, you know, the plight that Northern was going through and the deficit that the Upper Peninsula faced with regarding broadband service. So the commission granted our special temporary authority. We began our project and began to deploy the first educational WiMax network in the nation here at NMU. And then things sort of unfolded from there. Thank you.

KJ 6:45

What do you think it was about NMU's argument that made it so special to be deserving of this Purple Cow status?

ES 6:52

Well, there were a couple of things. First, was the fact that the history of EBS Spectrum was one of organizations who had spectrum and leased it to commercial agencies. And Northern was asking for licenses so that not to lease, but to actually use and that was novel at the Commission. They hadn't had anybody come to them. Originally the band, there's a whole history of EBS spectrum, the EBS band, it started out as ITFS, Instructional Television Fixed Service. And essentially, it was the 2.5 gigahertz spectrum was designed to create small educational broadcast stations, where they would, you know, have educational TV programs and schools would receive it. It never went over. And so agencies with EBS spectrum, ended up leasing it to broadband companies like Sprint primarily. And, you know, while it was legal, it wasn't what the Commission had in mind when they licensed that spectrum. So here Northern was setting out to actually use the spectrum for educational purposes. The second compelling factor in Northern's application was the extreme deficit of broadband in rural areas. Here, you've got an area where nobody is providing, well, I shouldn't say nobody, there's limited broadband in cities, but outside of those cities, broadband is almost nonexistent with the exception of satellite service. It's so expensive. How can you afford it? That that kind of a scenario, Northern was proposing to solve that problem. So from a public policy perspective, Northern was making a proposal that had checked all of the right boxes, and how can you say no to something so good. And that's I think, why the Commission ultimately decided we're going to grant a waiver, we're going to grant them Purple Cow status.

KJ 8:58

Thank you. Can you tell me about the six people and what their roles were, who were intimately involved with making this happen at NMU?

ES 9:08

Sure, um, we had a, and I'll see if I can name them all. Dave Maki, our Chief Technical Officer, Dan Salo, who was Director of Telecom Services. Chris Lewis, who works with a lot of the faculty and software issues. We have Gavin Leach, our Vice President for Finance Administration. There was myself, and I'm blanking on the on the sixth one. It'll probably come to me here at some point,

KJ 9:43

Was that Mr. Marra?

ES 9:45

Oh, I'm sorry. Yes. John Marra. John Marra, yes. So that that was the group of six or Gang of Six as we referred to ourselves, right.

KJ 9:57

Great. Thank you. So let's see. Can you please tell me about the terms of the FCC license when it was originally approved? And then how have those terms changed over time?

ES 10:10

Well, the terms of the license remain today as they were when they were granted, almost 10 years ago. The licenses that we received, they weren't all granted simultaneously. We had subsequent applications. As we expanded our service around the UP, we had to go back and ask for additional spectrum. But the terms are actually very basic, but quite specific. We're not to lease the spectrum to any clients. And we had to promise to build in each of the general service or geographic service areas that we had applied for.

KJ 10:54

Okay, great. And then, let's see. Do you know of any other universities with similar projects, and FCC licenses who followed this model that NMU, the path that NMU paved?

ES 11:11

There's a university in Texas, who had EBS spectrum, they didn't apply for it, but they had it. And they (excuse me here just a minute.) Sure. Um, the, there's also one in California, and I don't know which ones they are. But those are two others that have done something similar to NMU. They were in the game after northern. Northern was actually the first. The other two came later.

KJ 11:46

Okay, great. Is there anything else you'd like to add about the origins?

ES 11:54

I think that pretty much covers it.

KJ 11:56

Thank you. All right, let's move on to your individual role. So how did you go about working with the FCC? Tell me about what you did to bring this project to fruition?

ES 12:09

Well, as I mentioned previously, as the Director of Broadcast and Audio Visual Services, I was in the unique position to manage all of the radio frequency spectrum at NMU. So when it came to licensing, it was kind of a no brainer to look in our direction and say, we're looking for this spectrum. Can you help us? And I had an interest in the project anyway, it was fascinating to me that in addition to broadcasting, we could also do two way communications with first WiMax and then LTE broadband. And that's what got me started with it.

KJ 12:51

Okay, great. What do you think were some of the most significant challenges that you encountered trying to obtain the FCC licenses in particular, or even working within the university? Working with the community entities that you were involved with? There are a lot of ways you could go with this financial political, et cetera?

ES 13:09

Well, it was all of the above. But as I mentioned earlier, this gang of six that was working on this project, really came from a number of segments of the university and had the expertise in finance, in technical resources and spectrum utilization, all of these things, to put the project together. We were told initially, our CTO was told don't even attempt this because it's too complicated. You have the major carriers like Verizon, AT&T, and Sprint networks, that have hundreds of people, really smart, dedicated engineer, type folks who put these networks together. It's just too complicated. But the truth is, it really isn't that complicated. You have to know a lot about how this stuff works. But once you figure it out, it's like building Legos. You just put the blocks together. And before you know you have a system.

KJ 14:12

Who were the naysayers who were saying telling Dave Maki not to even try this?

ES Speaker 14:17

Some vendors, equipment vendors. As we reached out, we had a struggle finding a vendor who would sell us equipment. We were we were extremely small, who wants to invest, you know, their time and energy, when they're, you know, selling equipment by the millions to major carriers. And you know, a project that's a couple million dollars to a small university who has no experience in putting one of these networks together. But ultimately, we found Huawei to be a willing partner and they provide cost-effective equipment. And you know what? While we had to do a lot of the figuring out, they were there to provide some technical resources. As we had questions, they would answer them. Admittedly, the communication, you know, when you're dealing with folks who speak in a foreign language, there are also ultimately some communication issues. But we were able to work through those, and ultimately put a network together.

KJ 15:23

Did anybody from Huawei come to the UP?

ES 15:27

Yes, yes, they did. And that was interesting. We also had worked with Intel, because at the time, they were experimenting with Huawei equipment. We were the first university to put these broadband cards in laptop computers. And they were excited about the fact that we were deploying so many cards. And in fact, I remember when we placed the order, there were a couple thousand cards, we immediately surfaced on their radar, who is this university that's buying these, you know, large numbers of broadband cards to put inside their laptop computers, and that sparked the relationship with Intel. That was, that ultimately was a spin off into internships for our students. And we had an Intel lab here on campus to do testing and research work.

KJ 16:29

I had no idea that existed, is that still in place today?

ES 16:32

Not today. I want to say it was in place for maybe five or six years. Don't quote me on that. But it was, you know, was more than just a flash in the pan.

KJ 16:46

Very exciting, especially with the opportunities for the students to get involved with those real-world applications. So with the as the EAN was built out, and the local school districts, the local fire

departments, community organizations, were taking advantage of this new resource, can you tell me about how you were involved with, you know, letting them know about this opportunity and establishing those relationships and establishing the circumstances to get the equipment onto their towers and simultaneously help their communities?

ES 17:22

Sure. I don't want to say that we built the network on the cheap. But cost was a consideration as we put together the model for how we were going to price the service to make it affordable for students. And you have to remember that a lot of this came about after we had built our initial network here in the city of Marquette. And around the issuing the Negaunee area. We had other organizations, other schools coming to us saying, we've been hearing about this broadband network at NMU. We're starting to put Chromebooks and iPads into our students' hands. But the problem is they can't connect when they're at home because they have no broadband, can you help us out? That's when we went back to the FCC and got additional spectrum for the UP. And that's when we began to figure out how are we going to sustain a model and build a service where the operational costs allow us to keep the service affordable. So we hit on the concept of working with local communities. And it's really, this is what's so special about the Upper Peninsula, people are honest to the core, and they're genuine in their expressions of desire and need. And as we went into local communities and said, We would like to put broadband in your community, here's what we would need from you. They would become willing partners. And what we needed from them was space on high buildings or towers or water tanks, if they had a resource that we could attach an antenna to, that was that was golden. And so literally, we worked with them to install our equipment on water tanks and the tops of buildings. And in exchange for putting our service, we would give them access at no cost to the broadband service. And you have to understand for local community, that's like gold because a lot of their costs are structured in capital, and that not only capital expense, but operational expenses and maintaining their city services, whether it's public works, police, fire, EMS, all of those things are expensive to provide. What Northern could offer them was the chance to connect all these together. And if we put for example, an antenna on a water tank and lit up their area with broadband, we could also put what's called a CPE customer premise equipment device at let's say it's a pumping station at the edge of town. Now they can connect all of their utility services to that CPE device. And in the dead of winter, when the pump goes down, rather than having to put a guy in a car and send them out to restart that pump, they just reach over on their bed stand, log into their computer, and do it remotely from a PC or a Mac.

KJ 20:25

This is just unbelievable. It's it's amazing and astounding and so beneficial to the community. So in terms of your role, were you going to township meetings? Were you meeting with township officials? Were you meeting with K-12 superintendents? You know, can you tell me about some of those?

ES 20:43

Sure. All of the above. And I have to give credit to my teammate, Don Salo. Don and I developed a unique relationship in our ability to go and talk to people about broadband. And you have to understand that a lot of the local officials, the elected officials, many of them barely know where the on switch is for their computer, what they do understand is that they need the computer services in order to properly provide all of the things that residents in their community, you know, need for a functioning city or township. And so, Don and I developed some series of slides that would illustrate what it was Northern was doing. We talked about the need in communities and why the service can address that need. We also had examples of how people in other communities were using it, and then put together a model that explained how our agreement with that community would work in exchange for giving them broadband access, they would give us access to their infrastructure. And when we put all that together, we made ourselves available. You know, we sat in lots of town hall meetings, and some of them were no more than just a single room. You know, everybody kind of shows up in blue jeans and a T shirt. And you know, these are, and this is really interesting. And I have to mention, as we would go meet with folks, one of the things that impressed me was the dedication that elected officials or appointed officials have in serving their local communities. These are regular folks, men and women who work hard all day long, and at nighttime, go to these meetings to make sure that their residents have what they need to be successful. It's not an easy job. They take a lot of flack, sometimes from people for the decisions that they make. But to a person, we found them to be genuine, honest, and interested in doing the right thing. And that was refreshing.

KJ 23:01

Hope for public service. Isn't there always?

ES 23:04

There in the larger communities may have their issues, but I can tell you from firsthand experience, it's the local communities and their officials that are the backbone of the services that we all enjoy.

KJ 23:19

Thank you. Is there anything else you'd like to add about your individual role?

ES 23:27

Other than, you know, once we would start the process with a local community, ultimately, to be successful, you have to have an agreement at the end of the day, you know, there's the business part of this. And part of my role was to structure those agreements. You know, ones, I'm not a lawyer, although I play one on TV, as they say, you know, I would send our agreements, often NMU's counsel for review, it would go then to the city or municipality, they would review it, their attorneys would review it. And ultimately, you know, with the back and forth, discussions, we would reach agreements. Each one, they

were all similar, but there were nuances in each community that had to be addressed. And so we would just take care of that. And that was part of the role I played.

KJ 24:19

Okay, so you were the liaison to facilitate those agreements? Okay. Great. Excellent. Thank you. All right. Let's take a look at NMU as an organization, and how do you think the WiMax and the EAN projects changed or transformed NMU as an organization?

ES 24:39

Oh, boy, we could spend hours talking about this. And I think this is the beauty of an idea. And we've taken it to the full extent of its possibilities, how you can transform organizations. Northern has long promoted itself as a can do technologically savvy institution. You know, we're literally at the at the cusp of new technology in many regards. And the EAN, the educational access network project was, I think, probably one of the most visible examples of how technology can shape an organization. Not only were we able to provide our students with ubiquitous access, and I'll tell you this summer, I had the pleasure of helping to lead in this COVID environment that we're in, I volunteered to take groups of parents and students on what we call Marquette experience tours. My particular tour was hiking up Mount Menard here in the city of Marquette. And so I got to meet potential students and their parents and families. And as we would hike through the woods to the top of the mountain, I got a chance to talk about some of the things that Northern was involved with. And wouldn't you know it on one of our tours, we get to the top of the mountain. And here's NMU's student sitting cross legged, with their laptop opened up. And, you know, I went up to her and I said, Do you mind if I bring a group over? And we just chat with you for a minute? She said, No, go ahead. So we came over. And the obvious question is, what are you doing up here? Are you on Facebook? She said, no, I'm doing my calculus. And she said, Northern has this program, that I open up my laptop, and I'm connected to the internet. And one of the parents looked at her and said, So are you like on a Verizon network or something here? You know, and she said, no, this is Northern's own network. And the best part is, it comes with my laptop. I don't, I don't pay any extra for it. Wow, talk about an eye opener. And I couldn't have scripted it any better, right. But that's one of the transformative changes that I think the network has brought to NMU's students is the ability to be connected, wherever you choose to be. A lot of our students come to the university because of the environment that we're in. And to be able to take your notebook computer, and go do your homework and beyond on you know, enjoying life, you know, while you're learning is a really unique concept. In most schools, you either are learning or you're playing. Right here, you get to play and learn at the same time. And that's pretty special. So that was one of the transformative changes that I think took place as a result of the EAN.

The second one had to do with students interested in technology. NMU employs a number of students in its telecom department, going out installing network services. We also have students in the EAN sales office. You got to remember, you know, we have over 8,000 families, as of the, you know, today, that are connected to the EAN network around the Upper Peninsula. Those all have to be serviced. And so the opportunity to spin up customer service work. And these are students who may be

business majors, could be English majors, but they have an interest in just kind of learning something new and unique and different. The students are learning how to be good customer service agents. Those are hard skills that they can take with them when they graduate. And it's not only a service to the EAN and clients that we serve, but also to the students who learn how to serve them. And it's been wonderful. If you go up to the EAN office on the fifth floor of the Cohodas building, it's just a buzz of activity. We have students, you know, setting up equipment. They're inserting SIM cards into equipment. They're programming the devices, getting them ready to hand over to the client when they come in to get their device, that kind of thing. And it's a beautiful thing. So all of these things, I think, while we were trying to solve the broadband problem, which ended up itself, I think was transformative for NMU in addressing a local community issue and when I say community and Upper Peninsula issue, we also at the same time had in the back of our minds, this needs to have an educational mission for our students as well. And those are the things that we looked closely at in putting this together.

KJ Speaker 29:39

That is so exciting for the students. All right. Um, so you really addressed several issues there in terms of new reporting lines, new positions that were created, new structures, in also that way you addressed NMU's organizational values and culture and the emphasis on student real world applications and the learning that happens. Is there anything else you'd like to add to that?

ES 30:08

Well, what I didn't talk about, but I would be remiss if I didn't mention is the leadership component to NMU. That we always assume that projects like this happen, because of the boots on the ground, that the real people doing the work are the ones that are doing the work, right. And it's not uncommon, you know, at the, at the coffee break time, to, you know, say, you know, who's really who's really making this thing work, right, and the how those conversations go. But in all fairness, I have to tell you that it's the NMU leadership. Had they not set the direction and had the confidence that this could be done, imagine here, you're about to make a major investment. You're looking at a project that technologically is really complex, and you've never done it before. And you have, you know, some of your technical folks saying, Sure, I've never done this, but I think I can figure it out. And you're in the back of your mind saying, Do I really commit my institution to a project that I think might make it happen? That, whoa, that that's a risk and a half, you know, but yet Northern had a president and vice presidents that said, we think this is worth the risk. We think we're going to trust and believe the people who say they can make this work, and give the okay, and find the resources to make it happen. And it's not just been this project. I've seen this in my 47-year career at Northern time and time again. I have seen the leadership faced with almost insurmountable challenges, whether they be financial or human resource type issues, say, this is so important, we're going to take a risk and see if we can make this happen. And they do it. We can look at any number of academic programs and see that footprint. In the broadcast area where I served for so many years, we had several unique challenges, one that almost closed the stations. And we had a Vice President of Finance, who said, I think I know how we can make this work and found a way for us, you know, to rebuild an organization and get the broadcasting back on track. We had, our current Vice President of Finance and Administration, Gavin Leach, who is a wizard with these kinds of

things, who said, I think I know how I can make this thing go. And to be sure the expectations are higher for those working on the project. But, you know, with, you know, great expectations comes, you know, desire, and I think people just wanted to make it work. And so I have to give some credit to the leadership and NMU for all they did.

KJ 33:04

Absolutely. And that requires trust. It requires respect and mutual confidence in each other, and in the organization itself to make those things happen. And that speaks a lot to NMU's organizational values and culture, that the institution is willing to invest in these kinds of risky innovations.

ES 33:25

They're also not afraid to give credit where credit's due. They are not about themselves. They are about making sure that people know why these things happen and who's responsible for it. And all of that just engenders the desire to continue and say, Yes, we can make it work.

KJ 33:45

Absolutely. So at the leadership level, when it comes to really getting the WiMax and the EAN up and running, how were the decisions made? Was there a committee? Was it an ad hoc? Was it the group of six? Was there one person who was giving really, really guiding the decisions along the way? Can you talk about how the decisions were made?

ES 34:07

Yeah, I would say it was our CTO, and our Vice President for Finance, who ultimately would make the decision, you had the technical and you had the administrative working hand in hand to say, okay, all the pieces are in place. Let's Let's go do it. But they didn't make those decisions in a vacuum. They listened to the comments from others. And you've made some judgments and analysis and as a result, we're able to make good decisions.

KJ 34:40

Absolutely. Okay. Great. That was one piece that I was missing out of all of my previous interviews. So thank you for that little clarification. All right. Are you familiar with leadership theories and which leaders leadership theory would you say is most applicable to NMU's organizational culture?

ES 35:00

Oh, boy. I've probably heard them at some point, I can't I can't put names to them. So you know, I think the best way to describe NMU's leadership would be one of collaboration.

KJ 35:21

Great, thank you. All right, anything else on leadership, organizational change, values, culture?

ES 35:30

No, I think sometimes the best leadership are the ones where people know when to get out of the way. And we have seen that happen with EAN. And they, the NMU leadership is very good about letting people know that they're there when they're needed. But unless there's a problem, they don't, they tend not to micromanage. And that was extremely helpful with EAN because there are so many moving parts. And even with our current network replacement project, there are so many moving parts, they're willing to let those who know what they need to do, do it until they run into a problem. And then they say, sure, come and let's we'll, we'll talk about it and make the decisions that have to be made.

KJ 36:26

That's really important. Thank you. I have a couple of random questions that just occurred to me as we were discussing. So did you have a chance to meet President Obama when he came in 2008? And can you tell me a little bit about that?

ES 36:40

I did. And that was fascinating. It was a very brief meeting. He was in the Berry Events Center. The White House had wanted to have the president interact with people over the network. And so we set up a couple of demonstrations. One was in Negaunee, a class, a high school class in Negaunee. The other was an elementary class in Big Bay. And what was unique about Big Bay was in order to get our EAN signal to Big Bay, we had to beam it out to an island in the middle of Lake Superior. And from Lake Superior, it would beam up to Big Bay because there's a mountain chain, the Huron mountains, that run along that block radio signals. It was interesting when, you know, we only had three days to put the visit together. They were they didn't announce it weeks in advance, so we had time to prepare. This thing all just sort of came together quickly. We had to get extra *presses* (recording unclear) in the middle of winter in January, we had to get propane out to Granite Island, so that we didn't run out of propane and the service would go down. That was an experience in and of itself. The city of Marquette went down to the lower harbor with their front end loader to clear the ice so we could launch a boat kind of thing. You know, we had set up equipment in the Berry Events Center, our audiovisual department, set up the two way interactive equipment. So that the President could talk with the classes when he was there. Working with the Secret Service was extremely interesting. And the Secret Service, we discovered that the Secret Service and Whitehouse don't always see eye to eye on issues. So there were some concerns

there that had to be, had to be met. But overall, it was just a good experience and meeting President Obama was unique. He is as genuine and as warm as he appears on TV.

KJ 38:47

Thank you. You mentioned to me before we started the interview that the equipment purchase from Huawei is now deemed a national security risk and the federal government is funding one for one equipment replacements. Are students involved in replacing this equipment since they are so involved in these opportunities to gain real world job skills?

ES 39:13

They are not involved yet, but they will be once the project is underway. The planning part of this is fairly high level and there just really isn't much of an opportunity, you know, for students, you know, to work on that part of it. What we are doing is once we get to the implementation stage, you know, we'll have some time and students will be brought into the process and they'll become a part of this especially when we start working with the customers and we're swapping out their equipment. on their end. There will be lots of student involvement and that phase of it.

KJ 39:54

I'll be one of those customers and I'll look forward to hearing from those students.

ES 40:00

Well, it sounds like you're using EAN. Yes, I am, too. So this entire interview is being conducted as courtesy of EAN?

KJ 40:12

Absolutely, absolutely. When is that rollout expected to happen?

ES 40:16

It will begin probably the second quarter of 2022. And it should run 12 to 18 months.

KJ 40:26

That's pretty quick in terms of replacing an enormous amount of equipment.

ES 40:30

It is, the FCC doesn't allow a lot of moss to grow on their projects. And their time constraints are incredibly aggressive. We're even wondering ourselves how this is all going to work. But we have great comfort in knowing that every other broadband service provider has the same challenge to overcome. And the commission is fair in the way they deal with issues as things come up. They will usually make adjustments and modifications. So we're not too worried about it. But you're right. It's an aggressive schedule.

KJ 41:05

Thank you. My final question is, do you have any documents that you would be willing to share that you think would be especially useful to contribute to the archives? For example, you mentioned the slide presentation that you and Don Salo would give to the community organizations? That was an example of the kind of documentation that I would certainly be interested in, and I think the archives would be interested in for all the future researchers.

ES 41:34

Sure, I'd be happy to share that. That's, that's not an issue. Okay, great. The other documents that might be useful would be the licenses, that NMU operates. They're called authorizations. And we now have transitioned from special temporary authority to full 10-year licenses. They have to be renewed every 10 years. So that might be useful for you as well.

KJ 42:03

Absolutely. And who would I ask to find a copy of that?

ES 42:07

I have those. Oh, okay. Perfect.

KJ 42:11

All right. So my email is kathryjo@nmu.edu. If you would email me, anything you think is relevant.

ES 42:20

Okay, be happy to do that.

KJ 42:24

Do you have any questions?

ES 42:27

No, I think you've pretty much covered it. You know, I would just conclude on a personal note and say, there are projects that we all work on in the course of our careers. Some of them are just things that pay the bills. And, you know, you say that's part of work. Some of them are life changing experiences, and EAN is one of those projects. It's been incredible for me to be a part of something so big. And to know that I played a small role in making something happen, that will have lasting benefits for years to come. We don't, a lot of people can't say that about their work. They do things but they're just not sure what the impact is. When I see a student who is able, like at the top of the mountain, and they can connect to their computer and do their homework. When I get a note from a grandmother, who said thanks to EAN, and I now know what the internet is because my sixth grader, you know, had that service at their home. And now I understand how I can do email. That's huge. So the lifelong learning that we're able to promote the services that students have, and the success that students now can have in their own classes. It doesn't get any better than that. They could pay me a million dollars, and it still wouldn't come close to matching the feelings that I have about what EAN has done.

KJ 44:07

I am so filled with admiration and gratitude for your efforts. And when you think about the impact, if you take 8,000 students per year, you take 8,000 community customers per year, you take all the hundreds of faculty and staff who are impacted by this, not to mention all of the community service organizations, right. The, just the schools, the fire departments, you know, the township services, and this whole Upper Peninsula region has been transformed. And in terms of adult learning, right now, people have access to rural health medicine options. You know, the way the university was positioned to go through COVID emergency remote teaching in one of the best positions possible. And the opportunities for people to conduct their communications and engage in online learning. And really benefit from the EAN educational opportunities where they have to take those little modules once per year. But it's such a great way to keep people engaged in lifelong learning and it really is transformative. It's a remarkable story.

ES 45:24

You talk about foresight, who knew back in 2008-9 when we started that a pandemic in 2020 would need that service. And here it was ready to go and now with its replacement project will be next generation because we will be 5G capable once the new network is installed. We're preparing to upgrade to 5G when you know when the time comes all this new equipment will be able to be upgraded to 5G.

KJ 46:01

Astounding All right. I know you have another meeting to go to sir. I'm so grateful for your time. I'm going to stop the recording. And then when I transcribe I'm going to proofread the transcription and email it to you, you can take a quick look, make sure everything's accurate. See if there's anything you want to delete. Before I get that off to the archives.

ES 46:22

Great. Well, thank you. This has been really nice to share with you.

KJ 46:26

Thank you for your time, Eric. [recording stopped]