

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Location: Main Meeting at Inver Hills Community College, Room HH203, Inver Grove Heights with video-conferencing site at St. Cloud State University and Lake Superior College in Duluth.

Facilitator: Anne Losby

Task force members in attendance: Steve Cawley, Brent Christensen, Tom Garrison (Andrea Casselton substituted at 11:00 a.m.), Jack Geller, Barb Gervais, John Gibbs, JoAnne Johnson, Jack Ries for Gopal Khanna, Rick King, Dan McElroy and Bob Isaacson, Mike O'Connor, Kim Ross, Vijay Sethi, Dick Sjoberg, John Stanoch, Chris Swanson, Craig Taylor, Mary Ellen Wells, Peg Werner, Cindy Kevern for Robyn West and Alberto Quintela for Glenn Wilson

Replacements:

Jack Ries for Gopal Khanna

Bob Isaacson for Dan McElroy for a portion of the meeting.

Cindy Kevern for Robyn West (Director of Information Services, Anoka County, 763-323-5368, cindy.kevern@co.anoka.mn.us)

Alberto Quintela for Glenn Wilson (morning)

Tim Lovaasen is unavailable today

Public attendees: Steven Mulder, Joe Schindler, Maureen Ideker, Stuart Speedie, Eduard Michel, Ann Treacy

Staff in attendance: Shirley Walz from Thomson Reuters; Diane Wells from the MN Department of Commerce.

Opening comments; review meeting agenda – Rick King

The meeting was called to order at 9:35 a.m.

Rick King asked for a motion to approve the agenda. Motion made and seconded. Agenda approved.

Rick King indicated that the next thing on the agenda is the approval of the minutes from the February 20, 2009 meeting. Any comments or further discussion? A motion was made and seconded. The minutes from February 20, 2009 were approved.

Rick King indicated that we were to hear from Commissioner Dan McElroy at this point about the status of some of the stimulus package information but he isn't here yet. Rick went on to indicate that two documents were sent out to the task force a couple days ago. In that email was a letter from the Governor to the U.S. Secretary of Commerce-designate and also a Congressional Research Report. The main thing here is that the state is like most other states trying to figure out how to deal with that and Rick said he is only bringing that up because it may be an item of interest here but not something to spend much more time on today. In addition to the letter and the proposal which says that DEED and Commerce will be the agencies to work on this, we obviously have DEED and Commerce as part of this group. There has been legislation that has been introduced into the house and the senate with the Department of

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Commerce mentioned specifically as being the agency that would take stimulus money in the broadband and energy areas and specifically talks about broadband money putting it under the Department of Commerce and the commissioner to develop a plan. If you have not seen the bill it is HF 1914 and the senate version of the same thing is SF69. Rick indicated that he is reporting on this just to give you an idea that the state is moving on these things.

Rick indicated that on behalf of the task force he has also signaled to the state that we are not taking any further project input on any broadband projects so that is all closed off. The task force has received two or three additional inquiries since we transmitted our original document. We told them we are not collecting them any more so we will send them to those agencies, which for your purposes if someone has one, tell them to send it to Diane Wells as a representative of the Department of Commerce. She can take it and route it to the right place. The only other thing that Rick indicated that he has heard about this that could impact the task force at some point is that Commerce or DEED could come back and want some involvement from this group in terms of actually looking at projects, not just listing them like we did. Now that has not been asked of us to date and his position is that it is not part of our charge, so the agencies would have to be explicit to us in terms of what they are asking and we would have to know that was legitimate in terms of our authorizing legislation. Rick indicated that he would bring to the group and we would see what we could do about that. He said he is only mentioning this because it is something that might come up. He is not advocating for or against, but saying this could happen. He welcomes any views that people have about that, but doesn't think we need to have a lot of discussion. He doesn't think at this point we are being asked anything. If the group thinks we should advocate for it that's fine; if the groups thinks we should run from it, that's ok too. The group does not have to deal with it as a group either we can suggest other mechanisms.

Tom Garrison noted for the record, and if it would be of relevance to Commerce or DEED, in a couple other states, NM, VA, and he believes NY, are attempting to take a rather coordinated state approach to their projects. Tom said he has no idea how they are organized, but that might be useful to those agencies to know how those states are going about this. Tom agreed with Rick that it is not explicitly part of our charge, but maybe there are some representatives from this group that represent the different viewpoints that could help. We will be hard pressed to deliver on what we do have as our charge.

Jack Geller echoed Tom's comments that it is not our charge, but we are a child of the legislature and if they see fit, our charge can be modified by them. Jack also reminded everyone that when the legislature created this body, the financial note was zero, plus or minus zero. This could be a little bit of a piling on and we have to remind people we are coming here and traveling from whatever distances on our own dime because we care about this. Enough said.

Rick King asked for additional comments. No comments.

Rick King announced the substitute list. Jack Ries for Gopal Khanna. Bob Isaacson for Dan McElroy with Dan here part of the time. Bob will be speaking on part of the issues after lunch Cindy Kevern is here for Robyn West. Tim Lovaasen is unavailable today. Andrea Casselton is going to sit in for Tom Garrison at 11:00 a.m. Alberto Quintela is here for Glenn Wilson and he spoke to us at one of our earlier meetings and he is from the legal area of the Department of Commerce.

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



John Stanoch indicated at the risk of going backwards on the agenda, he had one thought on the legislation that Commissioner McElroy circulated that talked about deployment of broadband. John said he would encourage the state and also throw out the issue that in the stimulus package in addition to the dollars for broadband deployment there are separate categories of money for competitive grants for innovative programs to encourage sustainable adoption of broadband service, competitive grants for expanding computer center capacity including community colleges and public libraries and he would hope that as part of Minnesota's response the state would not overlook the possibility of going for only deployment dollars, but also tap into additional funds.

Rick King indicated that there are also funds that relate to mapping in another category. Rick then asked for other comments. He indicated that he won't go over other correspondence because what he has received since the last meeting are duplicates of previous comments received. Rick did get a note from Dick that he wanted to speak about a couple items and then we'll go for public comments.

Dick Sjoberg noted that one of his concerns was on the task force's website where we are accepting things for posting, white papers and so forth. We need a mechanism to at least put in who submitted and who they are representing, so the reader as they go through this knows where it is coming from and so that the reader does not get the idea that the task force has vetted all of the information and approved it.

Rick King asked for comments. There were no comments and Rick indicated that he thinks it is something that we can do and does not see a problem with that. We also won't post an item on the website unless it comes from a task force member or staff.

Staff took as an action item to post along with the requested item, the name of the person who is asking that the item be posted.

Dick Sjoberg stated that his second point is that we are fairly far along in our process and we have not made any definitions on ultra high speed, what is broadband in general and what is unserved and underserved. We need definitions as our foundation for the rest of the report so he would encourage people to think about so we can get consensus.

Rick King asked for public comments. There were none.

Rick King called on Mary Ellen Wells to introduce the health care panel and thanked Mary Ellen Wells for her work on this.

Mary Ellen Wells asked the panel to come up to the front of the room. We want to have the focus and the time and energy here today on making sure the task force and general public has an understanding and an across the board awareness of how ultra high-speed broadband can make a difference throughout the whole state and see that healthcare has a lot of potential where we will see a return on investment in the widespread distribution of this technology. What we have assembled today is a sampling of people who have a wealth of knowledge about the real life applications. Hopefully you'll see even greater potential as we follow through on our task at hand and keep in mind these kinds of applications that will change the face of health

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



care. Mary Ellen then introduced the speakers and directed the task force to the handout for detailed background on each speaker.

Background information on each speaker from handout:

Karen Welle – Assistant director of the Office of Rural Health and Primary Care in the Minnesota Department of Health since 1998. In this role, she provides general leadership and policy direction to Office, and has a program focus on communications and health information technology projects and resources. Karen holds a BA in Occupational Therapy from the College of St. Catherine, and a Masters of Arts in Public Administration from Hamline University.

Maureen Ideker, MBA, BSN, RN – For the past 15 years, Ms. Ideker has been involved in collaborative efforts in rural West Central Minnesota to enable the use of e-health technologies. These included telemedicine, telehomecare, telepharmacy, home monitoring, as well as the implementation of the shared electronic health record in hospital, rural clinic and pharmacy settings. She has influenced third party payment for telemedicine as well as rules and standards for its use through involvement and leadership with the MN Telehealth Network, formerly the Fairview University of MN Telehealth Network. Ms. Ideker directed federal and state grants for pioneering these e-health technologies in rural settings. Currently, she is the Associate Administrator of Care Management/Chief Nursing Officer at Rice Memorial Hospital in Willmar, MN. Her work experience includes hospital bedside and nurse executive roles with an emphasis on rural MN. Ms. Ideker currently serves on the Minnesota e-Health Record Implementation Task Force, the e-Prescribing Work Group, and the MHA Patient Safety Registry & Advisory Council.

Steven Mulder, MD – Currently an emergency physician and the director of Quality and Clinical Services at Hutchinson Area Health Care, Dr. Mulder is a family physician who practiced several years as a rural primary care provider. Dr. Mulder is committed to rural healthcare and on improving quality, serving as the Chair of the MHA Safety Committee.

Dr. Eduard Michel – is the medical director of Virtual Radiologic and is one of the co-founders of the company. Prior to joining Virtual Radiologic, he was engaged in a private neuroradiology practice in Minneapolis and a clinical assistant professor of radiology at the University of Minnesota. Dr. Michel has a CAQ in neuroradiology from the American Board of Radiology. He received his bachelor of science and doctor of medicine degrees from the University of Minnesota, where he completed training in diagnostic radiology and neuroradiology. He has co-authored three book chapters and more than 20 peer-reviewed articles and presented more than 45 scientific seminars at medical conferences around the world.

Stuart M. Speedie, Ph.D. – Professor of Health Informatics, a Fellow in Minnesota's Institute for Health Informatics and Director of Graduate Studies in Health Informatics at the University of Minnesota Medical School. He holds a B.S. in Computer Science and a Ph.D. in Educational Research from Purdue University and is a Fellow in the American College of Medical Informatics. He was the principal investigator on a long running grant from the Office for Advancement of Telehealth to establish and evaluate the Fairview-University Telemedicine Network. He is currently an advisor to the Minnesota Telehealth Network, the Great Plains Telehealth Resource and Assistance Center, and the FCC funded Minnesota Broadband Initiative for Telehealth. He is a member of the ATA policy committee and has co-authored several policy papers for the group. Dr. Speedie particularly interested in the intersection of

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



telehealth and health information technology. He has worked on several projects to extend the reach of telemedicine into the home that involve home videoconferencing, the internet and home monitoring. His research interests focus on the outcomes of employing information technologies such as these – patient well-being, financial costs and benefits, and impact on the providers of care.

Mark Schmidt – Joined via Videoconferencing - Currently the CIO of SISU Medical Systems, with over 30 years of information technology experience. For the past 25 years, his passion has been creating innovative methodologies for providing quality information technology and staffing to rural healthcare facilities. Influential in the design and creation of the original Miller-Dwan Shared Data Center which was started in 1982. Instrumental in the design and creation of SISU Medical Systems. Strong technical background, knowledgeable in healthcare technology. Graduate of University of Minnesota, Duluth with a B.S. in Computer Science and minor in Math.

Also here today is Joe Schindler, who has represented health care on the task force while Mary Ellen was out on temporary leave.

Mary Ellen Wells directed the task force to the presentation that they had in their packets.

[Health Care Panel Presentations](#) (PowerPoint for all panelists is in this one file.)

Mary Ellen Wells indicated that Dr. Speedie will give background and the basics or 101 of telehealth and then we'll give you some real life applications of telehealth and then talk about the return on investment and what are some barriers and opportunities to keep in mind as we move forward with our recommendations.

Stuart M. Speedie, Ph.D. presented

Rick King asked if there are medical professionals on both sides of the transaction so it seems like there are more people, so is the fee split somehow?

Mary Ellen Wells indicated that this is not actually a physician; the patient is there with a nurse.

Mike O'Connor said that this is a question for all of you are as we are going through the presentations: we are interested in knowing how fast each of these connections needs to be.

Mary Ellen Wells indicated that they are going to get into that.

John Stanoch asked whether there was a sense on whether the savings in transport costs are significant enough to know if dollar shifting could occur to support putting in more infrastructure.

Stuart M. Speedie indicated that he was not sure if they had a detailed enough case to say yes or no.

Maureen Ideker said that the issue that they are facing now has to do with program growth, so with that curve balancing in the costs. We are dealing with the costs of set up. The transport costs for corrections are huge.

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Vijay Sethi asked in the corrections area, is it in place in other counties right now?

Maureen Ideker indicated that there is interest but it is not in place. Houston County down in southeastern MN was the most interested. They are going to Winona for their connection.

Stuart M. Speedie noted that TX and AZ are the leaders in the use of telemedicine.

Vijay Sethi said that the reason he brought this up because in his county there is a contract for providing medical assistance to prisoners and if something like this were available then you are going to find there is a very strong interest in rural areas.

Jack Geller stated that what is interesting about this in a traditional medical setting and as most of us as consumers experience, the benefits are all set up towards the non-medical benefits to the provider: they schedule you when they can fit you in, etc. There is not a lot of consideration as to the benefits other than the medical benefits to the consumer patient. Here you spoke of the non-medical benefits, every single one of them was to the consumer: they don't have to drive as far, they have to take less time off of work. But you have to think that if this is to grow and flourish benefits would have to be equitable for the patient and the provider. So what exactly are the non-medical benefits to the provider and why would a bunch of providers want to jump on?

Stuart M. Speedie said that Jack brings up an excellent point. The business case for the provider is less clear. The advantages for providers are that it allows them to serve a larger population base if they want to expand their practice. It also allows them to reduce their facility needs locally, less office space, some personnel reductions. As we bring more and more health care providers on we see more benefit such as in radiology. We are in a situation, in particular for a specialist, where the business case is harder to make. Typically specialists have plenty of patients already, but as we bring more and more health care providers on and we see more benefit, that case will change.

Karen Welle added that you've talked about getting the connections to the patient through the universities and large number of providers. It might generate business down the line and create business as those patients that were served by telehealth will make the drive in for their surgery.

Stuart M. Speedie said that we see there is a better business case for health care systems and organizations like the Fairviews, Allinas, and Mayos versus the individual doctors. In terms of telecommunication needs for telemedicine it works best if you can connect to health care facilities and you can have a dedicated connection versus a pre-negotiated connection. It works best in increasing the connectivity to the homes. How do we get broadband into every home in the state? Secondly you need seamless connectivity; you saw the problems with connectivity this morning with teleconferencing. It is not a simple process yet within the state of Minnesota or anywhere to be able to negotiate a seamless connection between two arbitrary points. That seamless connectivity that allows you to connect any other location to provide telehealth services would be very important for telemedicine. We talked about capacity; a minimum capacity would be what we are working at now for most telehealth which is at least 356 Kbps. We are pushing up to the new high definition technology that is coming out that is about 700 Kbps bi-directional, so a T1 is a minimum. Once doctors use the high definition, they don't want to go back.

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Mike O'Connor said there are two aspects, one is speed and the other is data volume. We have seen there are pricing schemes coming out where there are caps placed on the amount of data that can be transmitted by a user in a month. Are you doing any research in terms of how much information is transmitted per month and what is required to support this?

Stuart M. Speedie said they do not have a good handle on that yet, but we are trying to think of it more in terms of simultaneous connections. Basically what we need coming out of a facility is a minimum of a T1 equivalent connection or 1.5 MB connection to support one telemedicine transaction at a time so if you try to expand that you are increasing that dramatically you are talking 5 – 10 MB. For store and forward applications, the requirements are a lot lower.

Jack Geller asked if that's for live interaction.

Stuart M. Speedie responded that it was for live interaction. For the store and forward the requirements are actually less because you are talking about pushing regular files across the Internet connections.

Mike O'Connor indicated that gets him back to the volume thing which is a full on T1 running full bore transmits a gigantic amount of data, way more than you can imagine. It would be helpful to know in addition to the speed also the quantity of information.

Craig Taylor stated that in addition to the quantity you would probably want to know the bandwidth for the timeframes that are there because people are not always going to be up at 2:00 - 3:30 in the morning. You're going to need know that peak period of bandwidth that is available as well.

Stuart M. Speedie said that one thing that is important in particular when talking about telemedicine and with video you need to have that quality of service available. It may not be the size of the pipe but how dependable are the latency and jitter. What we find also is that audio tends to be the critical factor. People will reject the connection if audio does not work; if video is a little fuzzy that is ok, but audio has to work. The final thing is security of patient data.

Tom Garrison said that he is interested in the whole telesurgery side of things. His understanding of things being done now in St. Paul is where the physician is half a room over doing a robotic surgery. My question is should we be looking for doing that statewide and then you have quite a big benefit and all the things you have listed there that would have to be in place.

Stuart M. Speedie replied that looking at telesurgery puts on a whole new level of demand.

Tom Garrison said that is what we are trying to anticipate.

Stuart M. Speedie said that with remote surgery, you have to have the feedback and move the instrument and that has an impact on the patient you have to feel what that impact is over the distance. We know it is possible and will require a big pipe, but he does not have a number, maybe another panelist might.

Mary Ellen Wells noted that one of the other considerations if you are doing care remotely for telesurgery you need to make sure that care is there and post-operation care is available locally.

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



If it is a complicated case, the post-op care likely isn't there locally. If it is a simple outpatient procedure the sky is the limit and broadband speed will make a difference.

Tom Garrison said he thinks there is some follow up here in that, if the panelists have more information about those kinds of speed required that would be beneficial.

Mary Ellen Wells said that the Navy is actually doing a lot of telesurgery remotely on their air craft carriers.

Stuart M. Speedie had two other points. Security is obvious, you have to protect patient privacy/confidentiality and reliability above what you see in a typical Internet connection. If you are doing live interactive teleconferencing and you lose the connection you've basically lost the care for that patient, so we argue that telemedicine requires a level of reliability in the terms of technology that we are not always seeing today. When we think about broadband network to support telemedicine we have to think about reliability and resiliency of connections that is important for the kinds of interaction that we are talking about.

The second set of slide talks about electronic telepresence. We assume that everyone in the room knows that physicians are supporting the notion of electronic medical records that are disseminated throughout health care facilities. Every doctor's office, nursing home, hospital, every place that takes care of patients has to be able to access medical records. We are putting \$34 billion in this over the next 5 years and one of the things involved with that is the notion of interoperability. With electronic medical records, in order to exchange information you need to be able to get that information. Now you need to be able to transmit from the U of M or from Duluth to Willmar easily and effectively. What he wanted to bring forth to the task force is that this broadband network that we are talking about is critical to that kind of interconnection. What we see as a long term vision for telehealth and telemedicine is an integration of electronic medical records and exchange with the patient. In order to provide the most effective care and support, we need the same kinds of telecommunications requirements – ubiquitous connectivity, true reliability--to support telehealth and electronic medical records as we exchange information between locations.

Rick King had a question about reliability. You've talked about the point to point solutions which dominate most of the transactions today, do we assume it isn't reliable for the non-point to point that go into homes.

Stuart M. Speedie said that most connections have been point to point in the past, but we are moving away from that. Point to point does tend to be more reliable, but they have run into more issues than they care with point to point. It does multiply the problem when you have to traverse multiple networks.

Maureen Ideker, MBA, BSN, RN – Associate Administrator from Willmar, talked about real life applications.

[Health Care Panel Presentations](#)

Steven Mulder, MD - The eICU Solution

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Mary Ellen Wells stated that they are paying about \$2,000 a month for the T1 line, but it pays for itself let alone the patient satisfaction.

Jack Geller asked whether the T1 line that you are paying \$2,000 a month for is just for the eICU. The hospital would have a wide variety of telecommunication needs, but there is not just one pipe, you have a dedicated pipe for the eICU and a dedicated pipe for this and a dedicated pipe for that?

Mary Ellen Wells said that they have multiple T1 lines and they needed to add one more to connect to Sioux Falls.

Rick King asked for confirmation that the T1 is one of those point to point, right?

Steve Mulder noted that in terms of reliability there have been no unscheduled service interruptions.

Jack Ries said that you are talking about the situation today, can you think of the future and what you see happening in some of these areas 2, 3, 5 or even 10 years from now, based upon the changes you see happening so far and where you see this heading. For this task force one of the things we are trying to figure out is what the future is going to look like.

Steve Mulder said that the technology is ahead of the culture. In terms of this, what's not to love, but nurses and physicians don't want someone looking over their shoulder. It's a cultural change. He thinks even talking about the robotic surgery is hard because the hands on stuff is an important part of that patient interaction and treatment. Technologically there is no limit to what we can do, but the medical culture that not only includes the providers but also the patients are going to have trouble catching up. Even with the telemedicine that has been going on, the limitations on it hasn't been the technology but the acceptance.

Mary Ellen Wells said that with some of the technology, some of the limitations have been the speed available on some of the lines.

Stuart M. Speedie responded by thinking about the trends, 3 years ago the eICU was largely an experiment, today it is now an established fact in many organizations and if they don't have it in place they are considering putting it in place. Fairview, Allina, Health Partners, Mayo are making plans to do that now to make that available within their own systems. In terms of growth, this is an explosive area.

Rick King wanted to add to Jack's point. When we go to this telesurgery notion it is clear that it is going to a dedicated facility so you will have point to point and you can do that today, it's highly reliable. The home monitoring and whatever else would be envisioned for the home would be of great interest to us. Because we need to think about what kinds of demands are going to be put on the type of service that is available to the home. The group has discussed a lot of laying out minimal speeds, universal access, in terms that everyone is served and those are things that this task force will discuss and address in its final report in order to think about service to everybody in terms of fairness and all. But when you come to what does broadband service mean and how much is it going to take in the future to handle applications that are important to people and to actually keep them from clogging up different forms of transportation, the health care world is a big driver, maybe almost the biggest driver of the bandwidth. There is

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



entertainment, there's education, but this one is highly critical. So whatever you can do to think about this would be helpful. Tom mentioned telesurgery, but that is point to point, although that doesn't mean we can't do it through the indirect method. But the homes, help us think about the homes and what this is going to be in the next 15 or 20 years and the kinds of services. You might not be able to say the kinds of speed, but if you can say the kind of data that you would envision, the kind of simultaneous usage, like those six screens in that example, hearing you describe those six screens we can all envision the type of data that you need. When you say high speed video we know what that means, but if you can describe those characteristics from a health point of view we can envision the speed and that will help us decide if we need to set a minimum that goes beyond the current FCC definition of minimum for broadband. The group isn't sure about that and there are different views and applications will likely drive that view and this application is of great interest in that regard.

Mark Schmidt from SISU said that when we go back and talk about Hutchinson we have multiple T1s. In a perfect world we would have a network much like the Internet where we would jump on once and we can go anywhere. The problem with the Internet is that we can't control it; we can't control the quality of service that is on it. It is just not a reliable mechanism for health care, but the way it functions is perfect. Having one connection to it, now you can go anywhere. As a result of the unreliability of it, we are stuck with building our own networks which is why you are seeing the point to points but those have inherent unreliability as well if a point to point goes down, which they do go down, we are out of luck. We are at the next stage of how do we build resilient point to point technology so we can have the data go multiple routes, when in reality it'd be nice if we had a second infrastructure much like the Internet that we can control the quality of service when the data is going multiple directions, multiple ways if one point goes down it will go a different route just like the Internet. That is the kind of functionality we need and we need it in high speed applications with quality of service. Today we are not there, we are building it. We are building it with point to point circuits and it's not the most cost effective way to do it but it is the only way we have right now. If you extrapolate and go to the homes we will have the same issues. How are you going to ensure reliability? Hopefully there will be enough bandwidth and it won't be an issue. He is using the term quality of service and that may not be clear to everyone. Quality of service is a technical term for guaranteeing that certain information is going to get across the circuit in time; it's a prioritization of the data traffic across the circuit.

Jack Geller asked if it is a single dedicated point to point, is the assumption that there is no redundancy there if it goes down.

Mark Schmidt replied that there is no redundancy unless you have built it in by creating a second path for the data with another point to point or some other mechanism. You have to deliberately build the redundant environment. In some cases we have done that with SISU with some our sites by either using the Internet as a backup. In most cases where we have resiliency and redundancy we have used multiple T1s or maybe we have a 10 MB pipe as our primary path and a T1 going a different route. In the rural areas it is hard to get the resiliency that you need because most of the communications coming into those towns is coming through a central point and it comes in and out of that central path and there is not a lot of resiliency in these rural areas.

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Mary Ellen Wells said that if you recall from last month, the representative from Cook County talked about the one T1 line coming in and out along highway 61 on the North Shore and that's it.

Jack Geller replied that the guy from Scott County at the last meeting said that they are spending an enormous amount of time in planning to ensure redundancy and if we can't route information this way we can route it that way and he is not dealing with functions as critical as what you are talking about.

Mark Schmidt said that we do consider that and we build that in whenever possible, but where your committee is so important is that in a number of towns our hands are tied: we only have so many paths into that town and usually it's one. If that path goes down we are dead in the water. The second point he made is that we can build that resiliency in; but if it's only us using those circuits, is that the best way to build the model going forward? In my mind, maybe it should be another Internet type where everyone can use the bandwidth that is secure with a quality of service type methodology. Otherwise we are building the same stuff over and over again. SISU will have to build resiliency for its functions, another site will build resiliency for its functions, etc. He just thinks there has to be a better way of doing it.

Steve Cawley stated that is the same problem that higher education faced 10 years ago with the learning network of Minnesota. It connects all public higher education campuses in the state. If you go back 14 years it was all about point to point and all ITV. Today, it's a WAN that supports all Internet protocol traffic for all the MN State Universities. It's a private Internet and then we ride on top of that quality of service. It is a problem, he would echo the concern. The issue in the economy of scale between MNSCU, the state government, is we clearly have economy of scale and we can contract with 50 to 60 telecommunication providers to make the network work and acquire fiber where we can and pull that together. Ideally we would not have to do that. Ideally we would have a mature Internet situation where you would not have to worry about that. Steve agrees that quality of service is about a protocol and that is with tons of bandwidth. The network engineers will tell you there is no way to do quality of service and their favorite way to do it is add tons of bandwidth and that is the most reliable way to do quality of service, to have 3 to 4 times the bandwidth that you need. The bandwidth allows the applications or drives the applications.

Mark Schmidt said that is a very good point.

Jack Geller said that if he is following, and he knows where all those campuses are and some of them are in every bit a remote location as these hospitals are and so somehow by putting all those MNSCU, U of M systems together in a network you were able to find that economy, are you somehow implying that if in fact all the healthcare facilities were able to come together in a similar fashion then the distant and remoteness would not just be one point of failure.

Steve Cawley said just as a point, in 2001 state senator Steve Kelley had legislation in place that was going to move health care in general into the learning network to bring it into the subsidized support model. At that point he believed that was the way to just start health care and get it on par with the rural higher institutions, but the legislation failed.

Mary Ellen Wells stated that she testified for Sen. Steve Kelley. We tried to connect using the T1 lines out to remote sites like Long Prairie, Wheaton, all kinds of different locations. We tried

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



to jump on through the education funded bandwidth but could not because there was legislation that prohibited us from doing it. It was supposed to be used for education not telehealth care, not for business. So we shot ourselves in the foot, Steve Kelley was ahead of his time in that regard.

The Task Force took a 10 minute break.

Mary Ellen Wells introduced Karen Welle.

Karen Welle – Assistant director of the Office of Rural Health and Primary Care in the Minnesota Department of Health

The charge we have is to maintain access to health care for rural facilities and look toward the future and what we are trying to do. We have to leverage the resources that are out there and not create this crazy redundancy all over and these point to point networks. The rural hospital and facilities have to get technologically connected because there is an aging population and there are not enough health care workers. We just want to keep primary care in these facilities. Connecting us to specialists is great but we need to maintain primary health care. Technology and connection to resources through broadband is critical and it needs to be thought of as a whole. If we do not get a connection, we are at risk.

Jack Geller asked when you are looking at all the applications in terms of telehealth and then you look at the subset that deals with live patient at one end and a provider at another end, how big is that piece? You hear about electronic medical records and a lot of telehealth applications that do not deal with people of both ends. Is the live interactive part a small part, or is that growing, because the non-live interactive part seems to be growing so much.

Karen Welle responded that they both are really important. The electronic health record exchange supports telehealth and that point to point, provider to patient interaction. Probably the area where that is most important is the mental health area and that is where there is a shortage of professionals.

Jack Geller said if that is the most important part, unless mental health providers have new tools that he is not aware of, then you are really talking about videoconferencing.

Karen Welle said that you need reliability that is really important for their care. As soon as you have multiple transactions going on and you are exchanging electronic health care records, if we are really going to go there and make it work in the future then we have to think big enough to include the videoconferencing connections that are multiple as well as the data exchange and radiology.

Mark Ellen Wells indicated that, as you saw in Maureen's slides, you have 700 patient connections and that does not include teleradiology so you can see that it is probably at least 3 to 1.

Maureen Ideker added that one more thing to say is that rural health care providers do not have a lot of resources anyway to go through the politics and we should not be reinventing something that is already there. It's a bunch a rural health care providers, they need support, they need to be part of a bigger structure.

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Karen Welle said to be able to have some way of connecting into existing services; they do not have the capacity. It's just a bunch of rural health care providers trying to talk about telecommunication, they need support and to be part of a bigger structure.

Mike O'Connor said that one thing that came out earlier was that the eICU was not charging anyone for broadband because they were making so much money on the deal.

Mary Ellen Wells replied that a patient that is being cared for in a bed in Hutchinson and they get reimbursed by Medicare, whether the patients stays 1 day or 10 days we have a DRG payment, it does not go up. We cannot charge for that use of the broadband as part of the charge.

Mike O'Connor indicated that is not where he was going with his question. You provided stats that said you are bringing in more patients so you are bringing in more revenue. You are bringing in sicker patients so you can probably charge more for complicated stuff and that is enabled by the technology but you don't charge for the technology. There are other examples of technology or services and that makes you money and subsidizes the stuff that makes money. So can't you do the stuff that makes money and use that to pay for the connection.

Dr. Eduard Michel – Medical Director of Virtual Radiologic

Eduard Michel said his focus is on the public Internet. The idea came to him 12 years ago but the only reliable connection was a T1 point to point. So he had to put the business idea on hold until the public Internet developed. It has developed now to the point that the radiologist isn't in the hospital but can work from home. The need arose from the shortage of radiologists. By 2020 there will be a deficit of 15,000 radiologists. In the majority of small cities and rural areas the average age of a radiologist is 62.5 years. People would like to retire, but can't because there is no one to replace them. They can read a certain number of cases in their area, but not an expert in all areas. There has been a high degree of demand on radiologists. His company, Virtual Radiologic, serves about 20% of the hospitals. They are in a distributed network. They live where they want to and work from their home office. They depend upon the public Internet. Hospitals have connections to the Internet. It may be a DSL, T1 or cable modem; it depends on volume. Some small hospitals only send at night. They have trauma hospitals that may send hundreds of images a night. The hospitals' connections are not used exclusively for them.

When dealing with mission critical issues, you need reliability. We are connected with 4 of the Internet service providers and have four 100 MB pipes. If they notice a slowdown in Chicago, they can re-route the traffic. From their data centers in Minnetonka and Minneapolis, it goes back on the Internet to the individual radiologists who live anywhere from Australia to the Far East. The individual radiologists all have redundant connections to the Internet. We are dealing with mission critical data. For example, with stroke cases, we give the facility information back within about 20 minutes. For some hospitals that have their own radiologists, the turn around is 4 to 6 hours. We can't do that because we service hospitals that need immediate feedback.

As an example of what we do, a CatScan of the brain has about 100 images each. Those take the longest to transmit.

Jack Geller said that each image is about ½ MB and they come as a package?

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



DICOM Transmission is the protocol on how the images are transferred.

Mr. Michel was questioned about how his company pays for the infrastructure. He replied that there are two payments made, one for the technical part that goes to the facility and part of the payment goes to the radiologist for reading.

Virtual Radiologic has about 400 GB for medical information across the network every 24 hours. Teleradiology has become a national necessity. His company provides the information faster than the doctor that has been up and working.

Rick King asked how large the company is in terms of its revenues.

Eduard Michel replied that they are a public company and have revenue over \$100 million.

Mary Ellen Wells asked how many radiologists they have.

Eduard Michel said they have 140 radiologists.

Rick King stated that he thinks this is a fascinating Minnesota company, so keep growing.

Mike O'Connor said that it is very helpful to know that 400 GB a day is big, especially in this era of emerging caps on quantity. The speeds that you are talking about are not very remarkable, but the amount of data that you transmit in a day across even a small connection gets pretty big and as long as you think of the Internet as just a consumer service for gamers and e-mail, then when you put caps on it we are not going to be able to deliver the kinds of data you are talking about. It would be helpful to hear other stories of the size.

Dan McElroy said that most of the discussion so far has been about the hospital needs. Are there also medical clinics in communities that do not have hospitals that also have needs that we should be thinking about? Are all your customers' hospitals or are some of them clinics?

Eduard Michel replied that most are hospitals.

Dan McElroy said that he is hearing that a fair amount of your demand is at night where there may be hospitals that do not have radiologists at night. Is that changing? Are we seeing facilities that do not have radiologist at all and may rely on teleradiology 24 x 7?

Eduard Michel said that it isn't always feasible to not have a radiologist. For some procedures you need a radiologist on site. There may be some small hospitals that have a radiologist on site one day a week.

Dan McElroy said that in other areas of medicine we see some advanced training by nurses. Is that happening in radiology also?

Eduard Michel responded that some procedures are being done by radiologist assistants.

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Jack Geller said that with 400 GB in 24 hours you are a high end user. With that being said, what are your concerns about the telecommunications infrastructure. What are your concerns now (you didn't mention any) and that you may have about the future.

Eduard Michel said that as far as technical reliability, he has not seen any signs to cause him to worry about the current state. With Internet2, it should be getting better. He would have concerns over limiting the amount of downloadable information.

Jack Geller asked if there are any health care facilities that want to use your service and they can't because they cannot move things fast enough based on their connection.

Eduard Michel said that in general, they can get the connectivity that they need and it may cost them more.

John Stanoch had a statement regarding the facility that Virtual Radiologic has in Minnetonka. You said that you have 4 private companies that provide you with what you need today. We have a real disparity with what is available in rural Minnesota.

Mary Ellen Wells indicated that there is one more speaker, Mark Schmidt from SISU. SISU is a Finnish word that means determination and perseverance.

Maureen Ideker had a comment on return on investment and the viability of the rural community. It is important to keep as much care in the rural communities and telehealth and telemedicine can make that happen. The slides will give you the actual detail of what is generated. Because remember she talked about the congestive heart failure (CHF) and the person that ends up in the hospital. Maintaining CHF costs \$4500 a month and 2/3 of all long term care residents are being supported by medical assistance. Maureen then turned it over to Mark.

Mark Schmidt – CIO of SISU Medical Systems

Most sites have a 10 MB connection coming into SISU. For current /future broadband opportunities, we are into bedside medication, having the patients' record online, which means if the WAN goes down it's a real problem for the site. They have to have access to those records. We've reached the second phase of the WAN so that we build a much more resilient network in place but it is not always possible. We can only mitigate a portion. He is hoping that Minnesota comes up with a grander plan so that we have more resilient networks. It makes sense that we overhaul the infrastructure. We need to come up with a plan that serves us well into the future. If we do not look at the resiliency, he is concerned that we will miss the mark.

Mike O'Connor asked what the network of the future should look like, what do the attributes look like?

Mark Schmidt said that it is difficult to mitigate all failure points in a WAN. You could bring in two communication paths, but they'll go into the same telephone company. His point is that it is not that we will be able to mitigate all of the failure points, but we need to have relevancy, high bandwidth, quality of services, being able to offer high bandwidth so we can get the data through, are the main features. We should not have to do a lot of duplication. If you look at telecommunications in the old days, most of the hospitals did have their own T1 lines. Having

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



one big network and sharing the same network is better. Maybe build something like MNSCU or like the Internet except much more secure, much more robust.

Dick Sjoberg stated as an observation when you see outage, how much of the time is that on the network inside or outside of your building, or operator error.

Mark Schmidt said he does not have specific figures that he can give. Here in the past at the SISU data center we experienced outages back in 2006 and those were pretty serious so the last 2 years have been spent mitigating those types of failures. They've put in all new power, all new cooling, they have two high end storage networks where they snap images of their data. They have mitigated their end in regards to the data center by working collaboratively. It's the WAN that they are focusing on to try and build in resiliency as sites start moving into the advanced clinical application. In terms of the number of failures, we are as rock solid as we can be from a data center perspective so most of our failures are in the WAN when we have them and it is up and down on which sites might get hit with a failure at any given time. Hutchinson, as an example, has 4 T1's coming up to SISU; Moose Lake has a 10 MB pipe plus a T1 so they'll automatically fail over. But there are some towns that they can't do this with, because everything is riding on the same fiber. It is difficult to get resiliency into those towns.

Mary Ellen Wells said that for Hutchinson all the T1 lines come into one point and one time they were out for about 8 hours and one time for 20 minutes.

Mark Schmidt added that is a killer with the applications they are running.

Dan McElroy said that we've heard how Virtual Radiologic operates over the Internet with redundant connections to the Internet. He asked whether you are ruling out the hospitals that they could use the Internet.

Mark Schmidt said that in some cases we can use the Internet and there are differences in the types of applications with radiology and client service. We have low latency. In some cases they can start reading while others are being sent. While the Internet will work in most cases, it is not reliable to run the whole business off of.

Jack Geller said that Mike had made the point that it's not so much how we build for this individual, but just the cost of doing business. You get paid a lump sum DRG payment, you don't try to figure out well, our electricity costs are higher here or telephone cost or we are in the northern part of the state, you just build the infrastructure costs in. Jack said he is kind of struggling as it seems there is a reluctance to just say we just build those costs in. We are going to try and say it's just like electricity, but somehow you are suggesting this is different.

Mary Ellen Wells replied that some of it is economies of scale. We do not have enough consistent volume to justify the cost of \$2,000 a month. It's really a case by case.

Mark Schmidt said that it's only going to get worse. Today we are dealing with T1s and have already surpassed and have multiple T1s of data. It won't be long where we are going to be looking at DS3s as being the standard for communications and that is going to be that much more expensive for those facilities and trying to operate that technology in a WAN. I'm guessing the DRG's don't take that into account.

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Maureen Ideker said that the infrastructure in Minnesota does not even exist at this point. Solving it is one thing and getting the connection put together and across the board is another and then come up with the money to pay for. That is the reality and why we need to consider infrastructure on a statewide basis not just a band aid approach.

Stuart M. Speedie said that it's been piecemeal to date and teleradiology and telecommunications is one of those fundamental things we just have to roll in.

Jack Geller asked with this point to point business, is it possible that when you have the patient in an ICU room there is lots of different information that you need, some is the clinical information that you have in the room and part of the medical record. He is wondering if it is possible that the point to point connection is not going to be enough to provide all the information because it is piecemeal. Some information will come from the Internet, some from point to point, some from wherever. That's not a pretty picture if that's where you see it going.

Maureen Ideker said that even if it is piecemeal, it is better than coming from different places and by paper. There are many connections, St. Cloud depending on Duluth, etc.

Rick King indicated that he thinks that it is time that we wrap up. It's been a very useful panel. Thank you for the time you took to be here for those still in the room. Thanks to Mary Ellen for putting together a really good program. Let's take 30 minutes.

Break for lunch

Bob Isaacson – Economic Development Factors Related to Broadband Penetration

Rick King turned it over to DEED commissioner Dan McElroy

Dan McElroy introduced Bob Isaacson, an economic analyst at DEED. He directs a group called CAR which is Communications Analysis and Research division. What we asked Bob to do was take the data from Connect MN and map the correlations with other data that we had, there are six to eight other data points.

[Minnesota: Connecting Broadband to Performance](#)

Dan McElroy noted for the job growth maps that the two smaller dots are actually a loss, the larger dots are a gain.

Jack Geller asked if you were going to do that map today and you were going to pick a different timeline, a timeframe before there was broadband and you were just going to look at job growth, do you think the dot patterns would be different.

Bob Isaacson replied that one of the things he wants to do on the Gunflint Trail is other overlays.

Jack Geller stated that there are certainly some parts of Minnesota and rural Minnesota that are disadvantaged and job growth is slow and there also happens to be places where there is broadband and job growth is slower.

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Rick King added that a couple of those biggest triangles are right in the middle of areas unserved by broadband. For one example it actually looks like it is Red Lake. Rick King asked if the job growth is a boat business

Dan McElroy said that is a good example. Bemidji has had a lot on entrepreneurial growth for a variety of reasons. Some of these counties are bigger than Connecticut.

Mike O'Connor asked if the data get more granular than the county level. One of the problems with the broadband map is the way they are constructed, you can make a whole county one speed when in reality there are a couple of towns that have good stuff and then a great big area that doesn't have anything. It would be great in the next round of legislation to get the broadband maps more granular. If that were to happen, your economic data may be able to go more granular. Are they going to publish at that level?

Brent Christensen said that the legislation that got the mapping project underway only called for the data to be at the county level. So that is all they are reporting, but they went further.

Mike O'Connor indicated he found the website hard to get to. Could we extract the maps and use the extracted maps to get to that data.

John Gibbs said it is the overlay that makes it hard.

Bob Isaacson indicated that Connect MN did all the maps in partnership with DEED for today's presentation.

Rick King added that we agreed on data exchange between the state and Connect Minnesota to get to this so if we say what we want to the extent they have it, they are doing this for us.

Bob Isaacson said that for right now, Connect Minnesota wanted to stay at the county level until they get the flavor of where we want to go.

Brent Christensen said that you are able to take an address and plug it into their website and get a listing of all the providers.

Mike O'Connor said it would be nice if we could get even one county and crunch it down to the census track level and do this overlay so that we can see the speed across the county.

Rick King asked that we let Bob show what he has done and then get to the details and give him ideas.

Bob Isaacson noted that Connect Minnesota has been very cooperative to work with. He returned to his presentation.

There was discussion of what the next steps could be with Connect MN.

Rick King indicated he had a couple areas of interest or focus. One is if we could come up with a couple of profiles of counties that are reasonably well penetrated and not well penetrated and dig down. Second, he would like to see particularly Grand Rapids, Mankato, and Fergus Falls and isolate them and get down to a granular level with them. He would like to do this because

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



we are going there. For a real penetrated place, what is driving it. That would be useful. All the newest ones that you have. Is there a piece about housing value?

Bob Isaacson said absolutely, he can get that.

Rick King said that some of the studies talk about broadband contributing to jobs or income. There is some talk about the value of housing is higher if there is broadband available.

John Stanoch had a comment that was not so much a data collection issue but to getting a more refined view. One issue that comes up with economic development people is the notion that there are businesses out there wanting to expand but don't because there isn't sufficient broadband. When this comes up, we ask if they've talked to the local telephone or Cable Company. DEED does such a nice job working with businesses. It is a fairly modest request to add in terms of economic development that there may be a contact that can reach out to the provider community and we could sit down.

Dan McElroy commended John on his good timing. They are working on updating a website and asking communities to identify if broadband is available. Now we want it to be more specific. Some communities are great and list providers and speed. Other communities have been more of a problem. One community was last updated in 1999. The contact information for the community is on the page. Some of you providers may get calls due to this update and that would be a good thing.

John Stanoch said it would be bad to lose a business because of bad communications with a provider. He would also suggest that he is not sure there is a correlation of consumers buying the highest speed having the highest incomes. You may see those with more modest incomes having higher take rates for the highest speeds.

John Gibbs said his company is betting on speed. Comcast's fastest investment in all of its 38 states is in Minnesota. They have offered 50 Mbps down and 5 Mbps up and the speed availability and capacity exceeds demand.

JoAnne Johnson said that she wants to suggest to this agency and the Department of Commerce that while we think we have mapping done, what we did is a first step. She would suggest that we take a run at the federal money to take this down to the next level.

Peg Werner said that the map does not show layers. You don't see broadband by type, such as just fiber, just cable, just DSL, just wireless.

John Gibbs agreed we need to take the map to the next level.

JoAnne Johnson noted that whatever the highest level was, that is the color.

Mike O'Connor said that he is in the same group. We've all had a chance to think about and we all want to see this data a different way. The Connect MN data goes to the census data.

Rick King said that we can ask them to.

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Mike O'Connor said he would like to be able to say, give me six maps at the census track level of each type of service. Going back to the economic development area and if you are a business and trying to decide upon a location, it would be nice to have the information at a census track level. How can we get what we need and then to JoAnne's point do the next one even better? Maybe the avenue to do this is through Bob's office.

Jack Geller said it may violate the nondisclosure agreements that were signed.

JoAnne Johnson said that the information that was provided was very granular, down to the latitude and longitude level. She thinks the maps Minnesota got were what Minnesota was willing to pay for.

John Gibbs said that the granularity of the maps are very accurate.

Diane Wells noted that the map requirements were laid out in the law. The nondisclosure agreements are a part of this but we will get the underlying data with all the carrier information taken off at the end of the contract.

JoAnne Johnson said we should go get some more money for mapping.

Rick King said we can certainly ask Connected Nation and we are well within the boundaries to ask for level two maps and what those should include. We need to go deeper and we could take a position on that and tell Commerce and DEED that they should go after some of the mapping money.

Vijay Sethi said that since the state has contracted with Connected Nation to do mapping, is it possible or worthwhile to go back and determine what the terms of the contract are. It is important to have data to the census block level.

Rick King said that they have told us that at some point they are. They have done all this work with DEED.

Vijay Sethi said that we have tried to get some of this information in the past at a county level. From our perspective it would be very helpful.

Peg Werner said in Fergus Falls it shows we have a lot of stuff. But she lives in the city limits and doesn't have any of this. Why do providers not want to give this out?

Rick King replied that Connected Nation gets data from providers and assure them they are not going to disclose. The maps that Connected Nation provides are based on the aggregate data.

Peg Werner said she understands that but doesn't understand why it is so private and why don't companies want the information to get out.

Jack Geller said it's not so private any more. If you are in an area where you do not have service, there aren't competitors climbing over each other to serve you.

Mike O'Connor said he was watching our two biggest providers' faces and wondering If we took this down to the census track would this be ok with you guys.

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



John Gibbs said that this industry has the strictest privacy laws. The non disclosure agreements are essential because what some of these files contain are customer data and that cannot be disclosed. To your more direct question of what we would provide, he can speak for Comcast and we provide data that is more granular than the census block level and we have no problem having that out.

John Stanoch said that Qwest provided what we feel is very granular. Connected Nation said one of the reasons the maps are so good is the cooperation of providers like Qwest. The market isn't the same as it was five years ago.

Dick Sjoberg said he has just spent 100 hours filling out FCC form 477s that go to the census tract level. That said, the census tracts in the rural areas aren't that helpful. The zip codes for Viking and Warren are different but they are in the same census tract.

John Stanoch stated that some of their folks in DC have indicated that those states that have mapping completed will have either a preference or a limitation.

Jack Geller said he is not sure where Rep. Hilty's bill is going but it calls for an action plan. If you have the data in place, you have a plan; sometimes those things move you to the front of the line.

John Stanoch said that even if you were to take the map we have and say Minnesota wants to see its unserved areas served, that would advance our cause.

Jack Geller had a question for Bob. There is the suggestion that there is this ongoing correlation between communities with a great amount of broadband and greater economic development. He is interested in understanding the chicken and egg. You had a map looking at technology jobs, but just like in agriculture, its value added. Broadband is information added to every industry.

Bob Isaacson said they had to limit the maps that they showed, but you could overlay any industry type.

Craig Taylor asked if they had any data about how broadband is being used at the consumer level.

Jack Geller said that he has some, but it is crude and based on responses as to what broadband is used for.

Mike O'Connor asked if it was your sense that Connected Nation will provide data at the census track level. Let's presume that a miracle happens and we say ok, what would be really helpful is for you to go to your data at the census track level and see what it is and what matching up would do.

Bob Isaacson said that one of the challenges is that most of the census data is 9 years old. We have some city and municipal data but at this point, the current data is at the county level.

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Peg Werner said we all need to be thinking of the end game here. We really have to remember what Gopal said, that 15 years out for the consumer is so different than today.

Brent Christensen said that he is not sure if this is from his talks with them or from their presentation, but Connected Nation said that with the NGAs that they have, they are willing to take the public information and apply to the map. The issue at some point is that they are going to want to get paid. Brent said that he feels very uncomfortable giving anything to any government because if someone asks for it, the government has to turn it over. He thinks Connected Nation has to do the maps.

Mike O'Connor said he doesn't really care which way it goes. He understands the things against Connected Nation in the blogosphere. But what is important to him is to not let the train leave the station without Minnesota getting what it needs. What he cares about is good information for us to make good decisions. It will be a terrible shame if we miss it.

Rick King said he has not heard anyone say further mapping is bad. Here are some steps that can be taken.

Rick King said that the motion would be to transmit a letter to Commerce and DEED supporting the foresight for having the current mapping done and a desire to create a phase two and to be able to manipulate the data more. We would write a letter endorsing the second phase of mapping and seeking federal money for such.

Rick suggested the following language:

At our Ultra High Speed Broadband Task Force meeting Friday, the Task Force unanimously voted to forward the following for your consideration and action.

A resolution was approved to recommend that the State take mapping to the next level. The Task Force believes the state needs to create a phase two mapping project to allow us to further refine our data and to be able to manipulate the data to answer key questions. The Task Force recommends the State seek funds via the federal stimulus money for a second phase of mapping.

We are NOT saying what we have is insufficient or bad, but see the need for taking the next step. We believe we are ahead of many states already with our current mapping and the work of this Task Force. Nonetheless, further work would enhance our ability to deliver on our report and help the State sort out broadband projects, should it need to do so in the future.

John Stanoch reiterated that we are not saying what we have is insufficient or bad, but we are asking for additional mapping

Moved, seconded and approved

Rick King said we will take a 10 minute break. Those that have ideas for the maps can talk with Bob at the break. We'll come back at 5 minutes past 2:00 and finish our last few items.

Break

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Rick King said that there are three tasks left on our list for today and we should be done by 3:00. If you look at your packet, you have the value statements. One of the parts that we had on the agenda is the values and we had what was written before and one of the items that has come up today was definitions. Unserved is one of those things that were talked about. Rick does think that it is kind of interesting that we will get some help in defining and it appears that we are getting definitions from the federal government so maybe we don't need to do that ourselves. Some of those definitions could be part of our writing assignments, which we will talk about. Rick said he is not sure why we called them values, but they are things we think are important and that we want to address in our report. Rick thinks a lot more discussion has to be had and a lot more definition as we move our way toward the report. The month of May, except for 30 minutes for our speaker from One Economy, will be dedicated to writing in smaller groups. To lead into that we'll talk about a writing assignment. We haven't talked about how we'll write, resolving issues, etc. A lot more energy will go into writing in May. Then we'll go out state for our meetings and have regular meetings. and then we come back and have two more meetings dedicated to the report. It's still a tight schedule. and it's not clear to him that we won't have some assignments and additional meetings. We will have some time at our outstate meetings so may be able to do some of that writing work then. After we finish the April meeting, assuming the high tech panel is coming along, we will be on the task of writing. If the high tech panel isn't happening in April, we have the Blandin person that wants to come and speak to us.

Brent Christensen asked if it wouldn't make more sense to have Bernadine Joselyn from Blandin speak to us in Grand Rapids.

Rick King indicated that they had the option and are anxious to speak to us so we've scheduled it for April. So, that is where we are. If there are things that you think we should do in April in the context of what is scheduled then say it now. I'll ask Mike, Steve and John, about the high tech panel and then a couple people wanted to say something.

Mike O'Connor had a list that we lost one person, Robert Stephens and he can no longer make it. Mike said he would go to his office and get him on video. Then we have Mac Lewis who is with the high tech association, he can come on April 24th. We have David Wruck at the Metropolitan Airports Commission. He had the idea to talk with Vint Cerf and Mike is planning to fly out and shoot a video of him. So we will have two video presentation and Mike welcomes questions from the group that he can take with him to ask. So if you want to proceed this way, we can have two interviews by video and two panelists in person. .

John Stanoch said it might also be good to have someone from a fortune 500 company. Didn't we have someone from Thrivent.

Mike O'Connor said he forgot about her.

Dan McElroy said that Thrivent is particularly interesting as they have a large headquarters and have agents in small towns.

John Stanoch noted that we have several large companies headquartered in Minnesota or with large operations here, like NWA/Delta, Thomson Reuters.

Rick King indicated it would be his preference that it would be someone other than him.

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Mike O'Connor is hearing that we will go ahead with this one.

Rick King asked if the group still feels there is value in having the high tech panel.

Chris Swanson asked if we are going away from small business.

Mike O'Connor replied that his charter was high tech.

Chris Swanson said that he would encourage this group to think about small business as 70 to 80% of the jobs are by small business owners. That is his personal preference. Maybe we could look for someone who represents the small business association.

Mike O'Connor said he didn't realize it was in his charter and he will add it.

Rick King said the he thinks we need help with some contacts at small business. We have two hours so maybe one small business rep and one large business rep.

Rick then said that what he was thinking for the writing assignment and some deadline to have some stuff in. Usually when you begin, it's hard to get this started but once you do things really roll. The suggestion is that people write 5 paragraphs, ideally about 5 subjects such as values, defining some terms, it will be somewhat incomplete. Do not be constrained. Give us 5 ideas we can launch from. If we all do that, we have about 100 starters. Some will overlap and conflict, but conflicts can be a source of discussion. If you think about writing five paragraphs, it's not so large of a task. It should be the 5 things you know and care about and the 5 things you want to see in the report and if we get them in by April 17th we can have them compiled by the 24th and you will have the compilation and we will put together the agenda and get some advice from you. We will be switching venues in May. We will be able to put writing up on screens in small groups. It will be a work session and slightly different configuration and we will work on getting things written and homework coming out of May. Laptops, projectors, small tables, logistically we should be able to work out well. No videoconferencing for the April meeting.

Mike O'Connor noted that the outline that was distributed wasn't the most current one.

Rick indicated that we will send out the correct one. Rick asked if everyone was willing to go with five paragraphs. He added that task force members should feel free to write more than five or to go deeper than one paragraph if you get rolling.

Jack Geller wanted to make a case for going back to the value statements because we are clearly not all on the same page, which is fine. This document should reflect those values we can agree on because that will lay out the parameters for the report. If there are values we all agree upon, then the document has to address how we achieve those values we agree on. He said he is not good enough of a facilitator kind of guy to know how to get there.

JoAnne Johnson asked what if someone wants to take that on as their writing assignment.

Peg Werner said that she is not sure that we've seen a shift in anyone's values but she thinks a coming together. She believes that our conversations have given each of us a better understanding of each other's values.

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Jack Geller said that it may be time we turn inward and start having the conversations amongst ourselves. It's been easy to kind of sit and hear from others. Now the heavy lifting is right around this table. He is anxious to get going.

Rick King referred to the values handout and noted that the ones in red we have agreed upon: ubiquity, not one size fits all, focus on demand side and supply side, etc. Quite a few need more discussion. It would be good if someone wanted to take a shot at this in their five paragraphs. He agrees we need to get to the heavy lifting. We could say that we do not want to do the panels in April and start the writing exercise in April.

Brent Christensen agreed or we are going to run out of time.

Jack Geller added that it's not that the April panels wouldn't be of value. We've already committed June, July, and August to going outstate but to try and have time for a regular meeting. That just leaves November and December and may indicate that we have to meet more than once a month then.

Brent Christensen said he would hate to lose April but it does look like we will end up needing to meet more than once a month.

John Stanoch tossed out that what he expects we will hear at the April panel is that if you're a big business you have what you need or can get what you need if you pay for it. If you are a small business, it isn't always there and it can be expensive. If we agree that is in our collective knowledge, we can move on.

Peg Werner said that we have the outstate meetings scheduled until 11:00 am and then we indicated that it was going to be a regular meeting. What was expected that we would do in that regular meeting time other than write?

Rick King agreed that there may be more public that wants to speak so some extra time to meet those needs at the outstate meetings.

Mary Ellen Wells said let's get started writing and if we need more information let's bring in speakers then.

Dan McElroy asked if there is a reason why we cannot do a panel, for example, in Mankato. Mankato has the university and whatever is left over from Midwest Wireless. In Fergus Falls you have Otter Tail and ASI. He likes leaving some time for information follow-up.

Mike O'Connor said that the one thing he would like to do is Vint and Robert as they are visionaries. What we might hear from them is something that we have not heard from others and might help us with some of the way out stuff. Mike will try to steer them away from net neutrality issues. Vint wrote the protocol and is a great thinker. These two folks will give us a perspective that we don't already have and other panelists would be stuff we've heard.

Brent Christensen said we can watch the videos at the meeting since Mike is making them.

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Rick King asked if the task force would like to make the change to the May meeting schedule to look at the videos and then go to the writing. The timeline will be condensed.

JoAnne Johnson noted that the video presentations wouldn't be interactive so there wouldn't be any interruption time to ask questions.

Mike O'Connor agreed that the drawback to doing video is that people will not be able to ask questions. He repeated his earlier request that if anyone has any questions he will take those with and ask. He will also ask Vint and Robert tough questions. Mike believes we have a rare opportunity to do something really cool as a group.

Rick King asked if there were any objections to the change of plans. None. Done.

Mary Ellen Wells asked if it would be helpful if everyone kept the values in mind as they write their paragraphs. She offers that as an alternative to having people write the values section.

Rick King said that he thinks we need to look at the values and talk about them again. It's important to address even if they are not agreed to. Work should be done by the 17th so it can be compiled. So April will be two video interviews and we'll hear from Bernadine Joselyn.

Brent Christensen stated that's why he asked about doing the Blandin presentation in Grand Rapids.

Jack Geller responded that we are going to her area and will hear it again when we are going there.

Rick King said he would talk to Bill Coleman about having Bernadine speak when the task force is in Grand Rapids. We will not do the videoconferencing in April or May. For those that have laptops, plan to bring them for the April and May meetings and if we have more than we need that's great. We probably need about 6 laptops to break into small groups and we'll create things in Word and use to compile and then we can share.

Mike O'Connor said that he would be happy to volunteer to be the scribe of the gigantic document. The tool that he used for the summary of the state reports earlier scales really well.

Rick King asked how that would work.

Mike O'Connor said to imagine stuff going down a hill and that he would catch the stuff and compile it using the tool. To do all of this stuff in a huge Word document is too difficult. This tool will manage the document. We are getting into managing a pretty large document.

Rick King said that would be fine as long as people are able to write easily in groups.

Mike O'Connor said that as people gather stuff, this tool can manage the stuff.

JoAnne Johnson said that Mike can collect the information in a sortable form so that we can pull it back out and edit.

Mary Ellen Wells asked if the task force should be sending its writings to Mike then.

Approved Meeting Minutes
Ultra High Speed Broadband Task Force Meeting
Friday, March 20, 2009
9:30 a.m. to 3:00 p.m.



Rick King said to send Anne the paragraphs and Anne will make sure that Mike has the output when it's ready to be compiled for the tool. We will change the work groups around and you will be able to align yourselves to certain groups and you get to be involved in that.

Rick King wanted to say one more thing about the greater Minnesota meetings and he said it last time but wanted to reiterate. He wants to make sure that we have all of our task force members there. He does not want to see us going there with half the task force. He would like to see a good strong contingent. People from the metro area should show up in greater Minnesota. Do the best you can and show up. If you have a personal conflict for one of those meetings, and Rick understands it is summer, please work hard to get a sub if you can't show up.

Jack Geller said that 218-326-8501 is the phone number for the Sawmill Inn and he has reserved a block of 25 rooms. That is for the first outstate meeting on June 19th so the rooms are reserved for the night of June 18. He was supposed to have a conference call with Bill and Bernadine but it got cancelled due to the snow. They still have to work out some details around the meeting. The details regarding a reception will be left to the local host. Jack agrees that it is important for us to be there and that we want to hear about their broadband concerns and we do that by voting with our feet. Once he has nailed some things down with Bill he will send an e-mail to Rick and all his crew and we'll send that out.

Rick King reminded Jack that we want to have Bernadine speak at the Grand Rapids meeting in June versus April. Does anyone have any questions about the greater Minnesota meetings? About the writing assignment? Any other topics to cover? None.

Meeting adjourned at 2:50 p.m.