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FEDERAL - STATE JOINT CONFERENCE
ON ADVANCED TELECOMMUNICATIONS SERVICES

Anchorage Field Hearing
APRIL 17, 2000
9:00 o'clock a.m.

Z.J. Loussac Library
Anchorage, Alaska

1 P R O C E E D I N G S

2 Tape 1

3 0015

4 (On record - 9:10 a.m.)

5 LT. GOV. ULMER: Ladies and gentlemen, thank you so much
6 for coming this morning. MY name is Fran Ulmer and I'm going
7 to be your moderator today. We have a very full agenda. I
8 assume you've all seen it. We have a number of panels and a
9 number of speakers, and at the end of the day an opportunity
10 for public comment. I hope it is a day in which we all learn
11 something, at least one thing, I suspect many of us will
learn

12 many things today.

13 We are very pleased to be able to welcome to Alaska FCC
14 Commissioner Susan Ness. Susan Ness has visited Alaska on
15 several occasions. And this weekend several of us had the
16 opportunity to go to Kotzebue and really see some of the rest
17 of Alaska beyond Anchorage's borders. And we had an
excellent

18 trip.

19 We'd like to start this morning with giving Susan the
20 opportunity to give a few welcoming remarks. Susan.

21 COMMISSIONER NESS: Thank you very, very much. And it's
a
22 tremendous pleasure to be here with you today. I've had the

23 great opportunity to get to know the Lieutenant Governor over
24 the course of the last couple of years as she has served on a
25 Federal State Local Advisory Council that has helped the FCC

1 work through a lot of very difficult issues involving federal
2 local government, state government issues. And she's been an
3 invaluable resource to us, so we're very appreciative. And
4 it's a wonderful opportunity for me to at least thank her
5 publicly for her service.

6 I also would like to take the opportunity to welcome
7 everyone to the Western Regional Field Hearing of the Federal
8 State Joint Conference on Advanced Telecommunications
Services.

9 I'm pleased to see that there's so many people who have a
10 tremendous interest in broadband deployment. And the issues
11 that we're discussing today are vitally important for the
12 country and for our local communities.

13 Participating in the new economy depends so heavily on
14 access to advanced telecommunication services. Broadband
15 infrastructure, which delivers the services such as high
speed
16 internet access, video conferencing is becoming an essential
17 component of economic prosperity. And we have to ensure that
18 all Americans are equally able to participate in this
economic

19 revolution. And one of the things that I certainly have
20 learned as I've traveled the country, and in particular,
21 traveled the state I recognize that the ability to have

22 broadband communications can revitalize local economies.

23 And as someone said the other day, one of the things
that

24 we've ended up having to do is export our youth. And that's

25 terrible. We don't want to export our youth to other areas

of

1 the country or into the big cities. We want them to be able
to
2 live in the local communities and in the villages and be able
3 to prosper there and bring revenue dollars back to the local
4 markets. And so one thing that broadband can do more than
5 anything else is to help revitalize those local marketplaces.

6 And the other thing that it can do is provide a better
7 quality of life for all. We've seen demonstrations of this
8 with telecommunications and distance education, and also
9 telemedicine examples where it is extremely costly,
10 particularly in the Bush to have to transport patients for
11 diagnostic purposes when the ability to use telemedicine can,
12 perhaps, result in not having to transport that particular
13 patient, but treat them locally with the advice of experts in
14 larger cities. So we look at this as an opportunity really
to
15 improve the quality of life for all Americans to revitalize
16 local markets.

17 And we look -- the purpose for having this joint
18 conference is really to gather the best ideas that we have
19 around the country and to use this as a vehicle to share that
20 information with everyone else. And so one of the things
that

21 I'm most interested in doing is hearing the success stories,
22 hearing what folks have done in different markets to provide

23 broadband communications to their citizenry.

24 And we hope at the end of this set of hearings, we're

25 holding six hearings around the country, this is a joint

1 project with all of the state commissions, and the notion is
at
2 the end of the day to be able to put forward on web sites and
3 distribute widely those best ideas that have worked elsewhere
4 so that we can rapidly increase the deployment of broadband
5 communications. So those were a couple of thoughts that I
had
6 at the very beginning of this.

7 Also one of the reasons why I wanted, in particular, to
8 come to Alaska for this hearing was because of the incredible
9 work that Nan Thompson has done. Nan Thompson is the Chair
of
10 the Joint Conference and she has been putting together all of
11 these programs around the country and has done an incredible
12 job. She's also done an incredible job working as the Chair
of
13 your State Public Utility Commission. And so I wanted to
14 publicly thank her for her very, very hard efforts in pulling
15 these pieces together and making an extraordinarily
successful
16 weekend demonstrations of telecommunications as well as
17 enjoyment seeing the beauty and the magnificence of Alaska.
18 Thank you very, very much, Nan, for all of your very, very
hard
19 efforts. So I believe now I'm to turn the comments over to

20 Nan. Thank you very much.

21 CHAIR THOMPSON: Thank you. And thank you for your kind
22 comments. We are very pleased to have you here, Commissioner
23 Ness, and the other representatives of FCC staff that are
here,

24 Kathy Brown, who you'll hear from in a moment as well.

25 This Joint Conference is a cooperative effort between
the

1 FCC and the State. And to me that as a State Commissioner is
2 very important because the issue of broadband deployment is
one
3 that we need to work together to find the solutions to. So
I'm
4 very excited that the FCC has cooperated with and supported
us
5 as states in our effort to try and discover how we as
6 regulators can better ensure deployment of broadband
services.

7 The process that we on the Joint Conference have decided
8 to use in fulfilling our mandate is two fold. We're going to
9 do data gathering to try and find out more about where in the
10 country services are not available and why. And in addition,
11 to highlight successfully strategies and share those through
a
12 web site in hopes that we'll be able to provide a resource
for
13 regulators across the country who are looking for ways that
14 they can make sure these services are deployed where they're
15 needed.

16 As Commission Ness pointed out this is the second -- the
17 Western Regional Hearing is the second of six hearings that
18 will be held during the first half of this year. The Joint

19 Conference is going to take the information we gather at
these

20 hearings as well as information submitted through the web
site,

21 produce a report, and again, make information available
through

22 a web site.

23 Today, Monday, is the fourth day of this Joint
Conference

24 visit. Last Friday we were in Tacoma where we heard from the
25 State of Washington about some very innovative and successful

1 efforts to deliver advanced services there. Over the
weekend,
2 the group split into two and part of them went to Southeast
to
3 Sitka and over to Kake, and the rest of us went north to
4 Kotzebue where I agree with Commissioner Ness and the
5 Lieutenant Governor, we had a great time. The weather held
out
6 for us. It was a miracle. And the folks up there kept
saying
7 it's always like this, I thought ah, well. I don't know if I
8 believe that, but it was wonderful weather and we had -- we
9 were well treated by the community. We saw all kinds of
10 efforts. We saw an example of a community that has worked
very
11 well together to achieve the successes that they have, but
also
12 a community that has some pretty dramatic needs. And I think
13 that being able to have this Joint Conference up here to see
14 and make a record of our state needs will help us
tremendously
15 in achieving the goals of deployment here in the state of
16 Alaska.

17 The agenda today that you've all seen, we have four
panels

18 and we've divided the discussion into topic areas where we'll
19 hear about satellite issues, telemedicine issues, distance
20 education and economic development. We're here to make a
21 record for the Joint Conference and to hear about, again,
22 successful strategies for deployment that have been achieved
23 and the needs that we have. And we're hoping to take that
24 information back and combine it with what we learned
elsewhere
25 in the country to try and achieve the objectives of Section

1 706.

2 With that I'll introduce Kathy Brown from the FCC.

She's

3 Chairman Kennard's chief of staff, and she's here to make
4 remarks on his behalf.

5 MS. BROWN: Thank you, Nan. Thank you for this

6 opportunity to bring Bill Kennard's speaking to you,

Lieutenant

7 Governor Ulmer, and to you, Nan. And thank Commissioner Ness

8 for being here. The Chairman, I think, would have loved to

9 have made his second trip to Alaska this week as well, but he

10 this morning is with President Clinton on the President's

what

11 he's calling new markets tour. And I think it's very fitting

12 that these two things, the Joint Hearings are happening at

the

13 FCC at the same time that the President is going about the

14 country to think about the new markets, and to think about

how

15 advanced telecommunication can serve those new markets.

16 So today the President with his group including the

17 Chairman of the FCC start in Silicon Valley, and for a

reason,

18 I suppose, because that's where the incredible growth is

19 happening of our information technologies. And they are then

20 going to Ship Rock, New Mexico to the Navaho homeland there
21 where they will talk about telecommunications on Indian
22 reservations. Then they move tomorrow to Chicago to the
23 innercities. And as that's going on the discussion is all
24 about how advanced telecommunications can bring economic
growth
25 to all of the markets in America.

1 And so I want you to know that this is a concerted
effort
2 on the part of this administration and clearly on the part of
3 this Commission and this Joint Board and this Joint
Conference
4 to determine and think about how advanced telecommunications
5 can serve all our people's needs. And it's a really exciting
6 thing for us to be involved in, clearly for me to be involved
7 in to watch the planning and the thinking and the careful
8 analysis that's going into taking what is a new -- a new
9 opportunity for America to achieve greater growth, to achieve
10 the kind of growth in education and health care and job
11 opportunities that I know we've all been talking about
together
12 for a long time and we really see starting to come to
fruition.

13 We're very proud of our participation with this
14 Commission, with this Joint Conference with the Joint Board
and
15 the State and the work we've done at the FCC to ensure that
16 federal policies facilitate and help state policies and state
17 -- and local policies bringing new service providers and new
18 services to all parts of America. We're particularly proud
of

19 the work that we've done on the E-Rate with over \$25 million
20 coming here to the state of Alaska,

done

21 on the rural health care side where back when we with Jim

22 Posey's help we cracked some federal regulations and made

sure

23 we got some money here to Alaska for the health care programs

24 that are run here.

25 I think of \$3 million that have gone out in that program

1 about 650,000 of them came here to Alaska. And that's due
to,
2 I think, the strong work of Nan Thompson and people here in
3 Alaska and the advocacy that we see all the time in
Washington
4 from the state. So I congratulate you and tell you how proud
5 we are of the work we've done with you. So I too am looking
6 forward to hearing from folks and learning a lot today. And
I
7 appreciate, again, Nan, Lieutenant Governor, Commissioner
Ness,
8 this opportunity to participate.

9 LT. GOV. ULMER: Thank you very much, Kathy, and thanks
to
10 all of you for coming. Our first panel this morning is on
11 satellites, and while they are coming forward I will remind
us
12 of how important satellites are in Alaska. For those of you
13 who are new to Alaska we are a huge state, Texas, California
14 and Montana combined. It just helps, I think, for us to
15 remember that we are a state that needs this technology
perhaps
16 more than any other state because of our huge size, because
of
17 our distance from markets, because of dispersed population.

18 Just as a little reminder, we have over 300 communities
19 in
20 Alaska. Only three of them have populations in excess of
21 10,000 people. And if you look kind of at some of the other
22 statistics there are 23 communities that have populations
23 between 1,000 and 10,000. And all the rest of those 300 plus
24 have populations of less than 1,000. The vast majority of
25 our
communities are not connected by roads including our State
capital. Most of our communities are only accessible by
water

1 or by air, and that creates some really amazing challenges
for
2 a whole variety of service delivery by both the private and
the
3 public sector.

4 Our weather is extreme. I think that's the only one
word
5 that sums up Alaska's weather, extreme. And in the way that
we
6 must stay connected as a state as one big, small town as we
are
7 often referred to, telecommunications is absolutely
essential.

8 And, of course, satellites have been the answer for us for a
9 very, very long time.

10 This morning's panel on satellites, we have some very
11 distinguished people. I'll give you just a very, very brief
12 summary of their resume so that you know who they are.

13 **James Furstenberg of AT&T, a technical support engineer.**

14 Mr. Furstenberg provides technical support for systems design
15 and maintenance of telecommunication systems used to serve
16 rural Alaska communities. AT&T Alascom provides a variety of
17 communication services to over 200 communities in Alaska.

18 **Tom Brady with Microcom.** Tom Brady is an expert on

19 satellite issues in Alaska with Microcom. Tom has closely
20 followed the deployment of satellites used for direct
broadcast
21 satellite service and is an advocate for increasing coverage
of
22 DBA to the entire state.
23 **Chuck Russell of United Utilities**. Chuck is vice
24 president of United Utilities, which is a small, local
exchange
25 providing service primarily in the Yukon Kuskokwim region of

1 Alaska, a region that Commissioner Ness, I believe, visited
in
2 her previous trip to Alaska. It is small in terms of total
3 access lines, about 5,000 but it's one of the largest LECs in
4 terms of exchanges serving 58 communities.

5 Steve Hall with ACS, a network engineer. Steve Hall is
a
6 senior manager of network engineering for ACS, which is a
local
7 exchange provider to communities with over 75 percent of the
8 access lines in the state. ACS provides wireless, internet
and
9 other advanced services.

10 And finally, Guy Christiansen, director of regulatory
11 affairs, Skybridge, one of a new breed of satellite
companies.

12 Skybridge plans to use a constellation of 80 low earth
orbiting
13 satellites that will enable local access to broadband
services
14 anywhere in the world.

15 These gentlemen have all seen four questions that have
16 been submitted. And we would like you to answer them, but
17 instead of kind of going down the row and having everybody

18 answer all four questions what I'd like to do with the panel
is

19 give you each five minutes to talk about the question that
most

20 appeals to you that you have something that you would most
like

21 to say something about this morning. And then I'd like to
make

22 sure that we have enough time for interaction among the panel
23 members and the Commissioners that might want to ask
questions

24 so that we can have more of a dialogue, so let me ask who
would

25 like to go first this morning? A shy panel, I can't believe

1 it.

2 All right. We'll start right down there at the end.

That

3 will be fine. Thank you very much for joining us.

4 MR. HALL: If there's one theme to my comments that I

5 would like to make is that as we all recognize is the

critical

6 nature of satellite capacity of serving Alaska. And there's

7 been talking about the availability of that capacity to meet

8 expanding needs beyond basic telephony and advanced services.

9 And the theme of my response to the four questions is

generally

10 that there's thinking that there's a lack of capacity to meet

11 the need.

12 And I'd like to stress that I think the capacity is

there

13 to meet that need and the problems to deal with are

14 predominantly cost issues. If those cost issues can be

15 favorably dealt with and the industry providing service in

16 Alaska can see a return on the investment there is the

17 opportunity to procure additional capacity that could provide

18 more advanced services beyond the basic telephone service

19 that's well served with the satellites today.

20 So with regard to the question on is the problem

21 technology or is the problem cost and it's somewhat difficult
22 to separate the answer to those two things 'cause it can
always
23 be argued that well, why can't technology just make it
possible
24 to deliver those services at lower costs, hence the problem
is
25 always technology. But with what's available today, and
there

1 are some new things coming on the marketplace with regard to
2 low earth orbit satellites in the years ahead that one of the
3 other panelists, I'm sure, will talk about in greater detail.

4 But with what's available today in the geostationary
satellites

5 they're, I believe, could be more capacity made available if
it

6 can be demonstrated that there'd be a return on the
investment

7 required to procure that capacity to provide those services.

8 LT. GOV. ULMER: Thank you, Steve. And if you would
each

9 of you state your name this is being recorded and that will
10 help the recorder immensely later.

11 MR. HALL: Those were comments of Steve Hall from Alaska
12 Communications Systems.

13 LT. GOV. ULMER: Would you like to go next?

14 MR. RUSSELL: Sure. Chuck Russell with United
Utilities.

15 I guess I don't really have prepared comments, but the first
16 question on using transponders efficiently, I think right now
17 we're -- for purposes of broadband data we're not using
18 transponders efficiently. I think the E-Rate program,
19 unfortunately, with the large subsidies doesn't foster

20 efficient use of the transponder, so we're continuing to just

21 do point to point satellite, whether it's 56k or higher for

22 schools. And I think that's the way we're probably going

with

23 health clinics, too.

24 And I think if you were to look at those carriers

they're

25 probably empty 95 percent of the time. And so, you know,

1 although through the subsidies people can afford them it's
not
2 good a use of transponder capacity. I agree with Steve
there's
3 plenty of capacity, but over time that tends to get utilized,
4 so I think it'd be important to start trying to use the
5 capacity more efficient now since there's a limited number of
6 satellites that see Alaska.

7 There's some mentioning of developments in technology.
8 And that is happening, but given Alaska's geographic location
9 far to the west typically these satellites that are being
10 launched with new broadband technology do not cover Alaska.
11 Hughes, Spaceway was mentioned, a big Ka band billion dollar
12 program going on. I believe they've been assigned slots 99
and
13 101. Well, 101 is about a 5 degree look angle from Bethel,
14 anything west of Bethel is dead in the water. So that's --
you
15 know, that's a great thing but it's not going to provide any
16 service to rural Alaska.

17 **Teledesic is in deep financial trouble.** I don't think
18 anybody thinks that's going to be launched. You know,
Uridian
19 (ph) is out of business. It did serve Alaska. Its

20 replacement, Global Star, although they say in their
marketing

21 stuff, you know, we serve North America, but North America to

22 Global Star doesn't include Alaska.

23 So anyway, from my point of view as these new
technologies

24 and new satellite systems come on line it would be helpful if

25 the FCC would ask the question of these people, do you serve

1 Alaska? And I mean ask it with enough specifics that you --
2 you know, that you get an honest answer. And if they don't
3 serve Alaska then make a decision is that important or is it?

4 And if it's important send them back to the drawing board.

5 That's all I've got.

6 MR. FURSTENBERG: I'm Jim Furstenberg with AT&T Alascom.

7 And I work primarily on the nuts and bolts ends of things
8 rather than in the planning and development, so I approached
9 this a little differently in that I've been working to bring
10 communications to rural Alaska for 27 years and spend a lot
of

11 time out there. So I understand the problems and I field
12 questions just about daily from users out there that are
13 frustrated trying to use services out there.

14 AT&T Alascom currently is working to provide broadband
15 service out there, and we're getting a little more successful
16 every day, and like every other project we've certainly hit
17 some stumbling blocks. With regard to the questions that
were

18 presented, the transponder capacity certainly can be used
more

19 efficiently and needs to be. My opinion is the most
efficient

20 way would be very broadband distribution to everybody,
21 broadcast type basis. If we used a single transponder to
22 send
23 very high speed data that was collected by every village out
24 that would be the most efficient way to use the transponder,
25 rather than using individual carriers to just specific
26 locations. There are a lot of reasons that I believe that,
but

1 I can't go into them all here, but I do believe that
broadcast

2 type capability would be the best.

3 As Chuck mentioned just a minute ago a lot of that
4 bandwidth that is out there goes to waste in that if we put a
5 one megabyte pipe out to a village, if that pipe is used to
6 actually transport useful information eight hours of the day
7 that means there's a whole bunch of hours of the day that
that

8 bandwidth is not being utilized. So I don't think that any
one

9 of us can solve this problem efficiently by ourself. It's
10 going to take users in the villages to get themselves up to
speed

11 on current technology and find some way to integrate things
to

12 more efficiently share that bandwidth so that it's utilized
24

13 hours a day seven days a week. And, again, a wideband
14 technology that broadcasts would be more productive in doing
15 that.

16 With regard to the what's the most serious impediment to
17 doing broadband out there in the Bush, it's money. I mean
18 that's always what it is. There are technologies that may

19 reduce that a little bit, but I don't see anything that's
going

20 to reduce the actual cost of bandwidth. Launch vehicles cost
21 just as much today if not more than they did. The satellites
22 cost just as much and maintaining them costs just as much if
23 not more. So the only thing we're going to do to get the
costs

24 down is to increase -- improve efficiency. And by improving
25 efficiency, again, that's going to have to be a joint effort.

1 Everybody is going to have to work together to do that.

2 Another thing that I'd like to point out is that even if
3 we get bandwidth out there, and I guess this is where I get
4 more flack than anything is, an equal amount of bandwidth.

In

5 other words, if I provide a one megabyte pipe to any village
6 out there via satellite and they come to town and get
7 demonstrate -- or see equipment demonstrated over a one
8 megabyte pipe that is going over terrestrial facilities, when
9 they go out to the Bush and it has the additional latency of
10 the satellite transmission path, it will not perform the same
11 no matter what. It will never give them the same
performance.

12 So they come to town, they get all enthused about using a
13 technology that may go out there and they're disappointed.

14 And one little simple example of that is on Dial-Up
data.

15 Here's an example. Dialing into the internet through
standard

16 facilities using a 14.4 modem, which is about all we can
17 reasonably supply out there to the Bush right now, if they
18 connect in at 14.4 over satellite and -- and this was a test
19 just going to a specific site, downloading a specific file,
it

20 was 149 seconds duration for 14.4 over the satellite and --
I'm

21 sorry, over terrestrial at 14.4 it was 237 milliseconds -- or
22 237 seconds over the satellite. And the reason for that is
23 because of all the handshaking.

24 Another thing is that as we try to extend basically the
25 OSI layer out to the villages, the OSI layer was developed
for

1 to improve the efficiency at very high speed and very
reliable

2 vote (ph) error transmission methods. Satellite is in terms
of

3 latency not near as high speed and it definitely has a lot
4 higher errors. And it will never have fewer errors than a
5 fiber system.

6 So the error correcting protocol that's used for TCPIP,
7 for example, over there is such that it really chokes the
8 system when you get into an error mechanism. So,
consequently,

9 we're working with other AT&T groups and with vendors to try
to

10 develop protocols that will overcome those things that will
all

11 take into account the satellite latency that definitely
causes

12 inefficiencies in the current technology.

13 So it's not just a matter of taking what we've got in
14 threshold facilities and extending out over there. If we do
15 that that will definitely not work efficiently.

16 LT. GOV. ULMER: Thank you very much.

17 MR. CHRISTIANSEN: Thank you. Guy Christiansen. I'm
with

18 a new company called Skybridge. One of the things that I
want

19 to do is try out a little different perspective. And the
20 thought I want to put in your mind is when you're looking at
21 using satellites or any technology for delivering broadband
22 services, one of the first things you've got to ask yourself
is

23 was that technology designed to do what you're asking it to
do.

24 And a lot of the problems that we have today using existing
25 satellites to provide broadband service to rural areas is

1 that's not what they were designed to do. So that really has
2 an impact on the services you can provide, especially on the
3 cost of that service, and the number of addressable
customers,
4 which is the bottom line for service providers.

5 I'll speak a little bit about the new services that are
6 coming on line since my company will be one of those new
7 service providers. And when you -- you know, with that
thought

8 I just placed in your mind think back a few years about C
band

9 television, satellite reception and what that was. That was
10 basically piggy backing off of an existing service, an
existing

11 satellite service and trying to get back that service
directly

12 to the home. That wasn't what that technology was designed
to

13 do. It was designed to distribute television signals to
cable

14 head ends and network stations. But when you had a new
15 generation of DBS satellites from companies like Echo Star
and

16 Direct TV that really changed things and that really brought
17 the ability for satellites to address big markets. It really

18 brought it home.

19 That's what we're going to see in the next few years and

20 I'm not talking very far out. We're going to start seeing

21 these technologies in 2002, 2003. My company, Skybridge,

will

22 start up in 2003 as we heard with a constellation of 80

23 satellites. And we actually are required by the proposed

rules

24 by the FCC to provide service up to Barrow, Alaska. As

25 everyone else, Boeing, Boeing is a similar -- has a similar

1 proposal. And we will be able to provide very high speed
2 services. We're talking 20 megabytes per second download,
two
3 megabytes per second up to a terminal.

4 It'll cost about \$700 initially. And we're talking a
5 small terminal about 18 inches, 20 inches high. And the
6 monthly service cost will also be very affordable, about \$30
a
7 month. There are a number of different companies that are
8 looking at providing this type of service. Skybridge. A
9 company called I-Sky (ph), AstroLink and Spaceway. And
we're
10 all looking to provide the same type of thing. And one of
the
11 things that's very important as we talk to service providers,
12 phone companies that want to provide this service is they
want
13 the price points to be where the price points for terrestrial
14 technologies are. And that's what's driving the market.
15 They don't accept the satellite service that is a lot
more
16 expensive to provide in rural areas than in urban areas.
17 That's a tough order to fill, but we think we can do it. And
18 we're very excited about the technology that's going to be
19 coming on line. And we're very hopeful to be part of the

20 revolution that's going to be coming especially to rural
areas.

21 And we think that when you see broadband to rural areas
in

22 the next few years where we are now is we're in the C band
age.

23 And where we're going to be is in the DBS age that is quickly
24 coming on line. So I'll be happy to speak with any of you
25 individually if you have questions or field questions later
on

1 from the audience. Thank you very much.

2 LT. GOV. ULMER: Thanks, Guy.

3 MR. BRADY: Tom Brady from Microcom. I'd like to go
back

4 and address the capacity issues, but more from a strategic
5 sense of satellites and where they're deployed. And if you
6 look at the arc of satellites over North America serving the
7 United States -- well, North and South America, and you look
at

8 Ku band specifically, and the reason I won't mention C band
is

9 Alaska is kind of unique in its use of C band in that it uses
10 it for two-way services. If you look at the North American
arc

11 and you look at C band you see predominantly television,
12 digital and analog video.

13 So when you look at Ku band you see 19 satellites
deployed

14 in that arc. Seven of them are west of the point we're
they're

15 simply not usable in Alaska. Ten of them are between about
90

16 and 110 degrees which will serve some portion of Alaska. Two
17 of them are west of 110 degrees which have the probability of
18 serving most if not all the state. Of those two satellites

19 one of them represents all new capacity and that's Telstar 7.

20 It didn't exist prior to October of last year. Galaxy 10 was
a
21 replacement for SBS-5, I believe.

22 So, consequently, when you look at availability of Ku
band
23 capacity to support Alaska and broadband internet you're only
24 seeing one new platform. If you look at the whole North
25 American arc you see most of the broadband internet services

1 deployed over satellite occurring in that eastern portion.
2 Literally we're in the position that if I was in South
America
3 or Africa I could get very good internet service off Ku band,
4 but none of those services are accessible here.

5 And do we have sufficient capacity to support broadband
6 services? Definitely. I don't see any dispute there. It's
a
7 question of we're looking at roughly 400 megabytes of two-way
8 capacity. And if it's used properly that should be
sufficient
9 for the next few years until, for example, Skybridge comes
10 along or some of the advanced services.

11 The one thing that you learn about bandwidth is it's
habit
12 forming. You never consume less. You always consume more.
13 Along that line we have to look toward the future. In Alaska
14 here we've seen a 20 to 40 fold, depending on technology,
15 increase in fiber capacity in the last 18 months. In fact, I
16 think if you did a rough calculation you'd find out there's
17 more raw bandwidth capacity per person in the Railbelt in
18 Alaska than just about anywhere else in the U.S. if it was
19 deployed properly.

20 That's not true in rural Alaska, of course, so we have
to

21 look toward the future about what services might we see.

Well,

22 you know, the funny thing is we're going to see the first of
23 these here within six months if not sooner, and it's going to
24 be the gallent (ph) to home product based around GE Ford 101
25 degrees. I actually got a chance to see it and feel it last

1 week. And it's an interesting little terminal. It's not
2 substantially better outbound side than a Dial-Up system, but
3 the downlink side is extremely good. And to some people who
4 have been in the satellite business for awhile it's a leap of
5 faith to buy \$200 VSAT from Radio Shack which is exactly what
6 they're going to be doing here in November and December.

7 The downside of that new service and the one that will
8 follow it very quickly from direct -- well, from Hughes, is
9 another two-way satellite service based around the 199 degree
10 orbital slot is that there's only certain portions of Alaska
11 that will get service. And it won't get service on \$199
12 terminal, unfortunately. It'll get service on \$1000 or \$2000
13 terminal, but that's an improvement over what we have today.

I
14 think you're going to see a segment of the state of Alaska
15 including Southeast, SouthCentral, and the Interior which
will

16 have access for the people willing to make the investment to
a

17 fairly robust satellite based internet service. That is, I
18 think, a step in the right direction.

19 I think it's important that when we also look at future
20 platforms such as I-Sky, which is due out next year, is
they're

21 going to be located at 109 1/2 degrees. They have the

22 potential for covering a substantial amount of the state. In
23 my preliminary discussions with them they have no intention
of
24 serving the state. Their business plan now calls for the 48
25 states. I don't think they include Hawaii. They do include

1 the border areas of Mexico and down into Central America. I
2 think I would be concerned about I-Sky pursuing that business
3 model in the long term.

4 The second one is EchoStar is planning EchoStar 9, which
5 is a Ku band satellite that will go to 121 degrees. That
6 should offer significant and our first look at true broadband
7 access to Ka band. And to put the economics of Ka band in
8 perspective, today Ku band you're talking 150 to \$180,000 a
9 month transponder. Ka band really -- I don't know, you
10 probably know the economics of that better than I do, but I
11 think you're looking at a \$20,000 transponder because of
re-use

12 of the same spectrum in the same platform. So for \$250
million

13 they can launch 24 transponders or 48 transponders or they
can

14 launch roughly 150 transponders. And Ka band would re-use,
15 that's where you get the economics. That's where we'll see a
16 big drop in bandwidth price if we raise our hand as a state
and

17 we can get the access. Thank you.

18 LT. GOV. ULMER: Thank you all very much. Commissioner
19 Ness, would you have any questions for any of the panelists?

20 COMMISSIONER NESS: First of all, I want to thank all of

21 the panelists for their comments and for helping us to focus
in

22 on what is an extremely important and difficult issue. I
share

23 the frustration that was expressed, I believe, by Chuck
Russell

24 about how you need to have commitments that are enforced for
25 service for Alaska. And that certainly is something that I

1 focus on any time I have an application for satellite
service.

2 I always ask specifically to see their coverage maps. I now
3 have a little tool that I'm playing with to see exactly what
it

4 means for coverage. And I care tremendously about making
sure

5 that Alaska is, in fact, covered, particularly by the DBS
folks

6 that now have additional satellites at their disposal. So I
7 appreciated those comments.

8 By way of question I want to go back to the notion that
9 was proposed about delivering broadcast services.

10 Mr. Furstenberg, can you comment a little bit further about
11 what type of broadcast services you were envisioning? How
12 would that work?

13 MR. FURSTENBERG: Well, that would be more like similar
to

14 the direct PC or the Hughes offering where they do do that
now

15 on a one-way basis, but they don't have any way for it to
come

16 back. That's being developed.

17 The thing is if you take a single transponder and you
can

18 get like 45 megabytes in that and everybody picks it up, it's
19 just more efficient than having -- sending separate things
out
20 there. And, of course, the technology is there to where if
21 every village receives all the messages they can by embedded
22 identification determine what's destined for them and what
23 isn't destined for them. And that would be just a more
24 efficient use of the transponder. Trying to send a one or a
25 two megabyte carrier to every village out there, number one,
it

1 just -- you have to have a guard band for all of those things
2 and you don't have as high a speed. Whereas, if I have one
3 highway and I've got 10 people sharing it, you know, that's a
4 two lane highway. If I make a 50 lane highway and I have
5,000
5 people sharing it I'm going to get more utilization out of
it.

6 Basically that's the.....

7 COMMISSIONER NESS: Would some of the use be through
local
8 cashing of the most popular web sites?

9 MR. FURSTENBERG: Yes, that's one of the things. That's
10 where I said that it would really require that the villages
11 develop some expertise there to be able to conglomerate the
12 things out there so that they could all come back up in one
13 pipe and, therefore, share it, you know.

14 Right now one of the problems we see is we've got
15 telemedicine and we've got school people out there and
they're
16 completely separate systems. It's very inefficient.

17 COMMISSIONER NESS: Yeah. It's very inefficient we saw.
18 We saw a lot of that, too, and.....

19 MR. FURSTENBERG: Yes.

20 COMMISSIONER NESS:trying to work through some of

21 those issues.

22 MR. FURSTENBERG: Yeah. And even there if we didn't do

a

23 full transponder, I mean if we could at least get them both

on

24 the same pipe we could certainly increase utilization. And

25 that's the only way we're going to get the price down.

1 COMMISSIONER NESS: Thank you.

2 LT. GOV. ULMER: Commissioner Thompson?

3 CHAIR THOMPSON: I want to follow up on that theme with
4 something I heard a couple of you mention, which is the idea
of
5 sharing. We hear how what we're trying to do is get service
to
6 areas where there is a very low population and the high need.

7 And looking at ways to combine efficiently the existing
8 resources seems to be the answer.

9 You, Mr. Russell, identified the E-Rate program as
10 sometimes an obstacle to deployment. And I'm wondering if
you

11 have any specific ideas about how that program could be
12 modified or changed to encourage more efficient use of the
13 resources we have now or to share the resources amongst
14 different folks in the community?

15 MR. RUSSELL: Well, you know, any time you have someone
16 who only has to pay 10 percent of the price decisions are no
17 longer economic. I mean if you and I could buy a car and
only

18 have to pay 10 percent of the price we would drive a much
19 better car than we do today. So there is -- the program has
no

20 controls. It doesn't matter whether there are 10 students in
21 the school or 10,000 students in the school, both schools can
22 buy the same capacity. One might be using it efficiently,
the
23 other obviously very inefficiently. So it's really an
24 economic thing.

25 If there were some way of putting some limits on
capacity

1 or service levels, and I don't know how to define this, so
that
2 either the carriers proposing the service or the schools
buying
3 the service were sort of forced to be efficient. It's not
4 difficult to be efficient. The products that Jim talked
about
5 and Steve talked about are there. There are -- you can go
buy
6 from satellite vendors internet optimized technology that
7 broadcasts a wideband carrier outbound and shared carrier
back
8 -- back towards a smaller carrier, but there's no incentive
to
9 buy that equipment. And so the easy way out, if you will, is
10 just buy the dedicated point to point link and buy the
biggest
11 one you can afford.

12 CHAIR THOMPSON: To follow up on that, Mr. Furstenberg,
13 you also mentioned sharing and use of T-1 for a village. If,
14 you know, assuming a village of 350, 400 people, we have many
15 about that size in our state, does the technology exist for
16 that T-1 to be shared amongst all the different needs in the
17 village?

18 MR. FURSTENBERG: Yes, it does, but right now it's not
so
19 simple that, you know, we could expect the village to have
the
20 expertise to run that. You know, our objective would always
be
21 to minimize the sophistication of the equipment in the rural
22 areas so that A, you'd have fewer things to break.....

23 CHAIR THOMPSON: Uh-hum.

24 MR. FURSTENBERG:down and so on, but bottom line
is
25 you can't -- you just can't eliminate it all out there so
that

1 they would have to have technology that would do that
2 combining. And certainly T-1 to most of our villages right
now

3 would be a -- you'd be having -- you'd have to control the
4 dancing going on out there because they would definitely be
5 elated with that kind of service.

6 CHAIR THOMPSON: Mr. Brady?

7 MR. BRADY: I'd like to point out that the school of
8 Hoonah is actually using an internet service provided by a
9 group called Intelacom (ph) out of California. It's not
really

10 -- it's a shared inbound of about two and a half megabytes, I
11 believe. They've been changing the size. And the outbound
is

12 64 kilobytes. It's not a shared outbound, but it's a shared
13 inbound.

14 The newer services that we're talking about, you know,
15 that you're seeing, you know, gallent to home are all shared
16 services that are dealing in a full transponder, you know,
17 roughly 40 to 45 megabytes outbound from a central point to a
18 user. And the return path is normally a time shared return
19 path that will -- and there's nothing magic about that.

Yeah,

20 it's inefficient when it comes to IP (ph), some of them are

21 employing some advance spoofing so you don't end up with a
lot

22 of -- you know, 20 percent overhead that you don't need.

23 But I think the technology is not really a major
question.

24 A lot of it is the organization of the market. As I said, if
I

25 was AT&T and if I was GCI and I'd spent several million

1 dollars, you know, 30, 70, \$60 million on satellite capacity
2 and somebody told me they'd pay me for a T-1 for everyone I
3 deployed I'd certainly be deploying SCPC (ph) T-1s to fill up
4 the capacity I had under contract.

5 There is no incentive in the regulatory system to do it
6 efficiently. And they're certainly deploying it the way that
7 makes the best of their business. I don't see any reason why
8 they wouldn't do that.

9 LT. GOV. ULMER: Any other questions?

10 CHAIR THOMPSON: Go ahead.

11 LT. GOV. ULMER: Kathy, do you have some questions?

12 MS. BROWN: Yes. Can I just ask about how one would
13 aggregate the demand? If there's a school out there
obviously

14 the thought was you would get this capacity to the heart of
the

15 community, and that the community then could make use of it.

16 And if there's some barriers, some regulatory barriers to the
17 use of that capacity once it actually arrives in the
community,

18 we certainly want to think about that and how we could better
19 structure this so that it could happen.

20 And it seems to me it may well be that the sharing is a
21 problem when you have private and government facilities. And

22 we get resistance on that issue not just from the government
23 side, but also from the private side that, perhaps, you
24 wouldn't want to allow that because somehow that stymies some
25 sort of competition out there, which I've always had some

1 problem with.

2 It seems to me that there may well be a way to share the
3 costs to get the facilities into the community and then to
4 have
5 a way for the commercial interests as well as the community
6 interests to use that capacity. It'll be helpful to us to
7 hear
8 from the business side how that might look.

9 MR. HALL: Madame Moderator, I might make a few comments
10 with regard to that. I think that the technology if largely
11 deployed to many of the rural areas it will allow the sharing
12 of the bandwidth on the satellite, in particular, with a cell
13 relay program like AT&T Alascom has deployed to many of the
14 areas. In fact, I think in many locations where that cell
15 relay equipment is deployed there's, indeed, perhaps only one
16 private line on the backbone via the satellite on that
17 technology. So the opportunity is built into the technology
18 to
19 share the bandwidth which in many cases is not being used.

20 And I think there are some obstacles to sharing as you
21 mentioned with regard to some of the cost support programs,
22 perhaps, for schools for the Schools and Libraries programs,
23 where if there's subsidies they're providing high bandwidth
24 to
25 support school and library programs. That bandwidth then is

22 prohibited then from being made available perhaps for
23 residential internet service or other uses. And, you know,
24 within the regulatory process perhaps there's some way to
25 overcome that. During the day when the schools are not

1 available it would, you know, perhaps make a chance to make
2 that av- -- that bandwidth available to the children that go
3 home and might like to access the internet and continue their
4 learning experience in getting online.

5 MS. BROWN: Well, let's assume we could do that. Let's
6 assume you could get rid of the -- whatever the governmental
7 obstacles are. What would the service model look like at the
8 other end?

9 MR. HALL: I think on the satellite link the technology
10 would be in place with cell relay equipment. Alaska
11 Communications Systems is a local exchange carrier and the
12 primary business we are in is distributing communications
13 within the communities. Basically the outside plant cable
14 facilities we have and the digital switching facilities we
15 have
16 in rural Alaska are similar to what we have in the
17 metropolitan
18 areas. And we would have the ability with reasonable
19 investments to be able to distribute services within the
20 community, so your model might -- I think would include an
21 internet service provider that would provide access to the
home
20 via the local exchange network that would then -- that would
21 access the interexchange network of PTI or AT&T Alascom and

22 that much of the equipment is already in place as I
mentioned.

23 One of the equipment components would be cell relay equipment
24 which AT&T Alascom, I think, already has deployed in many of
25 the communities.

1 I think to demonstrate the magnitude of the problem I
saw

2 some numbers recently that showed -- well, the bench mark
3 expectation with regard to internet is \$20 a month unlimited
4 service. That's what we can expect in the metropolitan
areas.

5 And the residents of rural Alaska have the expectation in
line

6 with what we have here in Anchorage, so that's, I think, the
7 objective for ubiquitous service is \$20 a month. I saw some
8 cost figures recently that showed in a community of slightly
9 more than 100 people the break even point on providing
service

10 understanding that that access to the rest of the world is
via

11 satellite would be somewhere right around \$50 and is not
12 providing a return to a company. So there's a 30 dollar
13 problem on meeting expectations for economical internet
service

14 in rural Alaska for the smaller community. As the
communities

15 get larger, you know, there's -- the cost support requirement
16 becomes less to where about 500 people it might conceivably
be

17 economical for an internet service provider to go out into
the

18 community.

19 LT. GOV. ULMER: Tom, do you have any comment?

20 MR. BRADY: Yeah. We were working with one rural
village

21 and we looked at 80/20 cost model on the wide area side.

Where

22 80 percent of the bandwidth was allocated to the school
health

23 clinic, and then 20 percent was taken by the village,

24 recognizing that the patterns of uses were totally different

25 and that during the normal course of a day the school and the

1 clinic were consuming, and in the evening -- it's similar to
2 what are urban ISPCs and we said that that -- some of the
rural

3 villages could tolerate that. We were specifically looking
at

4 a cable modem distribution versus a regular Dial-Up so it's
5 actually lending itself to higher bandwidth.

6 And that -- it still came close to the \$50 a month, that
7 study I believe you're talking about. It still made sense to
8 do it in about \$50 a month given the level of capital
9 investment. And that was really the reason we chose a cable
10 modem. It simply is the village corporation owned the cable
11 system.

12 MR. BROWN: Right.

13 MR. BRADY: It made sense. It was there and use it.

14 MS. BROWN: Yes. If you added the commercial interest
in

15 these villages into the mix does anything get better on the
16 sharing side versus.....

17 MR. BRADY: It would. It certainly would get better,
but

18 the difficulty is some villages have no commercial interest
19 other than the village corporation.

20 MS. BROWN: Okay.

21 LT. GOV. ULMER: And at the village level in addition to

22 the school district and the health clinic you might have the
23 village corporation. If it's a coastal village during the
24 summertime you might have a commercial fish processing unit.

25 MS. BROWN: Uh-hum.

1 LT. GOV. ULMER: You know, it's -- it's a very different
2 economic structure than it is in most of urban America. And
3 so
4 you have a slightly different challenge associated with
5 finding
6 critical mass to actually get the kind of economics flowing
7 that makes these investments possible. This discussion in a
8 way mirrors the discussion we had with some of the people
9 that
10 we traveled with in Kotzebue and we went out to the village
11 of
12 Noatak.

13 And it was really interesting to hear one of the school
14 district employees talking about the bandwidth envy in the
15 villages. You know, the kids have great experiences in the
16 school and they go home and tell their parents and their
17 parents can't have anything close to that experience at home.

18 And it even creates difficulties for the school board because
19 how do they explain to villagers why they can't get on this
20 highway that their kids are on. And, of course, we're not
21 saying anything bad about the E-Rate subsidy because we love
22 it. It enables our rural schools to have access.

23 The question is how can you restructure either the way
24 in

20 which the regulations work, or the way in which the economics
21 work to allow that existing under-utilized bandwidth to be
22 utilized by citizens as well as the schools and the health
23 clinics? That is the question. That is the challenge. Yes?

24 MR. RUSSELL: I don't know how the schools procure in
25 other parts of the state, but in Western Alaska where I do
see

1 the RFPs for internet service the schools preclude a local
2 internet provider from bidding. They require that the
3 bandwidth for the school go all the way to the internet. I
4 could have a T-1 pipe sitting in Emmonak and I could not bid
on

5 the school contract. I have to -- my bid has to include a
6 dedicated satellite link as well as a dedicated local loop.
7 The schools will not -- and they're very specific in their
8 RFPs, they will not allow sharing of bandwidth. So I'm --
9 United Utilities is an ISP in Western Alaska in, I don't
know,

10 eight or nine villages. We cannot as an ISP bid for the
school

11 internet 'cause it's specifically precluded by the way the
12 contracts or the RFPs are worded.

13 Some of this discussion is also about health clinics.
And

14 I really think that's going to be the next panel. I don't
15 think the health clinics are really in the internet. That's
16 not what they're looking for as far as I know. So when we
talk

17 about combining the school and the health clinic on the
18 internet service I'm not sure that's really a combination
19 that's viable. I think they're looking for capacity for
health

20 reasons back to the hospitals and stuff like that, although
I'm
21 sure they would like internet service. It's not my
22 understanding that that's the primary objective of the health
23 clinic data capacity.

24 LT. GOV. ULMER: Any other panel members care to comment
25 on this?

1 MR. HALL: I might just add a comment to.....

2 LT. GOV. ULMER: Yes.

3 MR. HALL:Chuck's comment where I agree they're

4 looking for bandwidth for different purposes. There still
may

5 be opportunity for sharing the bandwidth on the satellite
back

6 to rest of the world. And to the extent they've got
diversity

7 traffic there would still be some economics in sharing that

8 backbone bandwidth even though in one case it's going to the

--

9 it may be going to a hospital in Anchorage and in the other

10 case it may be traffic connecting to the internet.

11 LT. GOV. ULMER: Any other comments? Yes?

12 MR. FURSTENBERG: I'll say expand on that just a little

13 bit. One of our experiences has been with trying to

integrate

14 this service with the cell relay project that Steve mentioned

15 is that many of these communities they want access into

16 basically the world we would call it, but they also want a

17 local hub. And then you get into double satellite hop and

18 that's extremely difficult. So one of the things that I

think

19 if we were to ever get to the point of doing this very

20 broadband broadcast distribution is that all of the local
hubs

21 or what they want to call their local hub would have to be
22 connected to this access point via terrestrial only
facilities

23 so that it would be a single hop in all cases.

24 Now, in many cases that's a no brainer, that's the way
it

25 works. But in other cases it would require, for instance,
the

1 school district headquarters in Mountain Village would really
2 have to have an office somewhere in Anchorage or Bethel or
3 someplace -- well, actually Bethel wouldn't work, but
someplace

4 where they could access the main hub terrestrially. It would
5 minimize the complications for that. So, again, it just
6 requires a group effort, I think, to get that coordinated to
7 make it really efficient.

8 LT. GOV. ULMER: Any other questions? Commissioner Ness.

9 COMMISSIONER NESS: I think you pointed out something
that

10 was very useful, and that is it requires a group effort. And
11 in the areas that we've seen where there has been a group
12 effort to try to work through some of this difficult
situations

13 we've seen much more efficient use of the facilities. And
14 that, I think, is one lesson that we have seen here in Alaska
15 and we've seen in other places around the country that that
is

16 an incredible component ingredient of this.

17 One observation that I made in our brief stay this past
18 weekend and that is in some places where there are community
19 libraries and the community libraries have access to E-Rate
20 funding that may be a better vehicle for the adult population

21 to share the experience that their children are getting in
the
22 school, but in a number of the villages that I've visited in
23 Alaska the local library is really the school library. And
I'm
24 wondering whether there might be a way of addressing this
25 regulatory hurdle on E-Rate by looking at some of these

1 libraries and focusing on them as community centers and
2 community libraries, rather than just simply school
libraries?

3 Anyone have any thoughts or comments from your experience in
4 dealing with that?

5 LT. GOV. ULMER: I guess I would ask the question would
E-

6 Rate tolerate that? I mean if, for example, the schools
would

7 open up their doors at night and say anyone in the community
is

8 welcome to come use the school library and come use internet
9 capacity of the schools paid for by E-Rate, would E-Rate
10 tolerate that? And, you know, I worry that that wouldn't be
11 okay.

12 I notice Karen Crane is here from the State Libraries.

13 Karen has been very helpful in making certain that all the
14 school districts were positioned to apply for E-Rate, and
also

15 runs a program called SLED which ties together the community
16 and state libraries, but I guess I would ask the FCC folks to
17 comment on the E-Rate permissibility question.

18 2200

19 (Tape change)

20 Tape 2

21 0050

22 MS. BROWN: Yeah, there is clearly some rules with
respect

23 to the use of the capacity by the school, for the school, et
24 cetera. This has been an area that we've thought a lot
about,

25 with respect to rural America in particular, where there just

1 is not a lot of competition for the residential customer.

And

2 that we clearly do get some push back from competitors at
all,

3 you know, in places where there's lots of competition for
4 residential service. But it's one where I think we need to
5 look very closely for rural America, and particularly for
6 places like Alaska.

7 We had the same discussion up in South Dakota. There's
8 the capacity there, there's the ability to get it to the
heart

9 of the community, into the school, and yet there's no ability
10 for the commercial interests and the residential folks to use
11 it. And I think we're going to have to take it up and look
at

12 it with respect to -- particularly with respect to rural
13 America. And then really get the decision makers and policy
14 makers to put their heads together on this, as well as the
15 industry, to see whether there's an openness to sharing some
of

16 these facilities, and what the cost allocation issues would
be.

17 LT. GOV. ULMER: So let's ask the industry. Would you
18 push back in the State of Alaska? If we moved in that
19 direction, what would be the industry's response?

20 MR. RUSSELL: Well, if I understand what you're saying,
I
21 think it'd be great if the local ISP could, you know, bid on
22 these services for the schools, for the libraries. Again,
I'm
23 not sure it's what the health clinics want, but -- or if they
24 want internet, fine, and be a viable -- be able to bid. And
25 then, you know, have it evaluated as a real bid and not have

1 these particular entities, you know, just want their own
2 networks, not be part of the infrastructure of the community.

3 LT. GOV. ULMER: Any other comments from the panel?

4 MR. HALL: As an industry member, we clearly recognize
the

5 problem of providing advanced services to rural Alaska. And

I

6 think, speaking for myself with ACS, and I believe the
members

7 of the panel that represent different companies, we're all

8 anxious to be able to provide the improved services that
rural

9 Alaskans want and need. So I think we would all cooperate
and

10 jump on a bandwagon that would eliminate any hurdles that
would

11 allow us to make the economics look more favorable and allow
12 the industry to better provide the services that are expected
13 to rural Alaskans.

14 LT. GOV. ULMER: Karen Crane, do you have any insight
from

15 the library system on this, something that hasn't been said?

16 MS. CRANE: Not at this time.

17 LT. GOV. ULMER: All right, great. Thank you. Well, we

18 have pretty much run out of time, and we are actually on
time,

19 which is a relief. I want to thank the satellite panel for
20 sharing your expertise with us and your comments this
morning,

21 we really appreciate it.

22 Our next agenda item is a telehealth demonstration by
23 Hazel Julius, who is a health practitioner in the Bethel
area.

24 For the last six years, she's worked in Toksook Bay, and she
25 now trains new health aides. Hazel is fluent in both English

1 and Yup'ik, I think I'll ask her to make her presentation in
2 English this morning. Hazel, could you step forward? I'm
not

3 sure -- Hazel, do you need any kind of special equipment, or
4 are you running a tape? I haven't been told. What are we
5 doing?

6 MS. JULIUS: Projecting.

7 LT. GOV. ULMER: We're projecting. Okay, all right. If
8 the rest of the telehealth panel would join us at the table,
9 that would be very helpful. I will introduce you after we
have

10 the telehealth demonstration by Hazel. Do we need to dim the
11 lights so that people can see, or can you see that all right?

12 MS. JULIUS: Well, thank you. My name's Hazel Julius,
13 Community Health Aide practitioner with the Yukon Kuskokwim
14 Health Corporation. At the heart of the health care delivery
15 system, the Yukon region, there are about 180 health aides
who

16 are working 48 village health clinics.

17 LT. GOV. ULMER: Pardon me, Hazel. Could you just bring
18 the mic closer to your mouth, so that we can get the
19 transcription?

20 MS. JULIUS: Okay.

21 LT. GOV. ULMER: Great, thank you so much.

22 MS. JULIUS: They are primarily Native Alaskans who live

23 and work in their home villages providing front line
emergency

24 and primarily health care in consultation with hospital

25 provider staff. In 1999, community health aide practitioners

1 in the Yukon region have over 105,000 patient encounter in
the
2 village clinics. The community health aide program is unique
3 to the state of Alaska, providing access to health care where
4 it would be -- otherwise be unavailable.

5 The YK Delta is located in Southwestern Alaska, and
covers
6 an area the size of the state of Oregon, 75,000 square miles.

7 The area is inhabited by 58 federally recognized tribes,
living
8 in approximately 50 villages located along the Yukon and
9 Kuskokwim River systems. The City of Bethel serves as a
10 commercial hub for the region, and is located 80 miles from
the
11 Bering Sea, and 400 air miles from Anchorage, Alaska's
largest
12 city. The most distant village is about 200 air miles and
13 takes about one hour by air to get to Bethel. No road system
14 exists in this region.

15 In order to receive many health care services, people
must
16 leave their homes and families and depend on either air
travel,

17 which is available the year long, weather permitting, or
boats

18 in summer and snowmachines in winter. Often unpredictable
19 weather and frequent high winds make travel hazardous.

20 This is Chevak, 120 miles from Bethel, population in
21 December of 1999 was 763, not connected by any roads to any
22 other villages. Chevak has many occasions to celebrate with
23 dancing. The style has remained much the same for centuries,
24 passed down from one generation to another. Drummers and the
25 main singers sit in the front rows, the drums are made from

1 wood and sealskin or plastic sheetings. Springtime in the
2 village makes for interesting travel. This is made in
Chevak.

3 VHF radio is the usual way of contacting people in the
4 village or surrounding area, and used to contact people
without

5 phones, or to announce to the village the clinic hours or
hour

6 -- or holidays.

7 Well child exams are the -- are a routine part of health
8 care. The birth rate in the Delta is among the highest in
the

9 nation. Immunizations are a part of normal preventive care.

10 Patient education is crucial to keeping a health community.

11 The information comes from the CHAM and other materials.

CHAM

12 refers to community health aide practitioner manual, which is
13 used as a guide. The CHAM book has information about health
14 problems and preventive medicine that should keep community
15 health aides to remember any improved skills in providing
16 health care.

17 Kids in the Delta are no different than kids anywhere.

18 Some of them don't like to give blood, and some of them are

19 ready for anything. The health aide is the first person who

20 has to deal with traumatic injury in the village. The
21 emergency medic skills are very important. Health aides give
22 IVs, this can save a life. This past winter we had two
23 different incidents involving two infants that were weathered
24 in the village, and our health aides started IVs on them,
which
25 was crucial for the two infants.

1 Satellite communication can have a big effect on the
2 health aide's job. The first computers came to the clinics
3 halfway through 1998. These are two technicians, John
Charlie
4 and Tom, helping the health aide getting the computer
installed
5 in Kwethluk. The computers must fit in the crowded clinic
6 corners.

7 These are after the computer was installed in the
clinic,
8 it was already helping to promote communication, and this is
9 Elena Alexis, community health aide from Kwethluk. A folder
is
10 set up for health aides only, and we can get access to the
11 internet to get more information.

12 For example, one of the basic instructors, who was on a
13 village trip to do a post-session evaluation on one of the
14 health aides, she came across a patient who was on a new
15 medicine that was -- she was not familiar with. She tried
16 looking up -- looking it up in the 1998 medical drug
reference
17 and it was not listed. Sophie Carl, a community health aide
18 practitioner from Kipnuk, got on the internet and got
19 information about the newly approved drug therapy the patient
20 was on, which was helpful information.

21 We did two surveys of e-mail use by health aides, one in
22 December of 1999 and in April of 2000. The vast majority of
23 health aides are locked on to the e-mail system every week
from
24 their village. Various reasons prevent reliable connections.
25 Ear disease is very common on the Delta. Here is a CHP

1 using a standard otoscope to see a child's eardrum. A few of
2 the clinics have access to high power scope provided by the
3 Otitis Media project which started in 1982. Cleaning up the
4 areas using a high power scope. The next step in ear care is
5 the video otoscope. And then the next step after that is to
6 link the pictures from the video otoscope to e-mail so they
can
7 be sent to the referral hospitals.

8 This is Jesse Gunlik, an otitis media instructor,
teaching

9 Stella Lake on how to use the equipment. Stella Lake is a
10 community health aide practitioner from Chevak.

11 Telemedicine is used as a learning tool for health aides
12 in training. This allows health aides to see the ear on the
13 screen, and then learn how to describe an eardrum. Video
14 otoscope also allows the patient to be part of the exam, by
15 allowing them to see their own eardrums. Patients usually
ask

16 questions how to prevent ear infection, which leads to
patient

17 education and prevention. Telemedicine will be used for
visual

18 communication from village clinic to regional clinics for
19 consultation and referrals.

20 Right now we have five villages participating in

21 Telemedicine project. Chevak, Hooper Bay, Saint Marys,
Kotlik,

22 and Marshall. We are scheduled to put telemedicine in all of
23 our clinics by the end of 2000, and we will need better
24 telecommunications so we can keep our computer on line and so
25 we can send images back to Bethel to the doctors and to our

1 instructors.

2 And this a hematoma in a child's ear taken the first day
3 after an injury, and on the -- and this is the same ear on
4 the
5 third day.

6 To wrap it up, e-mail is a great help to health aides in
7 rural Alaska for four reasons. One, we work long, hard hours
8 and we seldom get to see the immediate results of our
9 actions.

10 The most severe injured get medivacked to the hospital and we
11 don't hear much about them. It makes a difference to know
12 whether we did a good job or not. Two, with the e-mail and
13 internet we can find out about medicine and treatments from
14 sources anywhere in the world. Three, more and more medical
15 courses are being delivered on the Web, and in addition, when
16 we find some interesting cases, we can share them with other
17 health aides and our instructors. Four, we work in clinics
18 with only one or two health aides. A lot of things happen.
19 Sometimes the work atmosphere is almost too much. We need to
20 be able to communicate with other health aides and other
21 medical practitioners. Thank you.

22 LT. GOV. ULMER: Thank you very much, Hazel. Those of
us
21 who had the opportunity to go to Kotzebue and Noatak saw some
22 of that being demonstrated, and I -- that may have also

23 happened in Sitka. But it was very up close and personal.

24 Matter of fact, we saw pictures of a -- the office in

25 Noatak, and it was just really quite remarkable to see the

1 wounds that -- a wound that took place in the village, that
the
2 doctor in Kotzebue could then analyze and give instructions
to
3 the village health aide, and assess whether or not the person
4 needed to be medivacked into either Kotzebue or into
Anchorage.

5 It was certainly illustrative for us of what a difference it
6 makes to be able to have this technology.

7 Well, the other members of our panel today. Dr. Tom
8 Nighswander, facilitator for the Alaska Telehealth and
Advisory
9 Commission. Dr. Nighswander has been active in the rural --
10 rural health since 1972 in Alaska. The majority of this time
11 has been spent as a family practitioner and emergency room
12 physician at the Alaska Native Medical Center in Anchorage.
He

13 has also traveled extensively to the villages, and supervised
14 community health aides. As facilitator of the Alaska Health
--

15 Telehealth Advisory Council, he can help provide policy
16 development and coordination of Telehealth projects in
Alaska.

17 Rebecca Grandusky, CIO of the Yukon Kuskokwim Health
18 Consortium, is responsible for technology services, health

19 information services, and telecommunications services in a
20 rural health care organization. YKHC operates a 50 bed
21 hospital, 48 clinics, and one subregional clinic. None of
22 these facilities are connected by roads.

23 And Bob Cita, Alaska Federal Health Care Access Network.

24 Bob is the Information Services Director for the Southeast
25 Alaska Regional Health Care Consortium, or SEARHC. It is one

1 of the oldest and largest Native run health organizations in
2 the nation. It is a consortium of 20 Native communities,
3 providing health services for Tlingit, Haida, Tsimshian, and
4 other Native people in Southeast Alaska.

5 This panel, like the panel before, have received several
6 questions, basically focusing on the use of advanced services
7 to telehealth, what the impediments are, how their
organization

8 has used these services and cooperated with others to be able
9 to advance these services in their regions, and basically to
10 comment on how this is impacting health care delivery.

11 Again, I'd like to provide to each of the panel members
12 five minutes to address these questions, and then to allow us
13 to have time for exchange. Maybe we'll go in the opposite
14 direction this time and start with Tom? Dr. Nighswander,
would

15 you like to.....

16 DR. NIGHSWANDER: Yeah, Tom Nighswander. And I'm
17 facilitating the Telehealth Advisory Group. It is -- just to
18 tell you that it is made up -- we look at telemedicine at the
19 60,000 foot level, we have major -- the major players
involved

20 in policy development, so that -- Tom Posey, for example, I
21 represent Tom and Ron Duncan from the telecommunication
22 industry, plus the Alaska Telephone Association. The CEOs of

23 the major -- the hospitals here in town. Provider groups,
the
24 Nursing Association, State Medical Society, I represent it.
So
25 that's the group, there's a few more involved with it.

1 And it is around policy development. It was organized
2 really at the request of Senator Stevens, and it was
originally
3 chaired solely by the Commissioner of Health, Karen Perdue,
now
4 co-chaired by Karen. And the issue was this infrastructure
5 cost, one of the -- is to get everyone on the same page.
That
6 in this state we're not going to be able to compete, as
opposed
7 to larger population groups, and we were going to have to
share
8 infrastructure, we're going to have to share software
9 development, and the competition in the health care industry
10 would really be around services. So when you punch the
button,
11 you're sitting in Nome or Kotzebue, the button you push is
12 dependant on the services that you'll get from the other end.
13 The comments I'd like to make are very apropos to the --
14 actually the first panel, because those are the same issues
15 that we are facing. The most successful applications
probably
16 thus far have been teleradiology, and we are transmitting
both

17 the public and the private sector teleradiology images from
the
18 rural areas and they're being read centrally. There are a
19 number of e-mail applications, and it's -- and using kind of
a
20 store and forward technology. That's the good news. The bad
21 news is they're not reimbursed. And right now insurance
22 companies and states around the country in Medicaid are not
23 reimbursing for -- or Medicare, reimbursing for store and
24 forward technology. And that's a real problem for us in
25 Alaska.

1 They are reimbursing for real time telecommunication
2 capacity, and the best clinical example I can give you of
3 this
4 is -- and you would be surprised, is in telepsychiatry. I
5 believe there is a telepsychiatry application here, done by
6 Corrections. And they can, with very little technology, POTS
7 lines and videophones, do some monitoring of patients and
8 follow up and immediate assessment of prisoners as -- which
9 is
10 required by state law to be evaluated after they are
11 incarcerated.

12 However, if you take one of our greatest needs in this
13 state, which is adolescent and child psychiatry, that really
14 requires observation of the group setting of the child, and
15 that's going to be -- that's got to be real time and high
16 bandwidth capacity. And that -- so as you go up bandwidth
17 capacity, we can really do more around the state than low
18 bandwidth, and that's what we're pushing for.

19 The big issue, as they've all mentioned, and we've all
20 seen -- I was in Fort Yukon a few weeks ago, and it's the
21 issue
22 of multi-use of these -- of the bandwidth. That's got to be
23 where it's at, and I think in pretty creative ways, with
24 partners we're not typically used to working with. And I'll
25 stop there, Lieutenant Governor.

23 LT. GOV. ULMER: Great, thank you very much, Tom. Bob.

24 MR. CITA: Hi, my name's Bob Cita, and I guess one of
our

25 questions was to share an innovative and effective use of

1 advanced services to provide health care. And I think the
one

2 thing I'd like to share is a project that's run out of the
3 Alaska Native Medical Center, and it's a project called
Multi-

4 Facility Integration. And it's a system in which all the
5 tribal organizations without -- throughout the state of
Alaska,

6 as well as the public health nurses in the various
communities,

7 can share visit information, health record information,
amongst

8 ourselves.

9 I think there's a lot of travel throughout the state.
For

10 instance, in Sitka there's a state boarding school that we
get

11 kids from all over the interior down. And through this
12 program, multi-facility integration, their health information
13 that's stored, say, up in the hospital in Bethel can be
14 accessed by the hospital in Mount Edgecumbe and Sitka. If
that

15 kid comes in with a -- needs a suture, we can look to see if
16 they've received a booster shot recently.

17 The other big -- the big bonus of this project, as I'd

18 mentioned, the public health nurses. We're interconnected
with
19 that organization, and they provide a lot of the immunization
20 shots out in the rural part of the state. And so as the kids
21 travel, if they come out of a village to come in and do some
22 shopping, and stop and want to get some shots as well, we can
23 through the system determine if they've received -- you know,
24 which shots they have received.

25 It's kind of a low tech system in a lot of senses, and
for

1 me I think that's it's beauty. I think through some of the
2 programs such as Universal Service Funds, that the rural
health

3 -- I kind of see the fog's kind of lifting in the state. And
4 we're, for the first time, I think able to look out and ask
5 some questions and look at some more innovative and perhaps
6 higher tech solutions to meeting some of our health needs in
7 the smaller communities. And I just would like to share our
8 excitement over this project, and like to see it continue.
9 Thank you.

10 LT. GOV. ULMER: Rebecca?

11 MS. GRANDUSKY: I'm Rebecca Grandusky, Chief Information
12 Officer in YKHC, and I also chair the AFHCAN Telemedicine
13 Steering Board. And that is a major telemedicine project
14 that's going on around the state right now. It was funded
15 through the generosity of Senator Stevens, and it includes
all
16 of the federal agencies in the state, as well as the state
17 public health nurses are a part of that project.

18 And what we see from telemedicine, and in looking at the
19 HIPAA regulations that are out there floundering right now,
and
20 we don't know where they're going, but the strength of HIPAA,
21 it sounds like that the telemedicine is going to be a wide
area

22 network that is -- has many protection and security layers.
23 And so whether that can be done over the internet right now
is
24 questionable, and may require us to have a stand-alone
25 telemedicine network in the state.

1 And we're watching the regulations real closely because
of
2 that. It will allow us to have internet access, but we will
3 have to make sure that we have really tight portals to the
4 internet access. And in fact, that's what YKHC is doing
right

5 now. We have one internet access portal and we monitor that
6 tightly. We are able to transmit that across our wide area
7 network to health aides in the villages using a proxy server.

8 And as far as the questions that you put out, I think
that

9 for us, telemedicine is going to help us really to provide
10 services locally, which is what our patients want. It will
11 give also our health aides access to peer support, and our
12 other providers. We're in very -- our providers work in
really

13 isolated areas, and they feel sometimes professional
isolation

14 as well as personal isolation. And telecommunications will
15 really provide an easier forum for them for their referrals,
16 and for looking for information both on the internet and from
17 other providers.

18 We hope that what it will do for us is to lower our
19 provider burn out rate, and maybe help with our provider

20 turnover. And believe it or not, health aides have as high
of
21 a turnover rate as providers in our area because of the
stress
22 level put on them due to their isolation. We also hope that
it
23 will help patients to become more educated in their own
health
24 care.
25 I think the most important thing for YKHC is
asynchronous

1 transmission, or store and forward technology. There's
really

2 two main reasons for that. Number one is the barrier of
time.

3 We're talking about busy providers. We're not talking about
4 doctors who have time to schedule a two-way interactive
5 videoconference with a patient and a health aide, we're
talking

6 about people who have minutes in their day to spend reviewing
7 charts. And by having store and forward technologies,
8 physicians and health aides can review charts at their
9 convenience rather than trying to have everybody scheduled
10 together. So time, I think, is a big barrier to us.

11 And the second barrier is transmission quality, and you
12 heard that earlier in the discussion about the latency delays
13 in the satellite. And that's just going to be a fact of
life,

14 we already know that, but the store and forward technologies
15 really give us the ability to clean up that jerkiness and
16 fuzziness and all the junk that comes across the satellite.
17 And we can put in software to clean it up, so that at the
18 provider end it's a very fast, easy connection when they
19 finally get to look at the picture. And it makes a big
20 difference when your day is already hectic.

21 I think the most significant impediment for us is cost.

22 When you look at the cost of broadband access in Anchorage at
23 \$900 a month recurring cost, and in Bethel at \$13,000 per
month

24 recurring cost, there's no comparison. So until there's some
25 kind of equity in the rural costs, whether it's a ground or a

1 satellite transmission, you aren't providing equal service to
2 the State of Alaska communities.

3 The final thing I'd like to say is that I think there's
4 a

5 really great opportunity here for reduction in costs with
6 satellite transmission because we can integrate voice and
7 data

8 now, and that's going to make a big difference to us. When
9 we

10 look at YKHC, we right now are paying over \$2 million
11 annually

12 in telecommunication costs, which is almost three percent of
13 our budget. And that's just our recurring use of satellite
14 time, including long distance. That number could be greatly
15 reduced for us by integrating both voice and data. So I
16 think

17 that long-term, the change in technology will move towards a
18 voice and data integration. Thank you.

19 LT. GOV. ULMER: Thank you, Rebecca. Hazel, would you
20 like to add anything else?

21 MS. JULIUS: No.

22 LT. GOV. ULMER: Okay. Thank you very much to our
23 panel.

24 Commissioner Ness, do you have some comments or questions?

25 COMMISSIONER NESS: Thank you very much. When I visited

20 Bethel and your region back in 1997, I think this was at a
21 point where we were first beginning to write our rules for
22 rural health care. And the first set of rules were too
23 difficult to apply, and indeed what we saw, looking at the
24 rules and looking at the use of the rural health care funds,
25 that there -- it was obvious that the users were not finding

1 them particularly helpful, and so we revised our rules. And
we
2 seem now to have hit a better tone on those rules. Can you
3 comment -- is there anything at the moment, from a regulatory
4 standpoint, that restricts you from providing better service
5 and using the rural health care provisions of Universal
Service
6 more efficiently?

7 MS. GRANDUSKY: I think this year the rules really
changed
8 incredibly, to make it more efficient. What's going to
happen
9 now are the HIPAA and the HCFA regulations, which are going
to
10 probably still prevent us from sharing this bandwidth unless
we
11 come up with really tight security mechanisms for the health
12 corporations, so -- and that's going to be the issue. Right
13 now we could most likely efficiently share the bandwidth with
14 the schools, from the regulatory side -- FCC side. It's
going
15 to be now whether HCFA and HIPAA regulations will really let
us
16 do that.

17 COMMISSIONER NESS: Thank you.

18 MR. CITA: I'd like to add, it's difficult for us to
plan
19 for infrastructure development. I think the Universal
Service
20 Fund is a great way for us to build this infrastructure, but
21 there's a certain amount of capital expense at each facility
22 that we need to obviously take on ourselves. And without
23 having any kind of a long-term sense for the project, for
24 Universal Service Funds, it's a kind of difficult business
25 decision. If we need to invest 100 or 200 or 300,000 on

1 network infrastructure, with the hopes that Universal Service
2 Funds will be out there in three, or five, or beyond years,
so
3 that we can, you know, realize return on that investment. So
4 our perspective in Southeast, I think if we had a little more
5 vision -- or a little better idea to help us with the
planning.

6 COMMISSIONER NESS: Points well-taken.

7 DR. NIGHSWANDER: My biggest concern, from where I sit,
is
8 this issue of sustainability. After -- for example, in this
9 particular project, in five year it goes away. I know that
10 Providence Hospital has been the -- really the most active, I
11 think, private partner in the state, and they've invested out
12 of their own funds tremendous resources. And the issue is,
is
13 this going to last.

14 And it -- around the country, as you've probably heard
in
15 telemedicine, there's been these really compelling
telemedicine
16 and successful projects that have lasted as long as the grant
17 has lasted, then they've disappeared. I mean, it's a litany
18 across this country of projects that have folded because of
19 cost issues. And so recurrent costs, cheaper transmissions,

20 and people -- in village costs -- you know, when you talk
about

21 transmission costs are annualized 12, \$13,000 a year, one or
22 \$2,000 a month, it doesn't sound like a lot unless you're
23 sitting in Shaktoolik, and then it's really a barrier.

24 COMMISSIONER NESS: Even by D.C. standards, it's a lot.

25 DR. NIGHSWANDER: Is it?

1 LT. GOV. ULMER: Anything else, Commissioner Ness?

2 COMMISSIONER NESS: No, thank you.

3 LT. GOV. ULMER: Okay. Commissioner Thompson, in
addition

4 to whatever questions you might want to ask, you might want
to

5 share the stitched cheek example, for those who are in the
6 audience might find it an interesting case study.

7 CHAIR THOMPSON: We saw -- it was an example of store
and

8 forward technology. When we were in the hospital -- Maniliq
9 Hospital in Kotzebue, they -- we saw a couple of good things
10 there, and stitch -- the cheek one was once. But they were
11 trying to show us how it was -- how this technology was used,
12 and how it was important to have these very good, high
quality

13 video pictures so you could diagnose it. And the pictures
were

14 kind of gross, but they showed how -- it was a puncture
wound.

15 And I think that one was from Selawik, I don't remember which
16 village it came in from. But they showed us the pictures
that

17 the doctor had reviewed, and how the doctor had been able to
18 use those to diagnose the patient.

19 And in that particular case, I believe that the --
because
20 of the severity of the injury, and the need to have it closed
21 up soon so it would heal quickly, the doctor in Kotzebue kind
22 of walked the person in the village through stitching the
cheek
23 up. And it looked fine, we saw it again later, much better.

24 So it was a good example.

25 The other fascinating thing we saw at that, to me, was
the

1 difference in connections. We -- they showed us -- they had
2 one T-1 sent to Selawik from that hospital, and we saw an
3 example of the type of transmission over a T-1. And then
they

4 turned around and did a connection to Anchorage, the main
5 office of this AFHCAN project. And the difference was quite
6 dramatic. You see the kind of blurry image, and blocking in
7 the picture, and it was very apparent to me the difference in
8 quality, and the physician's ability to use this as a
9 diagnostic tool was greatly limited when the connection
wasn't

10 as good. I couldn't imagine doing something like a
11 telepsychiatry assessment, or even a good assessment of
wounds.

12 And the clarity over the T-1 connection was wonderful.

13 We had the village health aide put her hand down on the
14 counter somewhere, and the camera was able to foc- -- the
15 doctor from Kotzebue was able to focus in on it. And we got
a
16 really good picture of skin condition. It's a very powerful
17 tool to deliver advanced medical training to areas where you
18 have a village health aide. And it was something that was --
19 it was great to see.

20 I wanted to ask a follow up question of Bob Cita, if I
21 could, which is about the medical records centralization. I

22 wanted to know more about the scope of the project, and where
23 you are in the process of deploying it, and how that project
24 was funded as well.

25 MR. CITA: It's a project that originally started with
the

1 Indian Health Service, and it's managed and operated at the
2 Alaska Native Medical Center. And I'm sure Rebecca can
3 probably help me. It's throughout -- almost the entire
tribal
4 -- almost every tribal site in the state of Alaska, as well
as
5 all the public health nurses are connected to the system.
6 Interestingly enough, the organization I work for is not, and
7 we are the last remaining tribal agency that's not connected.

8 And it also includes the hospital here in town, too, the
9 Alaska Native Medical Center as well. So being the main
10 referral hospital for most of us in a tribal site, it's
11 important that when our patients come back home to our
villages
12 that we're able to get access to those -- the visits and the
13 information that was -- the health care that was provided to
14 them while they were in Anchorage. And the project's up and
15 operating. It's been really going up -- it's been fully
16 implemented for several years.

17 MS. GRANDUSKY: In fact, the federal government was so
18 impressed with the MFI (ph) project, that they are starting a
19 project called GCPR, Government Computerized Patient Record.

20 And Alaska has been chosen as the alpha site for that. We're

21 going to test between the Indian Health Service, the VA, and
22 the Department of Defense. (Indiscernible) are already using
23 it. And it's a little bit like a credit card, it has a
minimal
24 data set for patients on it, and it just tells where your
25 record is stored and what kind of a visit you had. So when
you

1 look at the record on this patient, it just helps the doctor
to

2 clarify where he needs to go for the record. It doesn't
3 actually transfer the records.

4 LT. GOV. ULMER: Kathy, do you have any questions?

5 MS. BROWN: Could I ask what would be the sort of
6 practical human problems of having to also coordinate, say,
7 with the education side of things here in the state? Suppose
8 we acted on this notion that we need to aggregate demand and
9 get to capacity. You know, having been in many communities,
10 and with communities, I know the practical problems of
sitting

11 down with two kind of disciplines to come up with ways of
using

12 it. What do you think, can we do it? Can it be done?

13 MS. GRANDUSKY: Well, we do it now to some extent. We
14 were just talking about this earlier today, or last night
15 maybe. Our health aides that float from village to village a
16 lot of times either have to stay in the clinic overnight
17 because they don't have a place to stay, or they will spend a
18 lot of time in the evening in the clinic. And they can take
19 courses on line right now. In fact, we have people from
Bethel

20 doing that, too. We allow them to stay after work if they
are

21 taking college courses on line. So through the health
22 corporation we're doing that. I don't know the schools.

That

23 would be something you'd have to -- maybe this afternoon
it'll

24 come up in the schools.

25 MS. BROWN: Well, I'm going to ask them, too, but I'm

1 asking you, of the two professions, is there a way to talk to
2 each other so that -- what we hear from the satellite folks
is
3 yeah, the capacity's there, but we need folks to use it, and
we
4 need them to use it more efficiently.

5 MS. GRANDUSKY: It definitely has to come from the
village
6 level, I believe. I think that village communities will take
a
7 firm stand and do that. We saw that in Toksook Bay where we
8 started working on this project. In fact, Hazel's from
9 Toksook. And we actually saw schools and community people
come
10 together. And today I've hired one of the school people from
11 Toksook who -- or students, who is now my web designer. And
he
12 does the work in Toksook Bay for us.

13 MR. CITA: I would say it's definitely a challenge,
14 because we don't really have strong relationships right now.

15 One of the gentlemen earlier -- earlier panelist had
mentioned
16 that through the E-Rate and Universal Service Funds, there's

17 not a lot of incentive to, you know, combine these services.

18 And perhaps from a regulatory perspective, if there was some
19 type of initiative -- he'd mentioned that he was also a local
20 exchange carrier in those communities as well. And perhaps
21 some kind of incentive on that end where they could perhaps
22 design and build the infrastructure that would allow the two
23 organizations to connect, say, in their facility and then we
24 would, from there, share.....

25 MS. BROWN: Well, I had a similar thought. If the

1 industry itself was incented (sic) to provide services to its
2 customers, you, in a way that it was sharing those services
3 with its other customers, say the school community, would
that
4 then bring you all to the table to think about how that could
5 be done?

6 MR. CITA: I think we would be more than open to, you
7 know, looking at that kind of approach. See, Rebecca had
8 mentioned earlier, too, I mean I think we do have some
privacy
9 issues. Our business, we really try to, you know, defend and
10 protect patient records, and their privacy. It's very
critical
11 for just about any type of infrastructure that we develop.

12 MS. BROWN: But I was hearing that even the simple
13 application of e-mail is crucial. And that seems to me maybe
14 not the whole thing, but a step that's the right way to go.
15 And if we're sitting with a capacity in our school, and our
16 health aides can get on the e-mail, it seems to me that we
can
17 at least start to make incremental steps toward this.

18 MS. GRANDUSKY: I think probably in the Delta we have
all
19 of the -- 100 percent of the health aides and the school

20 districts on the same e-mail network. It's called first
class

21 e-mail, and it was started through the Distance Delivery
22 Consortium, you'll probably hear more about that later, but I
23 think it's a big boon to allow students direct access to a
24 health aide in case they have a private question they want to
25 ask. The problem that we see, though, is that we have to
come

1 up with some better ways to encrypt that, because it's a
health

2 care record.

3 DR. NIGH SWANDER: In the next panel you'll hear about a
4 distance delivery education commission that's very -- it's
5 modeled on what we've done with telemedicine. It's shared by
6 the president of the University, Mark Hamilton. And so at
the

7 state level, we -- and those of us who have been involved
with

8 this think that there will be a melding of interests, and
9 there's a lot of very similar, common, and vested interests.

10 There's some special applications, obviously, in medicine and
11 also in distance delivery education, but we anticipate here
12 that we'll -- at that level -- again, this is the 60,000 foot
13 level, that we'll see a coming together probably of those two
14 groups eventually, because there's so many similar issues.

And

15 the big one is being accessing capacity.

16 LT. GOV. ULMER: Even though there are different
17 organizations, in a sense structurally, organizationally,
that

18 make decisions and that run these programs and that process
the

19 requests, I was thinking about it as we were in Kotzebue, in
20 the Maniliq region, even though the health care is run out
of

21 Maniliq, and of course the schools are run by the school
22 district, which is an elected school board, you have many of
23 the same people who sit on both the Maniliq board and the
24 school board. And they both, you know, are responding to the
25 same villages and the same community of interest, and serving

1 the same constituents who say they want better internet
access

2 and they want advanced services from both their educational
3 system and their health care system. So it becomes very
4 possible in rural Alaska, where you have so many of the same
5 leaders in a sense of these organizations overlapping.

6 The challenge then is I think, back to your question,
7 whether or not the regulatory system or the revenues, the
8 system of subsidy, can somehow be the extra little incentive
9 that gets these groups to come together and say let's put
aside

10 our separate entities and come to the table in a consortium
to

11 make it work for all of the organizations and all of the
12 constituents we serve. And I think that there certainly is a
13 way in which the FCC can be a player in providing that
14 incentive.

15 MS. BROWN: Just to add there, not that our industry are
16 economic development agents, but in a sense they are. And to
17 the extent that they -- the industry is willing to sit down
and

18 provide and make services available that are perhaps
different,

19 and thought about differently, then that also brings people
to

20 the table. And so I think from the government perspective,
21 maybe we should think hard about how to create those
22 incentives. And from the industry, private perspective, to
23 think about this as serving customers, and what the industry
24 needs from us to be able to do that better. So I think this
is
25 very useful to hear this kind of input.

1 LT. GOV. ULMER: Other panel comments on any of this
2 discussion? I would like to ask if, Rebecca, you would spend
3 just a few moments talking about AFHCAN. You mentioned it in
4 your opening comments, but I think for people here in
Anchorage

5 who don't know very much about it, either in terms of where
6 it's at right now or what its goals are in terms of the state
7 program, if you'd be willing, I think that would be useful.

8 MS. GRANDUSKY: I'll try. The State of Alaska federal
9 agencies received about \$30 million over a four or five year
10 period to put telemedicine equipment into 235 rural sites.
11 Most of those sites are Indian Health Service sites. There
are

12 also, I believe, four Department of Defense sites, two VA
13 sites, and seven PHN sites that were on that list.

14 The telemedicine equipment is -- you saw an early
version

15 of that equipment in Hazel's demonstration. It is a PC based
16 system that allows a video oto ophthalmoscope, a derm scope
for

17 skin, and a heart monitor, EKG, to do wave patterns from
18 monitoring. Those three pieces of equipment will be
available

19 to every one of the sites, and that -- it will also allow
them

20 to purchase equipment to connect to the telemedicine network
21 that I spoke briefly about. And the telemedicine network
will
22 be a joint effort. In fact, I think it's got -- already a
co-
23 location in AT&T and GCI, with a across-town ATU link between
24 the two, is that correct? It's.....

25 UNIDENTIFIED VOICE: Uh-huh.

1 MS. GRANDUSKY: Oh, okay. I'm not sure what the telco
2 side has in it, but it's trying to be a telco independent
3 network so that hospitals and clinic can have their choice of
4 access to the network. The federal sites, everybody has to
5 come up with their own recurring costs to join up to the
6 network. They can only -- the grant will only purchase the
7 equipment. So that's why when we were talking about
8 sustainability earlier, and the cost of telecommunication,
9 that's going to be critical to the project if we are going to
10 continue that project beyond its grant inception. And it
will

11 allow also private practices and hosp- -- private hospitals
to

12 join up to the network. They do not receive equipment,
however

13 they are free to join up, and anyone will be able to
transmit.

14 It will allow the transmission of radiology images, and then
15 the other images that I described to you earlier.

16 LT. GOV. ULMER: Any further questions?

17 CHAIR THOMPSON: Given the opportunity, I wanted to
follow

18 up with this panel and find out what their vision is for the
19 future of telemedicine in this state. As a policy-maker,
it's

20 helpful to know, you know, where you want to be in five or 10
21 years as opposed to just where you are now. And what we've
22 seen and heard is a couple of exciting projects that are just
23 starting. But if you could get where you want to be in five
or
24 10 years, where should we be targeting?

25 DR. NIGHSWANDER: Can I start, Nan? I think that

1 different communities are going to need different capacities,
2 depending on the -- it's going to be tailored, it's not going
3 to be one size that fits all.

4 Let me give you a real practical example. Right now the
5 Family Practice Residency program has all the equipment to do
6 continuing medical education on Thursday afternoons out in
7 Bethel to the Bethel physicians. Rebecca does not -- her
8 \$13,000 a month line is absolutely full, and she has no
9 capacity. And clearly it's a system that's all ready to go,
10 it's -- and we are dead in the water in making it happen. So
11 if you take a regional center like Bethel or Kotzebue,
clearly

12 we're going to need much higher bandwidth capabilities.
13 There's no question about that. And we need it -- actually,
we
14 need it today.

15 As you go -- then -- and the Lieutenant Governor
16 mentioned, our communities under 1,000. But there's some
17 regional centers. If you take people at places like McGrath,
18 and Galena, and Fort Yukon, that have -- for example, have x-
19 ray equipment, there we're going to have a tailored -- what
we
20 need is kind of a tailored capacity for what is available
21 locally. I think the big promise -- the big promise, of
22 course, is services closer to home for our patients.

23 Frankly, I'm not planning on saving any money on this
24 system. You know, I think that we have all said that we're
25 going to reduce transportation costs, and that it's going to
be

1 cost neutral, and I've -- I hope I'm wrong on that. I don't
2 expect to use that as an argument. I think that we can bring
3 services closer to home, but I -- in terms of capacity
tailored
4 to the community, and where we want to be, I think we want to
5 have the flexibility. But the big deal is to make it
6 reimbursable and make it so it's financially sustainable, and
I
7 think that's our biggest challenge frankly.

8 LT. GOV. ULMER: Thank you, Tom. Bob?

9 MR. CITA: Well, I really -- my sense is that we're
really
10 on the verge of seeing telemedicine explode in the state of
11 Alaska. I would think -- and probably Tom's got a better
sense
12 of this than I do, but most of the providers throughout the
13 entire state recognize potential benefits and the need. I
14 completely concur with the comments about costs. These
15 systems, at least from my perspective, I don't see a saving
of
16 any costs, but I do see us improving health care, improving
17 access to health care.

18 A point Rebecca made earlier about providing support out
19 in the villages, you know, it must be a terrible thing to see
a

20 trauma come in, to a health aide in a village, that it's 20
21 below zero and the wind's blowing 40 knots, and there's just,
22 you know, no chance for getting any type of support for that
23 person other than perhaps some type of a telemedicine
project.

24 So I really see a lot of enthusiasm throughout the state.

25 We haven't mentioned it, but there was a federally
funded

1 teleradiology project that's gone through most of the state.

2 You know, computed radiography is going to be really big,
it'll

3 allow us to be able to do more x-rays out in the villages
4 without requiring high end radiology technicians to be doing
5 the shooting of the film. So I think we're -- I think
6 culturally we're really ready to probably join the rest of
the

7 United States on this.

8 MS. GRANDUSKY: If I had to say where I wish we'd be in
9 five years, it might really be out there, but I'll try
anyway.

10 First of all, I think we have to have cost equity in our
11 telecommunication satellite use between rural and urban
areas.

12 If that doesn't happen in the next five years, urban -- the
13 digital divide is going to become a chasm that nobody can
14 cross. And we have to have 100 percent convergence of voice
15 and data to do that. That's the only way it's going to
become

16 cost effective for us.

17 And then from the health care side of it, I think we
need

18 access to our patient records, no matter where they are. Are

19 they in a village clinic, are they in Anchorage at the ANMC,
20 wherever they're at our physicians need access to those
patient

21 records the same way our health aides do in the village.

22 And from the security standpoint, where I hope we'd be
is

23 in the use of biometrics. If we can do fingerprint access,
or

24 voice recognition, or face recognition access, I think maybe
25 we'll meet the security requirements that HIPAA is asking for

1 us.

2 And then finally, nobody's mentioned this yet today,
but

3 -- and it falls outside of the FCC, but I have to say it
4 anyway. I think that there's going to be an increased
5 availability of spread spectrum wireless radio technologies.

6 And for some areas of the Delta, that might really be
7 beneficial for places -- if our doctors want to go out to the
8 river fishing, and it's just a little too far to reach the
9 network. But with spread spectrum, I could possibly put the
PC

10 on their boat or something. I mean, there's -- you know, I
11 don't know what the issues are going be, I know.....

12 DR. NIGHSWANDER: We don't want it.

13 MS. GRANDUSKY: I know all our health aides want to
spend

14 the summer in fish camp, and if we can hit the fish camp with
15 spread spectrum. So I think those are the technologies that

I

16 hope we see in five years, and I hope is where we're at at
YK.

17 LT. GOV. ULMER: Hazel, you get the last word.

18 MS. JULIUS: More distant communication.

19 LT. GOV. ULMER: That sums it up. Well, if there aren't

20 any other questions, or any other comments by this panel, I
21 want to thank you all very much for sharing your expertise
this

22 morning and also for what you are doing to bring telehealth
to

23 Alaskans. We really appreciate your work. We are actually
24 early.

25 I know this is unusual, but it will give you all an

1 opportunity to get out and get lunch and be back here. We do
2 plan to start at 1:00 p.m. with our distance education panel,
3 so we hope you will join us for this afternoon as well. With
4 that, we are adjourned for the morning. Thank you very much.

5 (Off record - 11:10 a.m.)

6 1780

7 (Tape change)

8 Tape 3

9 0015

10 (On record - 1:10 p.m.)

11 LT. GOV. ULMER: Please take your seats, and we'll go
12 ahead and begin.

13 Our panel this afternoon on distance education I'm
really

14 looking forward to hearing from you all. I know that there
are

15 many exciting things happening all across Alaska, and it is
16 really true that if you scratch the surface in one region,
and

17 then you go to the next region and scratch the surface, you
are

18 just -- I'm always amazed about how much really is happening.

19 Having said that, there's still much work to be done.

And

20 it is our hope that our panel this afternoon on distance
21 education will both tell us about the many exiting and
22 wonderful things that are underway already in rural Alaska,
but
23 can also give us a vision of what -- where it's possible,
what
24 some of the barriers are, and what some of their suggestions
25 are for both federal and state level of governments.

1 Okay. Well, let me tell you who is on our panel. Steve
2 Smith from the University of Alaska. He is the Chief
3 Technology Officer. He is part of President Mark Hamilton's
4 management team. He oversees the University's networks, core
5 information systems, and systemwide information technology
6 planning.

7 I would -- actually I think this time I'm just going to
8 introduce you and let you speak and then we'll go on to the
9 next person. So, Steve?

10 MR. SMITH: Great. First, let me preface what I'm going
11 to say is that one of the core principles of the University
12 is
13 that -- is access and that we -- one of our goals is to
14 provide
15 access to education to all Alaskans, regardless of where they
16 may live. And having said that, we see, and it echoes the
17 comments that were made this morning that you'll hear again
18 this afternoon that we hear with this whole digital divide
19 issue, but we see particularly within the University as a
20 higher education research institution growing -- this growing
21 chasm that as we open up new fiber optic bandwidth capacities
22 to our three main urban campuses in Fairbanks, Anchorage, and
Juneau, we have an OC-12, for instance, that goes from
Fairbanks down to the gigapop center in Seattle.

23 And as we have tremendous capacity there to do things,
we
24 then go out to serve our students in rural Alaska and many of
25 them don't have the basic internet coverage. By our
estimates

1 about 10 percent of the population that we serve does not
even

2 have any hope of getting the basic internet access, probably
3 another 10 percent it's not affordable, and so we don't
4 consider that equitable access. And yet we see, and I see
that

5 directly, I just got back from meetings for Internet II, that
6 the next generation internet that's coming which is going to
7 have video, it's going to have audio, it's going to have
multi-

8 media graphics, that this split is going to widen if we do
not

9 pay a great deal of attention and put a lot of energy to
10 narrowing that gap. And that's one of our major concerns.

11 We encourage at the University strategies that do the
two

12 C's that we call. One is that we really think a competitive
13 environment is going to help maintain something that's
14 sustainable, and lower the cost. In every place that that
has

15 happened, where there has been a competitive environment, we
16 see the bandwidth around the world is dropping. It's not
17 dropped in rural Alaska as several of the folks this morning
18 talked about. But we would like to encourage a competitive
19 environment there.

20 We are in the -- and as I think many of my colleagues up
21 here will talk about, we're in the content business. We
just
22 want to deliver that over whomever provides the best delivery
23 system for that. We don't want to build the highways, we
want
24 to put the vehicles of content onto those highways.
25 But we also to foster collaboration, and that was
brought

1 up several times this morning, for that telecommunications
2 environment. We very much think that what we need, and from
3 our perspective trying to deliver this on a daily basis, we
can
4 no long stovepipe the delivery mechanisms, that we can't have
a
5 circuit going in for education and over here across town is a
6 circuit that's going in for health, and here's another
circuit
7 that's going in for state government, and here's yet another
8 couple of circuits that are coming in for a couple of federal
9 agencies there. That would, if we put that altogether, we
can
10 actually get together boys and girls and put on a show and
get
11 out there.

12 We think that the dialogue really should focus on
bundling
13 separate services. That's video, voice and data. All of
that
14 is coming together over IP at the University. We're
15 aggressively moving into video over IP. We've done some
16 preliminary work with voice over IP, but we think that that's
17 all going to come together over the same framework, and that
18 you need to aggregate that and that you need to look at a

19 discussion of aggregate bandwidth rather than separating it
out

20 into discrete services, so that you say, here's a television
21 broadcast, here's video broadcast, here's an audio broadcast
22 that goes out, here's some data, and they're all going in
23 separate discrete. That goes back to my stovepiping. We
think

24 there needs to be a discussion on aggregate bandwidth that's
25 going to serve all those areas.

1 One of the things that's our biggest frustration is as
we
2 go out to deliver educational programs, and we get out to
rural
3 areas, we say, well, to these 51 communities we can do this,
4 and to these 23 we can do that, and these guys out here, we
5 can't even reach. And so we want to get rid of that, and we
6 want to level that playing field, and we want to see where we
7 can get to some aggregate bandwidth that can provide many of
8 those services, and that we share that.

9 Within the University we can't afford to pay for that on
a
10 separate basis to every community. We may have one student
11 this semester in a community, and next semester 10 students,
12 and the semester after that no students in some of the
smaller
13 communities. So we want to play with other folks. We look
for
14 partnerships where we can do that. We've done that in the
past
15 with libraries. I think two notable examples of those kind
of
16 partnerships is one with the satellite interconnection
project.

17 That has public broadcasting. It has gavel-to-gavel coverage

18 of the Legislature. It has television programming for rural
19 areas that otherwise are unserved, and it has an educational
20 channel on there called Alaska 3. And we're pushing that one
21 to deliver data over that because that's a digital signal.
22 When it's all digital, it doesn't matter what that
information
23 is. And fact we're about ready to start doing streaming (ph)
24 audio throughout the university system of the gavel-to-gavel
25 coverage.

1 The last thing that we believe is that the digital
divide
2 is not only a technology problem, but as importantly, it's a
3 training and education problem, that once you bring the
4 pipeline out there, folks have got to know how to use that,
5 what the potentials are there, and that's an ongoing problem.

6 And they also need to know how to make use of those things,
and
7 how to maintain that out in all the communities throughout
the
8 state.

9 LT. GOV. ULMER: Thank you so much. The next person on
my
10 list, it may not be the next person in the row, is Martin
Cary,
11 vice president of Broadband Services, GCI. Martin Cary
12 develops and implements GCI's broadband strategy as it
applies
13 to distance learning and telehealth applications. GCI is an
14 Alaskan facility-based integrated communications --
15 telecommunications company providing voice, video and data
16 communication services to more than 180,000 residential,
17 commercial and government customers. GCI is a provider of
18 broadband communications services across the state via cable

19 modems, DSL, fiber optics, satellite, and wireless
20 infrastructure. Martin?

21 MR. CARY: Thank you. I guess I would like to make my
22 comments really from two perspectives. One, my most recent
23 role, which is working at GCI, and, two, prior to that being
a
24 director of information and technology on the North Slope for
25 10 years, kind of being on the other side of this equation,
and

1 trying to implement distance ed applications at the time in a
2 non-competitive environment.

3 I'd like to start just as a kind of walk-through some of
4 these questions. First, with funding, we went through the
5 whole process of going after grant money and then ultimately
6 sold a bond to fund the Distance Learning program. And you
see

7 that throughout the state in many of these projects, both in
8 the telehealth world and in the distance learning world. And
9 the biggest problem to overcome is just the sustainability
10 associated with the ongoing recurring costs. And so I'd
first

11 like to just endorse what the FCC did in terms of the UA
12 program and the rural health care subsidy, because it is an
13 absolute requirement to give some of these projects
14 sustainability.

15 To address some of the other issues, specifically I
16 thought it might be interesting to just get a little
17 perspective on how much has happened, and how quickly it's
18 happened. In 1997, at the end of 1997 and the beginning of
19 1998, we began deploying internet into schools through the
20 E-Rate program, as did several other carriers. And prior to
21 that the majority of rural Alaska had no access to the
22 internet, and so we have to remember the steep learning curve
23 that the school districts are on in terms of implementing

24 applications utilizing internet based technology, and
distance

25 learning as an application is more than technology. It's

1 significantly more than technology, and it's very
complicated,

2 and it's going to take these folks some time.

3 The other comment in regard to that is the conversations
4 that have been taking place in terms of collaboration and
5 shared resources, whether it be on a satellite facility or
6 whatever. This program is very new, and people don't yet
have

7 and have not had time yet to put in place some of those
8 collaborative agreements. And so I think every -- all of us
9 realize that it makes more sense to have shared
infrastructure

10 as much as we can, or schools and health corps and public
11 libraries to be sharing infrastructure and sharing access to
12 these very expensive resources, and we're beginning to see
that
13 already taking place.

14 The gentleman sitting next to me, Mr. Beckley, I think
15 will talk to a collaborative effort down in the Aleutians
East,

16 and I think it's what we want to continue to see happening,
and

17 that's schools and health organizations collaborating and
18 bringing the most bandwidth into the community at the best
cost

19 they can.

20 Another -- some other interesting facts in regards to
the

21 growing digital divide, and, you know, it's -- we seem to
adapt

22 so quickly we forget how quickly things have changed, but
this

23 is some information from Robert Samuelson, and actually his
24 editorial in Newsweek dated today; however, I read it two
days

25 ago. Modern technology. That since 1990 the number of U.S.

1 households that have computers has gone from 22 percent to 53
2 percent. That the annual U.S. shipments of computers has
grown
3 from 9 million to 43 million computers per year. Households
4 connected to the internet has gone from essentially zero to
38
5 percent, and that global web sites in that period have gone
--
6 have grown from 313,000 web sites to over 56 million. And
7 that's rapid growth. And much of our state has not been
able
8 to directly participate in that, and I think from an economic
9 development and from an education perspective, and from a
10 public policy perspective, we should have some significant
11 concern over that.

12 In terms of looking forward to where education and
13 distance learning is going, I think you will find as you look
14 at just from what textbook publishers are doing, you have
this
15 increasing move towards accessing information in real time.
16 It's more relevant to students, and it makes their learning
17 experience better. And the Department of Education, the U.S.
18 Department of Education, has had multiple learning anywhere
at

19 any time initiatives. And currently the implementation of
the
20 UA program is a little out of synch with that in that it is
21 restrictive in terms of remote access to the schools'
networks.
22 So I would highly suggest that we take a look at that, and if
23 there's a way to better accommodate students which are most
24 likely going to be more mobile and expecting to have access
to
25 education, we should try to accommodate within that program,

1 so, thank you.

2 LT. GOV. ULMER: Thank you very much. Our next panelist
3 will be Chick Beckley, Facilitator of Instructional
Technology

4 at Aleutians East Borough School District. Chick has been
5 involved in Alaska education since 1981. He is currently
6 responsible for developing and implementing technologies for
7 the Aleutians East Borough School District. I might add that
8 this school district is 15,000 square miles, or 300 miles
long,

9 about the same distance between Cleveland and Chicago, with
six
10 communities, none of them with roads connecting them. Chick?

11 MR. BECKLEY: Thank you very much, Lt. Governor Ulmer,
12 Commissioner Ness, Chair Person Thompson, and Chief of Staff
13 Brown. Thank you for the opportunity to be able to address
you
14 today, and this audience.

15 I've brought along a visual aid for you. I know you've
16 been to the north, you've been to the Lower Kuskokwim areas,
17 and to Southeast, and we'd love to have you out in the
18 Aleutians. If you use your hand as the state of Alaska here,
19 this would be Juneau down here by my wrist, Barrow would be
up

20 here. I live out here on my little pinky fingernail there,
so

21 -- and points to the west. So please come on out. We have
22 some of the most challenging weather in flying that you'll
23 encounter.

24 There has been some suggestion earlier today -- I have
25 about five points that I want to hit, and I hope I can bring

1 people out of their food coma from lunch, you know, that kind
2 of down time. There's been some suggestion that perhaps the
3 E-Rate has provided disincentives for aggregation of
services,

4 and disincentives to competition. I would like to let you
know

5 and kind of echo something that Martin brought up.

6 We began as a school district our attempt to bring in
7 broad bandwidth services, internet connectivity into our
school

8 district in 1991. We met with vendors, we begged, we
pleaded,

9 we did everything we could, and it was not cost effective.

The

10 discriminating laws of economics kept us out of that loop.

And

11 I would suggest to you it still would be today. In December
of

12 1997, because of the E-Rate program, we now have the lights

13 turned on in virtually all of rural Alaska. Without

question,

14 the E-Rate and rural health programs have done more to turn
on

15 the lights in rural Alaska than any other single factor. It
is

16 simply good policy, and I would implore you, please do not
17 modify or abandon this program unless it can be replaced by
18 something that improves the quality of service to our
19 communities. I represent the end users. The students.

20 Somebody was saying, well, suggesting earlier that
health

21 clinics, school districts, don't want to -- want to
22 collaborate. They aren't interested in aggregating services.

23 Health clinics are interested in making people healthy, and
24 improving the quality of life. School districts simply are
25 interested in educating kids and increasing the quality of
life

1 through that. We aren't into bits and bytes. We're about
2 people. And I want to remind everybody, that's what this is
3 about. And telecommunications in rural Alaska is not about
4 satellite delivery and bits and bytes. It's about people,
and
5 we're the end users.

6 I want to tell you a couple of stories. This is one of
7 these half full/half empty things. This is what I think is
the
8 biggest issue. It's been hit at a lot. Is the glass half
9 full? Is it half empty? The bigger question is, what state
10 was the glass in before? All right. And in rural Alaska
11 clearly our glass is half full because we had nothing before,
12 and it's becoming half full now. But I want to tell you,
we're
13 still very thirsty out there in rural Alaska.

14 Now that we have a point of presence in virtually every
15 rural community, it is imperative I think to be able to
develop
16 the capability to push that out, and you've heard that over
and
17 over. How that's done, there's a whole lot of solutions.
And
18 let me tell you about one thing that we're doing out in the
19 Aleutians East. We talked about health and maximizing

20 bandwidth. The Aleutians East Borough School District and
the
21 Eastern Aleutian Tribes, which is our health corporation,
have
22 gotten together, once we realized that we both had subsidies.

23 They get bandwidth subsidy. A darn good bandwidth subsidy.
T-
24 1 lines for about \$1,000. They don't get subsidized for
25 internet access, they don't get subsidized for the management

1 of routers and servers and those sorts of things. The school
2 district does.

3 So we have gotten together in consortium with our
service

4 provider to build a network. Their security is assured.

Ours

5 is, too, but we've added to get at our bandwidth, and we'll
be

6 rolling that out before the end of the year. That is not
just

7 a win/win proposition. That brings a school district, health
8 organization, SLD, rural health, everybody together. That's
a

9 win/win/win/win/win combination.

10 Let me tell you some stories real quick. I see my sign
11 for one minute. How are we using it? Traditional ways,
12 internet access, e-mail, distance delivered courses. But we
13 also have primary sources. In Akutan we have a weathercam
that

14 we've put up. This is tremendous -- or horrendous flying
15 conditions. The pilots in Dutch Harbor plug into the
16 weathercam, a live weathercam in our school, to check weather
17 conditions before they fly over. Our kids in Nelson Lagoon.

18 Many of you know what these glass floats look like, Japanese

19 floats. They have started -- this is the float capital of
the
20 world. They've started an e-business on line, and you can
21 actually buy the floats, put in a credit card, secure service
22 sort of thing. They're doing E commerce. We have
23 collaboration there. We're going to be streaming (ph) our
24 basketball games. That may not seem like a lot, but in rural
25 Alaska basketball rules. And this is another way that we

1 increase the quality of life. We tell our stories, not just
2 bringing in information, but we tell our stories, things that
3 only people in rural Alaska can tell. Nowhere else can they
4 tell these stories.

5 Finally, some solutions. Please focus on regulation and
6 eligibility on a learning environment, not on buildings.
7 Currently buildings are eligible for E-Rate subsidy. The
8 learning environment though is what we're interested in. We
9 need to be able to have home schooling kids be able to dial
in.

10 We need to be able to have more than a one size fits all
11 educational model, and so those are some things that would
12 help.

13 And with that, I'll leave it up for other questions.
14 Thank you.

15 LT. GOV. ULMER: Thank you very much Chick. Our next
16 panelist is Brooke Selmer, acting Information System Director
17 for Ilisagvic College in Barrow. Brooke was recently awarded
18 grants from the National Science Foundation, the American
19 Association of Community Colleges, and Microsoft, to develop
20 information technology curriculum for remote rural community
21 residents, incorporating distance education methodology.
22 Brooke?

23 MR. SELMER: Thank you very much. I want to bring a
24 perspective of teaching methodologies and pedagogy to the

25 conference. I'm fascinated with the technology, and with the

1 suggestions for collaboration. And I do want to point out
that

2 the E-Rate program for our area has been incredibly useful,
3 however, looking out at the audience and at the panel
members,

4 I don't see anybody who's in kindergarten through 12th grade.

5 And the fact of the matter is, is in our area that is where
the

6 E-Rate program helps. It's in the K through 12 environment.

7 Unfortunately, the digital divide as we see it, not only from
8 an educational perspective but from the perspective of the
9 average home owner who's engaged in E Commerce as a consumer,
10 will not be able to benefit from that.

11 And I think it's important to understand while that has
12 had terrific impact, it does not help the higher education
13 environment as well. We cannot share the bandwidth that the
14 North Slope Borough School District has, for example, without
15 risking their entire E-Rate subsidy. Nonetheless, 80 to 95
16 percent, and this is a staggering number, 80 to 95 percent,
of

17 our incoming students who are adults do not score high enough
18 to be placed anywhere other than the lowest level of our
19 remedial classes in reading and writing, yet we can't take

20 advantage of the E-Rate program, and that's extremely
21 frustrating.

22 To give you some specifics, last year we asked for
quotes

23 from GCI and AT&T in terms of the minimum amount of bandwidth
24 we were told necessary to be able to provide video
conferencing

25 between our borough campus and our village campuses. It
would

1 turn out to be, if we were to provide this among all of our
2 villages, a bill on the order of \$60,000 a month. We can't
3 justify that, not based on the number of students that we
would
4 have, not based on the budget that we have for the entire
5 institution.

6 This is an area where we feel it's incredibly important
7 that there be some focus if there's subsidies going on. Give
8 it to us where we're actually trying to develop work force
9 potential. Allow us to take the people who have gone through
10 the high schools and the junior highs and the grade schools
and

11 have enjoyed the E-Rate subsidy, but let us then take those
12 skills and develop them into ways that they can actually
13 provide for the kids that they are now putting in the public
14 school system. It's not happening yet, and we're looking
15 forward to any opportunities that come out of this sort of
16 dialogue to allow that to happen.

17 We're convinced as well, in fact, there needs to be some
18 attention not only based -- or focused on efficiency in terms
19 of bandwidth utilization, but the efficacy issue when it
comes
20 to education. What I mean by that is that for a great part
of

21 the distance education world, asynchronous communication works.

22 It works well, particularly for those that are motivated.

You

23 can dial into any number -- actually thousands at the moment of

24 higher education institutions providing online learning

25 opportunities.

1 However, in rural Alaska, with the student population
that
2 we deal with, synchronous communication is paramount in terms
3 of effectacy -- efficacy rather. We have to be able to see
the
4 people, we have to be able to hear them, we have to interact
5 with them on an ongoing basis. If you deal with many of the
6 indigenous populations, you'll find that unlike western
7 populations, they are not going to necessarily raise their
hand
8 or their voice or send a pointed e-mail to an instructor when
9 there isn't clari -- when there is no understanding. They'll
10 sit there and be quiet.

11 That happens in a regular classroom, that happens online
12 as well. Instructors have to have the tools to be able to
meet
13 these cultural differences that are just as important in
14 providing a valid way of educating via distance as do -- they
15 do in the classroom.

16 In fact, I feel that one of the issues that we need to
be
17 very careful about is that distance education is not the end
on
18 -- end all and be all. We have to be very focused on the
fact

19 that instructors who are coming into this realm are
20 traditionally coming from the old school of instruction.

There

21 are a number of challenges that have to be met, and in the
22 rural parts of Alaska.

23 And by the way, I've heard talk about all kinds of
24 remoteness. Well, on the North Slope I don't think that we
can

25 even provide you with a sense as to how remote things are.

We

1 will not have roads between the communities for my lifetime.

2 We will not be able to necessarily, unless they find not only
3 oil fields, but diamond mines, fiber optic cable between the
4 communities. It's just simply far too expensive. So our
5 entire future is dependent on the satellite broadband
6 technologies, and we're extremely anxious for the future. I
7 think I'm going to leave it at that.

8 LT. GOV. ULMER: All right. Thank you so much. Well,
as

9 long as we're up in the Arctic, let's continue then with Dave
10 Fauske, the Arctic Slope Telephone Association Cooperative
11 general manager. ASTAC is a local exchange service provider
12 for all of the communities on the North Slope, with the
13 exception of Barrow. ASTAC has a pending application with
the

14 RCA to purchase the Barrow exchange from GTE. And Dave will
15 tell us about some of the challenge -- the other challenges
of
16 the Arctic.

17 MR. FAUSKE: Thank you very much, Lt. Governor Ulmer,
and

18 distinguished members of the conference panel. I have
19 submitted some written material which was requested, I think
20 which is available to you. And in addition, I want to

21 reference two documents that in some detail reflect the
22 position of a local exchange company serving the remote rural
23 area, which we are. The OPASTCO organization has prepared
and
24 submitted, and I can certainly copy you on that, a briefing
25 paper that covers a lot of the issues related to access,

1 Universal Service, caps on USF fund for high-cost providers
and

2 so forth, as has NTCA.

3 So what I'd like to do, briefly, is try to give you in
the

4 context of a good Lutheran sermon three points that I hope
5 you'd take back with you. Impressions are important. I just
6 took my son -- my grandson, excuse me, to Washington, D.C.

and

7 visited the Smithsonian and the mall and the Vietnam Memorial
8 and the Lincoln Memorial, and he walked past the television
set

9 last night and said, Papa, what's going on? I said, well,
10 they're having a riot. There's policemen. We couldn't even
11 have gotten out of the hotel. He said, aw, heck, we missed
the

12 good stuff.

13 I want you to please think of Alaska as Micronesia and
14 Minnesota. Minnesota is the piece from Fairbanks down
through

15 Anchorage, and on down the Kenai. And very recently a spur
of

16 fiber optic cable that went up to Prudhoe Bay. It's the
17 terrestrially connected piece of Alaska that resembles the
rest

18 of the nation. Most of the rest of Alaska is Micronesia.

It's

19 little island communities, quite compact, isolated as just
20 described, without roads interconnecting them. It's a good
21 image to have, because I think it's one of the divides that
we

22 have to deal with, and it's not likely that there will be any
23 reduction in the growing difference between the Minnesota
piece

24 and the Micronesia piece. However, we serve a piece of the
25 Micronesia piece and we intend as a local exchange company

1 serving the North Slope to do everything we can to keep up,
and

2 not have another divide.

3 The second image I'd like to leave you with or give to
you

4 for your consideration is that the local exchange company
5 relative to distance delivery and other telecommunications
6 services is the custodian, the school custodian of
7 telecommunications. Now, I have some colleagues in the
8 audience here who have like I do often delusions of grandeur
9 about being general manager or president of a local exchange
10 company, but we really have the nitty-gritty piece. At times
11 we end up as the scapegoat. That's okay. We probably
deserve

12 it at times.

13 But on a day-to-day basis, it's our job to see to it
that

14 everybody in the community has access to dial tone. And as
we

15 go along doing that, we try to implement advanced technology
as

16 it's economically viable, as the demand warrants, and as
we're

17 able to do so under the regulatory regime. We're sort of the
18 janitors, the people that just keep one end of the community

19 connected to the other end of the community, and provide the
20 services that the people in between those two ends, the small
21 businesses, the village corporation, the school, the clinic
and

22 other entities need and deserve.

23 The third point I'd like to make very briefly is that in
24 Alaska the last mile is the best mile. This relates again to
25 the digital divide, and it's somewhat of a controversial
issue,

1 but if you visualize a divide, for instance the Grand Canyon,
2 think of a satellite dish on one -- on the south side of the
3 Grand Canyon, and another satellite dish on the north side of
4 the grand canyon serving two small communities. And the
piece

5 in between is the divide.

6 In many of the communities in Micronesia, the Alaska
7 Micronesia that I described, you have a small compact
community

8 that has a fairly recently installed digital telephone switch
9 with fairly recent and well maintained, unbroken,
unrepeated

10 copper plant. That means that DSL can be delivered in these
11 communities without any modification or a significant cost.
12 It's just that it doesn't go anywhere.

13 The other gentlemen on this panel have testified and
14 stated examples of breakthroughs recently, and we certainly
are

15 as delighted as they are about these, but the fundamental
16 problem, the fundamental divide is that from the front of the
17 dish to the public switch network we still have a significant
18 gap that must be overcome. And in the case of Alaska, unlike
19 rural Wyoming or Montana or North Dakota, we don't have in
most

20 cases the problem of a dispersed rural community. We're
ready

21 to go.

22 I have the third point of my sermon already stated, so
23 I'll just leave you with one last plea. And that is, in the
24 first -- in three of the four books of the New Testament, the
25 recounting of one of the reported miracles of Christ relates
a

1 story where a huge multitude of people were able to be fed
2 miraculously by a small number of fish and loaves of bread.

I

3 get the impression that that's the perception of USF, that
4 somehow it will keep expanding and magnifying and
miraculously

5 reproducing itself to do all the things that all the people
6 expect, including all the misinterpretations of exactly what
7 USF is and what the limitations legally are.

8 And so the plea I have for both the FCC staff and the
RCA

9 is that somehow we make a joint effort of industry and
10 regulators to define and identify to the public what it is
11 fundamentally that USF is and what it can do and help
alleviate

12 some of the confusion and vying for dollars that perhaps
don't

13 exist, and creating turmoil in local communities.

14 I think my time is up, so I better quit. Thank you very
15 much for your time.

16 LT. GOV. ULMER: Thank you very much. Our final
panelist

17 on distance education is Mark Springer. Mark is the
18 coordinator of the Distance Delivery Consortium which is

19 located in Bethel. Mark came to Alaska in 1976 with the
Coast

20 Guard and stayed. Living the last 14 years in Hooper Bay, he
21 became active in the Distance Delivery Consortium and was
hired

22 as their coordinator last August. The consortium is one of
23 those partnerships of many entities that we were discussing
24 this morning.

25 I would tell you that Mark has been particularly

1 interested in the digital divide. I am on his e-mail list,
and

2 it's very rare that I don't get two or three e-mails from
Mark

3 in a day on the subject of the digital divide. Who has
written

4 about it and who is discussing it, and it is certainly with
5 pleasure that I introduce Mark Springer.

6 MR. SPRINGER: Well, thank you, Lt. Governor Ulmer, and
7 Chairman Thompson, and Commissioner Ness, and Ms. Brown. I
8 missed you when you were in Hooper Bay a couple of years ago,
9 Commissioner, so it's nice to be able to meet you here.

10 You asked us to address four questions, and I'd like to
go

11 through those, and assuming I have time, maybe hit a couple
of

12 other issues. You'd like to know how advanced services have
13 been used to deliver education in our areas, and just to give
14 you a real snapshot, you already had a good description of
the

15 Yukon-Kuskokwim Delta. The secondary education members of
the

16 Distance Delivery Consortium are five school districts: the
17 Lower Kuskokwim, the Lower Yukon, which are the two large
18 school districts, the Yupiat School District which has three

19 sites, and the Kashunamiut School District in Chevak, and the
20 St. Mary's City School District in St. Mary's.

21 Depending on how you define advanced services, and
knowing

22 that in its recent Notice of Inquiry, the FCC was asking for
23 just that definition, on the Yukon Kuskokwim Delta, the best
24 answer is, no, advanced services have not been used to
deliver

25 distance education in our area. But let me qualify that a

1 little bit.

2 Although none of our school districts currently are
using
3 the internet to deliver curriculum or instruction between
4 sites, we have used digital television for delivery. The
5 Alaska 3 system, using a digital video channel on the State
of
6 Alaska leased transponder was developed by the Distance
7 Delivery Consortium, and for a number of years Bethel had
8 digital video up-link capability allowing the Lower Kuskokwim
9 School District, which was a big user, the Alaska Army
National
10 Guard, and Yukon Kuskokwim Health Corporation to originate
live
11 programming at the KYUK studios in Bethel and deliver it to
12 select locations. This system has the ability to operate in
13 interactive mode through the use of audio conferencing and
the
14 internet and e-mail. Alaska 3 was used quite extensively by
15 our region until last year when the University decided that
16 they needed our up-link encoder more than we did, and moved
it
17 up to Fairbanks.

18 Now in order to do instructional programming out of
19 Bethel, you have to use -- you have to schedule occasional

20 up-link videos with Alascom that are sent to Fairbanks and
then

21 retransmitted over Alaska 3. And it's really a costly and
22 technically challenging proposition, especially when you
can't

23 get the Bethel up-link turned on.

24 As far as using internet for -- the internet for
secondary

25 education delivery in our region, it hasn't happened yet, and

1 this is more a function primarily of readiness at the school
2 level rather than availability of technology or bandwidth.

Our

3 schools have got fairly adequate bandwidth, but we do have a
4 couple of problems. And that is that in the use of advanced
5 services, which I'll describe as video delivery of
graphic-rich

6 content, for example, a math class. That requires bandwidth
7 management.

8 The Lower Kuskokwim School District is intensely
9 interested in being able to deliver mathematics instructions
to

10 mult -- instruction to multiple sites, sharing faculty
11 resources between school. But current video conferencing
12 technology will take up a large portion of the available
13 bandwidth to the school, a fairly unacceptable alternative
14 where potentially one or two students through using that can
15 crowd the rest of the school off of the circuit.

16 We have recently done some testing in Bethel of IP video
17 and some lower bandwidth of white boarding. We did a
18 demonstration of actually teaching a calculus class. The
19 University, one of the new -- one of the new course
20 requirements for a bachelor's degree is taking a calculus
21 class. And it's a tough thing to take over audio conference.

22 So we did a demonstration of that using video conferencing,
of
23 white boarding, and we found out a couple of things. Number
24 one, we found out that video teleconferencing doesn't really
25 work very well when you've got 20 hops, and I'll address that

1 in a minute. But the white boards worked pretty well, no
2 matter how long of a circuit you have, and that's a
technology

3 that's been around for a while, and I think has not been
4 deployed anywhere near adequately either in the school
5 district, or throughout the state.

6 How has our use of technology been funded, and it's been
7 exclusively through the E-Rate for secondary education users.

8 We get approximately 90 percent subsidy in our school
9 districts. We do have a situation where we had two appeals
10 this year of E-Rate awards. The Lower Kuskokwim School
11 District's award was appealed by a bidder, and the
Kashunamiut

12 School District's award was appealed by a bidder. The Lower
13 Kuskokwim School District's award was upheld, and the
14 Kashunamiut School District's award was held to be invalid,
15 which has left that school district that really has got more
16 important things to worry about, like trying to get a new
high

17 school, faced with a situation of not receiving a USF check
for

18 their internet service. My understanding is that a fairly
good

19 relationship has been maintained between the successful
bidder

20 whose bid got thrown out and the school district, but that's

--

21 you know, it's still kind of a bomb waiting to go off for
them.

22 University students who are taking classes over audio
23 conference dial into the University with an 800 number and
that

24 number is paid for by the University. Or if they use the
25 internet from home in a community without local access, they

1 have to pay for the service and the long distance call
2 themselves. And I remember when I got my first Alaskanet
3 account from Hooper Bay, my phone bill -- I ran up about a
4 \$1,000 phone bill a month. And that didn't last very long
I'll

5 tell you. And -- but -- yeah, we've got people -- I mean,
you

6 ask people how do you get internet? They're out in the
7 village. Oh, AOL, you know. Well, they're paying by the
8 minute for a long distance call for maybe, maybe, a 14.4
9 connection.

10 Are your current needs for advanced services being met?

11 If not, how and why are your current needs unmet. Well, as
far

12 as USF contracts are concerned, schools are receiving fairly
13 adequate bandwidth. The first year of contracts resulted in
14 essentially 56 K circuits. Now all schools and districts
have

15 either got 128's or 256's. In addition, the Lower Kuskokwim
16 School District brings a full T-1 in Bethel, which is then
17 split up between multiple school locations and the, excuse
me,

18 school district's central office, using Part 15 wireless
19 modems.

20 And I'd just like to say on that it would be really
21 helpful for schools around the country as well as for the
22 E-Rate funding from a conservation perspective if the
23 Commission would take a very, very serious look at making
24 wireless modems an eligible purchase as last mile equipment.

25 It's unconscionable that school districts are not allowed to

1 help save money on the E-Rate costs.

2 How do you think advanced services will be used to
deliver

3 education in five years? Well, there's little doubt in my
mind

4 that in five years school districts will be making extensive
5 use of increased bandwidth and substantially newer
technologies

6 to deliver enriched curriculum to individual students as well
7 as to entire classes. Interactive video along with large
8 graphical interface devices like white boards will be in
9 general use. Video and content streaming will be the norm.

I

10 think probably there will be some big either privately owned
or

11 collective through school districts serve rooms here in
12 Anchorage just to facilitate that. But, you know, at the
13 present rate of deployment by Alaska's carriers and LECs on a
14 cost/benefit, i.e. profitable, basis under current costs, I
do

15 not believe that there will be ubiquitous internet access
16 available across the state in five years.

17 I just want to talk real quick about peering. I said
that

18 video teleconferencing doesn't work very well when you have
20
19 hops to go less than a mile in Bethel between a classroom at
20 the University of Alaska and Lower Kuskokwim District central
21 office, because the route goes from Bethel to Fairbanks to
22 Seattle to San Jose, California, and at one time it went to
23 Chicago, and then back up through the fiber cable to
Anchorage
24 and then out to Bethel. It's my understanding that there are
25 maybe some peering agreements pending between at least GCI
and

1 the University.

2 But I would encourage the Commission, both Commissions
3 actually to examine closely the issue of what I understand to
4 be AT&T's refusal, World Net's refusal to peer with anybody
5 unless they're, you know, like an OC-500 carrier. And it's
an
6 impediment to Alaska's economic development, and it's an
7 impediment to the deployment and use of advance services by
the
8 education community, K-12 through college, that we have got
9 these ridiculously long interstate routes for IP carriage.
10 There's no technical reason for it, there's no economic
reason
11 for it, and there's no moral reason for it.

12 LT. GOV. ULMER: Mark, I'm going to have to.....

13 MR. SPRINGER: Sure.

14 LT. GOV. ULMER:cut you off, but thank you very
15 much. I appreciate it. I'd like to turn to the
Commissioners
16 to see if they have some questions at this point of any of
the
17 panelists?

18 COMMISSIONER NESS: Thank you. I very much appreciate
19 your comments and thoughts. A quick question. Has anyone
20 thought about using IFTS/MDS for delivery of broadband

21 communications? Is that at all feasible here?

22 MR. SPRINGER: I don't know what it is.

23 COMMISSIONER NESS: Okay.

24 MR. SPRINGER: I would say, no, I haven't.

25 COMMISSIONER NESS: Okay. This is typically with

1 universities, it's a ca -- sort of a cable type service,
cable

2 channel service where the University would lease a portion of
3 their capacity, their instructional/informational capacity to
4 cable companies or wireless cable companies, and the wireless
5 cable companies could provide lots of additional channels,
and

6 that's sort of a shared use of the spectrum.

7 Well, we've recently made that spectrum available at
12.5

8 gigahertz I believe it is, to -- for use -- I'm sorry, not
9 12.5, 2.5 gigahertz, for two-way digital communications. And
10 so now it's one of those bands that's being looked at for
11 third-generation mobile services, but it also could provide
12 fairly attractive fixed wireless broadband services.

13 I just was curious to see if any of the universities or
14 the educational institutions that you've been dealing with
have

15 licenses to do that, whether that's a possibility. I don't
16 know how far in distance it travels. My guess is, you know,
17 probably 10 or 12 miles, but it could be beyond that in
radius.

18 MR. SMITH: The University has not ex -- there's been
19 discussions, but they've been very preliminary for rural
areas.

20 We are discussing that with one company, Wireless Cable, that
21 offers those kinds of services, but that primarily has been
22 looked at within the urban areas. We would love to try and do
23 that in the rural areas, but we haven't found a model that
24 works yet.

25 COMMISSIONER NESS: It may not extend far enough. As
you

1 were talking, I just was wondering whether or not this was
2 perhaps yet another option that had recently been made
3 available.

4 Also, I want to follow up on the wireless modems, Mark.

5 MR. SPRINGER: Sure.

6 COMMISSIONER NESS: I was under the impression when we
7 wrote our rules that we were trying to be technology neutral.

8 Can you describe the problem that you're having with wireless
9 modems?

10 MR. SPRINGER: Well, sure, apart from the fact that
11 they're not an eligible purchase under USF. You can buy
12 telephone switches, but you can't buy wireless modems.

13 In 1997 during your visit to Bethel and Hooper Bay,
14 Commissioner Ness, the Distance Delivery Consortium was
ready,

15 using an NTIATF grant to roll out an aggregated bandwidth
16 model, what we were calling the village area networks, using
17 unlicensed wireless local loops to provide T-1 last mile
18 connections from a single village pop, most likely the school
19 house to the health clinic, the library, and what we would
hope

20 would be USF eligible local governments, tribal and
municipal.

21 Regrettably, the local exchange carrier contended that our
22 solution to the thorny last mile question, which obviously
23 would have not required recurrent costs, since we would be
24 using public access spectrum for public purposes would be,
25 quote, duplicating existing facilities, unquote, i.e., their

1 copper plant.

2 The fact remains, however, that the members of the DDC
3 recognized the importance of -- to network efficiency and
4 bandwidth conservation and the judicious application and use
of

5 public dollars, i.e., USF funds several years ago. The only
6 objection to our original solution was that it would save
money

7 for public and tribal agencies.

8 MS. BROWN: May I try this?

9 COMMISSIONER NESS: Yes.

10 MS. BROWN: Let me just try to correct the record a
little

11 bit. The covered services do not include the switch. What
12 they do include is the internal.....

13 UNIDENTIFIED VOICE: (Indiscernible - simultaneous
14 speech).....

15 MS. BROWN:network and thus some routers are
16 covered. And the tension here has been between making sure
17 that the district or the school could put together its own
18 internal network while at the same time not sending federal
19 education funds, if you will, to the switch.

20 Now, to the extent that you're talking about a wireless
21 modem on the internal system of the district, I think that's

22 something that one could look at and raise. But I just
wanted

23 to clarify that the switch really is not covered.

24 MR. SPRINGER: Yeah, there's.....

25 MS. BROWN: Okay. Yes. Okay.

1 MR. SPRINGER:20 (ph) pages on the list and I
2 exaggerated.....

3 MS. BROWN: Right. But.....

4 MR. SPRINGER:a little bit, but.....

5 MS. BROWN: But it's an important issue, because it's
one

6 where the Commission drew a line, and so it -- you know, for
7 funding purposes, it's important to think about what's on one
8 side and the other side of the line.

9 COMMISSIONER NESS: Okay. Because I do recall that
within

10 a school or within a building, for example, wireless
solutions

11 are perfectly appropriate solutions. In fact, they were used
12 in a number of places where there was asbestos in the
13 school,.....

14 MS. BROWN: Right.

15 COMMISSIONER NESS:and it was the only way that
you

16 were going to be able to get those connections, which is why
I

17 studiously avoid saying wiring schools, and usually use
18 connecting classrooms. But that -- you're saying that what
you

19 were looking at was something not within the school, but from

20 the school to another location?

21 MR. SPRINGER: Well, actually in some cases school
22 districts that had multiple locations within a village would
23 have used some of that wireless equipment to connect their
24 locations, but again even -- let's just use that as an
example.

25 Let's say a school district -- well, the Lower Kuskokwim
School

1 District in Bethel purchased out of pocket wireless modems to
2 connect multiple schools in the central office to their
single
3 pop. They had to go out of pocket, because wireless radio
4 equipment is not an eligible purchase on the USF approved
list.

5 There's -- you know, the list that everybody's seen, and
6 the list is 20 pages long, wireless modems are an unapproved
7 purchase. And there are num -- and in the Lower Yukon School
8 District, they've used wireless equipment to connect multiple
9 rooms. You know, a lot of our village schools, we have the
10 original school, and they've had to add on outer buildings,
11 and.....

12 COMMISSIONER NESS: Yeah. Well, I'm going to check into
13 that, because it -- again, depending upon what it's being
used
14 for, there ought to be a way of being technology neutral and
15 being efficient, and wireless is one of the most efficient
16 systems for a lot of circumstances. So I'll try to check
into
17 it and see whether we fully understand what it is the rules
are
18 attempting to accomplish, and whether or not there needs to
be
19 a change there.

20 Similarly, we have the -- at five gigahertz, the NII
21 band, and I don't know if anybody is using that unlicensed
band

22 to communicate back and forth between schools or between
23 facilities.

24 MR. SPRINGER: Well, most of the equipment that's in --
25 being used in Alaska is 900 megahertz, and 1.2 gigahertz,

1 unlicensed equipment.

2 COMMISSIONER NESS: Uh-huh.

3 MR. SPRINGER: As far as I know, nobody's using.....

4 COMMISSIONER NESS: Maybe that the equipment.....

5 MR. SPRINGER:anything different -- higher.

6 COMMISSIONER NESS:is not yet available at a
7 reasonable cost, and that's another thing.....

8 MR. SPRINGER: Uh-huh.

9 COMMISSIONER NESS:that I'm taking away from the
10 conversations that I've had here in Alaska to go back and
check

11 on. You're giving me a real laundry list of things to check
12 on, but I'm delighted to have that laundry list.

13 LT. GOV. ULMER: Nan, do you have anything?

14 COMMISSIONER THOMPSON: Yeah, I do, I could ask --
15 Mr. Cary, you said during your remarks that you were
concerned

16 about what the future was going to be for distance education,
17 and we are, too. That's why we're here. What I'm hoping for
18 is some practical suggestions from you, as someone who I know
19 to have been in the trenches in a couple of different places
in

20 the state, what can we as regulators and policy makers do to
21 make it happen, to make it be moving in the direction it
should

22 be?

23 MR. CARY: Thanks, Commissioner Thompson. The number
one

24 issue that we seem to run into is the school districts are in
25 the business of K-12 education, and while they do have

1 technical, for instance, on staff to support their -- just
2 their internal networks, they don't have the technical
3 capability, nor really have the resources to invest in that
4 to
5 implement some of the technologies required to take advantage
6 of these circuits for the delivery of distance education.

6 COMMISSIONER THOMPSON: Uh-huh.

7 MR. CARY: And we very strongly feel that in order for
8 distance education in Alaska to be successful, it needs to
9 become a service, as in the infrastructure to support the
10 delivery of online courses, and streaming audio and video
11 content, and even two-way video, that those need to become
12 services that maybe even potentially are funded under E-Rate
13 rather than just the connectivity, because the connectivity
14 is
15 great if you've got technical folks. If -- to implement
16 complex applications beyond that, it's a real barrier.

16 COMMISSIONER THOMPSON: Thank you.

17 LT. GOV. ULMER: I might just note briefly on that
18 point,

18 when we were walking through the Noatak School, I guess it
19 was
20 yesterday.

20 COMMISSIONER THOMPSON: Yeah, it was yesterday.

21 LT. GOV. ULMER: Like yesterday. I spoke with a teacher

22 who was in on Sunday doing a little bit of homework, as
23 teachers often do on Sundays, and I asked him who took care
of
24 their telecommunications needs in the village, in the school.
25 And he said, well, of course, we don't have anybody on staff
to

1 -- we can't pay anybody to do that, but it just so happens
that

2 our kindergarten teacher, who's really young, he's just out
of

3 college, knows a lot about computers, you know, so in his
spare

4 time he kind of does what needs to be done in this school.

5 I think it makes your point. I mean, many of the
schools

6 are too small, or they couldn't afford somebody, or the
school

7 budgets are too tight. And if you're really lucky and you

8 know, you know, happen to have somebody who knows how, great.

9 If you're in a school district where you've got a central
10 office that's convenient and staff to be able to do it,
great.

11 If not, what do you do? So what if you're wired? Being
wired

12 isn't enough.

13 COMMISSIONER THOMPSON: Now I'm reminded of, I think it
14 was Saturday for this one, but when we were at -- in the
15 clinic, and they were talking about, oh, we saw a
demonstration

16 of the next generation in terms of telemedicine applications
in
17 the villages where it's a touch screen technology, to make it
18 easy for people who don't have a lot of technical training,
19 their training is in delivering medical services, to apply
and
20 use the technology. It was wonderful because it was set up
so
21 you could touch the screen and get the different applications
22 you needed. And maybe that's the innovation, the missing
link
23 in education.

24 COMMISSIONER NESS: Or maybe the missing link is to get
25 one 12 year old from each village.

1 COMMISSIONER THOMPSON: That's right.

2 UNIDENTIFIED VOICE: Yeah. Yeah.

3 COMMISSIONER NESS: And somehow send those 12 year olds
to
4 be trained, and then at least you have those 12 year olds for
5 an extended period of time because they adapt so quickly.

6 LT. GOV. ULMER: Other comments? Yes, Dave?

7 MR. FAUSKE: Just -- that's a very good point. There
are
8 situations, and getting back to this school custodian.....

9 LT. GOV. ULMER: Uh-huh.

10 MR. FAUSKE:paradigm I gave somewhat clumsily.

When

11 a Cessna 206 leaves Barrow, and there's a technician from
ASTAC

12 in it, and there's a technician from NSS, and there's a
13 technician from GCI or AT&T, and the plane lands in
Wainwright

14 or Point Lay, and the three people get out and walk over to
the

15 central office or an adjoining building, and stand side by
side

16 and tweak dials, and then get back on the airplane a day and
a

17 lot of dollars later and fly back to Barrow, that's not
right.

18 And I think in the vein of Senator Stevens' recent
letter

19 about seeking some kind of a consensus solution here, those
20 support services as Martin pointed out, are vitally
21 needed,.....

22 LT. GOV. ULMER: Uh-huh.

23 MR. FAUSKE:but we also have a situation where
cost

24 exceeds price, and competition's going to drive price to
cost,

25 which is higher. And we need to find the maximum number of

1 efficiencies and cooperative effort I think. So it may be a
12
2 year old, because they probably have the edge on the
3 technology, but it ought not to be duplicate services in
high-
4 cost areas.

5 LT. GOV. ULMER: Okay.

6 MR. FAUSKE: Thank you.

7 MR. BECKLEY: Yeah. To underscore what they're saying,
8 for instance, in our district we have six schools, four of
them

9 are under 20 students, so they're two teacher schools. It's
a

10 phenomenon that I call techno-paralysis. And our mission in
11 education is to teach kids. That's what we do. But our
12 schools are becoming sophisti -- so technologically
13 sophisticated and dependent that technology can threaten to
14 become your mission. And when one thing goes wrong, your
15 entire mission comes to a grinding halt. And that certainly
is

16 one thing that we look for in a vendor in our E-Rate
proposal,

17 is someone who can take that piece away. We would rather put
18 our dollars toward education.

19 And one of the other things that I think is becoming
very
20 apparent in our region as it is in the country, and that is
21 that we need to develop IT workers within our regions.
22 Virtually every dollar, technology dollar that we spend in
the
23 Aleutians East as in other areas, goes out, whether it's to
buy
24 a computer, whether it's to buy internet access, repair
25 computers, buy software. You name it, the dollars go out.
And

1 that is a real home-grown industry, and a real opportunity
for

2 our students.

3 LT. GOV. ULMER: Uh-huh. Any other questions on.....

4 MS. BROWN: Could I.....

5 LT. GOV. ULMER:(indiscernible)?

6 MS. BROWN:just for a moment? I just want to
thank

7 you. After spending about five years on getting the E-Rate
8 program in place and fighting what was at times a very bitter
9 battle in Washington, a very bitter personal battle, we were
10 held up as doing something actually wrong when, indeed, we
11 thought what we were doing is very right, that to sit here
and

12 hear the -- your remarks that in fact the lights have been
13 turned on is really just a gift to us, so I thank you for
your

14 comments.

15 Let me just say this to you, though, having still every
16 year going through this battle about what you call the people
17 battle, and I think you're right, it's about people on the
18 other end. But understand that these issues, these policy
19 issues get translated into money matters. And so I think
it's

20 important what we heard over today about aggregating demand,

21 using capacity efficiently, about using new technologies that
22 can be use amongst and between users, because in the end it
23 will come back to us to ask whether these dollars are being
24 spent wisely, efficiently, and are they the best use. And so

I

25 think it's important for the user community to also put their

1 heads into the sort of economic community. Are we doing this
2 well? Are we doing it right? Are we doing it the best we
can?

3 So I would keep urging that analysis.

4 And the other point is one that I loved that you made,
5 that in fact the state really is -- has two different
6 characteristics, and one is a wired kind of fiber network
7 characteristic, and the other is not. And that resonated
with

8 me that perhaps while we think about what tweaks we can make,
9 that that might be a place we might look. That if -- there's
10 really a vast difference in what we mean by quote/unquote
11 rural. Do we mean rural, or do we really mean insular? That
12 maybe we can think about what the public policy issues should
13 be there.

14 And then finally, on the internet applications I would
15 suggest that when we look at IP telephony, for instance, and
16 the new applications over IP, that that may be an area where
17 distance learning can take off. I've seen the commercial
18 applications for IP telephony with data and voice combined.
19 And particularly here, once that connection is in, the
question

20 is whether that wouldn't be another way to think about the
21 delivery of voice with data. And we'd love to talk with you
22 about that.

23 We prepared an extensive report for Senator Stevens on
24 this very issue, and I suspect that it's going to come up
again

25 very soon in that AT&T is now talking about a commercial

1 offering of IP telephony, and so it's going to get back on
the

2 table, and it seems to me that particularly in rural areas
that

3 we ought to be thinking about how those technologies can be
4 used to deliver the kind of services you're thinking about.

5 LT. GOV. ULMER: Well, thank you very much to our panel.

6 It was a very interesting panel. We want to thank you also
for

7 what you're doing, each and every one of you, to make
distance

8 education a reality in Alaska. I appreciate your leadership,
9 and thanks for joining us today.

10 We'll take a ten-minute break before we begin our final
11 panel on economic development. Thank you.

12 (Off record - 2:13 p.m.)

13 2055

14 (Tape change)

15 Tape 4

16 0015

17 (On Record - 2:27 p.m.)

18 LT. GOV. ULMER: Our next panel, the economic
development

19 panel, thank you for joining us. Once again, I will just

20 introduce you one at a time and after I do your introduction
if

21 you'd share about five minutes or so of observations,
answering

22 some of the questions we asked or whatever you would like to
23 share with us.

24 I'll begin today with Joseph Davis, a long time resident
25 of rural Alaska. He's general manager of CISI, Watermark

1 Consulting. His company is in a joint venture with Calista
to

2 provide business and technology service to all of Alaska.

3 Joseph Davis.

4 MR. DAVIS: Thank you, Lt. Governor and thank you
5 Commissioner Thompson and Commissioner Ness and the FCC staff
6 and RCA and all of you out there. Is the glare too much off
of

7 my head, is it okay out there? Okay.

8 My name's Joseph Davis and I have a joint venture with
9 Calista Corporation for business and technology development
in
10 Alaska. Of course, we're focusing primarily on the Calista
11 region to start with, but we're looking for a larger area and
12 that includes information technology infrastructure. So I
want

13 to start off today by giving you my bottom line first and
then

14 get into a couple of details.

15 The bottom line is sustainable economic development in a
16 common telecommunications infrastructure. So what that means
17 is sustainable economic development has to happen for any of
18 this to work. One of the questions is what will -- I think
19 that's number four actually or regulator's three. How can
the

20 regulators be assured that our efforts to deploy advanced
21 services will enhance economic opportunities and one is with
22 the concept of sustainable economic development and a common
23 infrastructure.

24 Schools are not in the business for providing internet
25 services, neither are clinics, but a common infrastructure

1 service that could lease out those services to the schools
and
2 other third party, nonprofits, et cetera is, I think, really
3 what we really have to look at in such a small village kind
of
4 setting in rural Alaska.

5 So, one, how does the ability -- excuse me, the
6 availability or lack of access to advanced services in rural
7 communities affect economic development? Do you know one of
8 the people that I deal with is with WAVE and WAVE Stores,
9 that's Western Alaska Village Enterprises, and they provide
10 groceries to villages all over the Calista and actually
beyond
11 the Calista region.

12 This fellow to update the data base in those village
13 stores that have computers puts it on two identical floppies,
14 puts the floppies in an envelope. They're mailed to Bethel
and
15 they're put on a plane to go out to the village. The reason
16 that he sends to identical ones is because one of the
floppies
17 may die enroute. There is no return data. There's no
18 connection for a two-way communication, so the disk's always
19 going one way and not the other. That's a lack of services

20 that we can see right there. In stores that are owned WAVE
is

21 a network of groceries stores in Western Alaska that could
22 seriously use the internet for their businesses.

23 I got a call from Chevak -- excuse me, Chefornak, a
fellow

24 wanted to sell dog sleds. He'd been on the web. He checked
25 out web sites. We wanted my company to build a web site.

1 Well, that was great except the only place he could access it
2 was at the school which is, of course, we know not exactly
the
3 way that we're going to do business.

4 I recently spoke to a woman from Gambell who wants to
5 provide an art and crafts and jewelry web site, can't
6 communicate with the people in Gambell. She actually lives
in
7 Anchorage, wants to sell them outside through a web site and
8 can't communicate with the artists there. So the lack of
9 availability is extreme in a commercial sense, where they can
10 walk next door to the school and surf. It's quite ironic.

11 How can regulators be assured of efforts being used?

And

12 that is by involving the people economically on the local
13 level, on the local and regional basis because we have
regional

14 corporations as well as local groups. Including in that
15 training which, I think, is prime for Eric (ph) right now to
16 provide those kinds of services. And education, which you
can

17 get online once you have those abilities to get online and
18 small business and economic development needs to happen
19 concurrently.

20 I've lived in the Bush 20 years, I've seen many programs

21 be given to the Bush, large infrastructures produced, but
22 without the training and the long term economic
sustainability,
23 it's a short time fix. It's a -- you get a job and you build
a
24 building or you build a road and so you've got a new snow-go

25 for the next couple winters and that's about what you have to

1 show for it. So it really is small business training,
economic

2 development on a local and a regional basis.

3 The last question was how will demand for advanced
4 services increase? Well, we've seen in the Lower 48 two
5 spectacular events happening, my mother and my father are on
6 the web. And if that doesn't say that's something's going to
7 happen in the world then nothing will, but if people are
8 calling from Chefnak for web sides to sell dog sleds we can
9 see that it's going to take off.

10 I'd ask you to look at Toksook Bay, they have the last
11 mile, it's wireless and they have so many great skills that
you

12 can see evinced in their web sites. It's not particularly a
13 full commerce site, but they have the skills to produce it
and

14 it's a wonderful example of what could happen, so.....

15 LT. GOV. ULMER: Thank you very much. Our next panelist
16 will be Jack Rhyner. Jack is the president of TelAlaska
which

17 is a family of companies that provide local and long
distance,

18 cable television, internet and other network services to
19 customers throughout rural Alaska. Jack.

20 MR. RHYNER: Thank you. I thought I would address my

21 opening remarks to what I thought was the most important
22 question which you asked us, which was how will the demand
for
23 advanced services increase during the next five years in
rural
24 communities? There's absolutely no reason to suspect that
25 demand for advance services will be any less in rural areas

1 than it will be in urban areas. In fact, once deployed the
2 demand may even be greater in rural areas on a per capita
basis

3 because there are so few alternatives for education,
4 entertainment and economic development.

5 I can tell you from experience that once we deployed
Dial-

6 Up access in rural communities the demand for access and for
7 more bandwidth was almost insatiable. Our customer to modem
8 ratio is less than half that of a normal urban ISP because
9 everyone that has access wants to be on long all of the time.

10 I'm sure that as we complete Beta testing for both cable
11 modems and DSL and deploy these services we will see the very
12 same effect. Usage, which is a function of demand, has been
13 increasing almost exponentially on the network nationally.

14 In 1998 voice and data traffic achieved parity. By the
15 end of this year it is estimated that the data traffic will
be

16 five times that of voice. By the end of the year 2005, it's
17 estimated that the data traffic will be 23 times greater than
18 that of voice. Given those things in Alaska we need to start
19 thinking in terms of shared advance network today.

20 The only way to deploy advanced services over the
21 satellite network with limited bandwidth available is to move

22 to a shared network configuration otherwise we're going to
need

23 several more satellites up there and I think that's going to
be

24 too expensive.

25 I think we really need to start thinking in terms of the

1 shared network. What we've been doing is trying to deploy
2 competing networks in an area that can't sustain the single
3 network and we've been trying to develop DAMA technology in
the
4 Bush regions of Alaska and, unfortunately, all that does is
5 regionalize -- or, I mean, marginalize these regional areas
and
6 the DAMA network will not lend itself to the extension of
these
7 -- of advanced services.

8 One of the things we heard earlier about multiple hops,
if
9 you have a regionalized DAMA area and you have to come in
from
10 a real remote village into a hub and then hop again, that
gives
11 you a double hop in advanced services. As we move into the
12 packet type networks, ATM frame relay just simply won't work
13 over that type of arrangement.

14 So I guess with that I'll close and wait for questions.

15 LT. GOV. ULMER: Thank you, Jack. Our next speaker will
16 be Tom Harris, president of Alaska Village Initiatives, Inc.

17 Alaska Village Initiatives, Inc. has been providing and

18 supporting economic development in Alaska for 32 years. It
has

19 a 170 member organizations from all over the state of Alaska.

20 Tom.

21 MR. HARRIS: Thank you, Lt. Governor. We appreciate the
22 opportunity to visit like this and looking for more visits
23 online. As a company we have been involved in many
adventures

24 in rural Alaska, most people remember us as the owners of the
25 AC Stores when we were the largest employer in rural Alaska.

1 The leadership of this organization is 17 members
elected
2 from the communities at large, and those 17 members select
six
3 other members from the urban community to help us with the
4 difficult decisions.

5 Some of the difficult decisions we've made recently is
to
6 grab a hold of this thing called the internet and jump in
with
7 both feet and we are. We see that because, quite frankly,
many
8 of our members are jumping in ahead of us and we find
ourselves
9 catching up with our more advanced villages.

10 In fact, that's the focus of this coming year's February
11 annual meeting when we will be looking at the village of the
12 21st century and trying to put in front of Alaska, rural
13 Alaska, what that village will look like in terms of its
14 schools, its utilities, its businesses. We can promise you
15 this, it will be a very different community than we know
today.

16 And I'm real pleased to see Marvin Yoder, the city
manager
17 of Galena here today. I visited his village, let's see,

18 February, and it was a tremendous site. I felt I walked into
19 Alaska's version of the Jetsons there for a while there was
so
20 much going on.

21 But there is a lot of excitement and our children have a
22 lot to be excited about. From the visits with the elders in
23 the community of Galena, they have a lot to be excited about
as
24 well, but the issue has to be access and if we don't provide
25 that access then we suffer.

1 Our organization is working on things like private land
2 wildlife management, bringing the technology of land
management
3 from the Lower 48 up here and negotiating an agreement with
the
4 State and private land owners to manage the wildlife on
private
5 lands for the benefit of all concerned. This is a billion
6 dollar industry in the Lower 48. It is actually a billion
7 dollars industry up here, but unfortunately Alaska is not
8 harvesting that benefit. It's leaving us because we don't
have
9 proper access to the tools. Our goal for the next year will
be
10 to provide those tools.

11 We are looking at issues such as safe water, treated
wood,
12 fire suppression, all of those items we've been able to
access
13 information on and send to our members over the internet
where
14 they have access and that is the key. There's a tremendous
15 amount of growth that has to occur and here's -- here's a
real
16 -- in a real nutshell here's our concern.

17 The fish farming industry that we all have read about in
18 the papers, we all assume that we -- we know that it's taking
a

19 big bite out of Alaska. We don't know really how much. In
20 1985 the fish farming industry had 5.8 percent of the market.

21 In 1998 it had 70 percent of the market.

22 In the '97 and '98 , if you recall, the Bristol Bay
23 fishery was on the ropes. That fishery is now coming back
and

24 we are now seeing that market share, that huge market share
25 that we lost being now over sold in new salmon. As such, in

1 the next five years we feel we're going to see a dramatic
drop

2 in prices in salmon and we have 100 villages out there who
have

3 no other non-government source of revenue other than the
salmon

4 industry.

5 During the same period of time we saw approximately 490
6 people a year moving out of rural communities. That's a
7 village the size of McGrath dying every year. And, you know,
8 we have an impetus to get this thing turned around. There's
9 tremendous incentive out there, if not then I'm afraid we've
10 going to see more of the same. And I'm looking forward to
the

11 outcomes of this organization's meetings and opening up the
12 bandwidth so rural Alaska can take part in that new economy.

13 Thank you.

14 LT. GOV. ULMER: Thank you very much. Our next panelist
15 stepped in at the last moment to fill in for Bob Poe,
16 Commissioner of Department of Administration who had to stay
in
17 Juneau. We really appreciate Don May's willingness to do
this.

18 Don is director of an MBA program in telecommunications

19 management at Alaska Pacific University. Don is a former
20 member of the State Utilities Commission so he's a little
21 familiar with the regulatory process and, again, we really
22 appreciate your willingness to join us at this late date as
23 fill-in.

24 MR. MAY: Thank you, Lt. Governor, I wish I had worn a
25 tie, but I thought I'd be off today, at least I shaved.

1 I'd like to address the first question which was how
does
2 the availability or lack of access to advance services in
rural
3 communities affect economic development? And if I have time
4 I'll talk about the fourth question a little bit, which is
the
5 future of advanced services in rural Alaska.

6 Just a couple of preliminaries. Advanced services, what
7 that is partly depends on your perspective and where you are.

8 If you're sitting in Anchorage or in Washington D.C. it's
9 broadband access or ISDN at least or T-1 or recorded T or
10 something even more than that.

11 If you're in rural Alaska advance services could be a
12 clean connection to the internet or in some cases even having
a
13 phone whether it's land line or wire line so that's -- some
of
14 the stories -- some of the examples I'll give relate just to
15 the fact of having a phone in rural Alaska, but I think the
16 analogy will carry forward.

17 Secondly, thoughts on economic development, it's my own
18 view that economic development must start from the local
19 citizenry, the local residents and it must be something that

20 starts from the bottom up. And the stories I'm going to tell
21 are about people like that, rather than government programs
and
22 government involvement.

23 I found out about an hour ago I was going to talk and I
24 thought I'd talk about some friends of mine down in Homer who
25 run a thing called Jakolof Bay Ferry Service. This is Tom

1 Hopkins and Marsha Million. And about five or 10 years ago
Tom

2 Hopkins, who was a mate on the Alaska Ferry System had a very
3 good job, retired from the ferry system, drew all his money
out

4 and decided he was going to go into business for himself as a
5 true Alaskan with a little, small, wooden boat ferrying
people

6 around Kachemak Bay in Homer and didn't have much money after
7 they bought the boat. Like everybody that owns a boat would
8 know, and so they couldn't advertise very much. And things
9 really started pretty slow and the key to their success has
10 been telecommunications.

11 First, it was -- originally when Tom was in the boat the
12 only way to get to him was by marine radio which is very
13 difficult to get to. And maybe he had an answering machine
at

14 this home and when he came home either the answering machine
15 was overflowed or it hadn't worked or he'd call somebody back
16 and he couldn't get them, so it wasn't a very efficient way
to
17 run a ferry service.

18 Well, what happened was eventually Tom got internet
19 connectivity on a wireless system that goes to his home
across

20 the bay from Homer in Jakolof Bay. And those of you who know

21 -- well, all of you know where Jakolof Bay, so there's no
land

22 line service there. What he had was called a Better's (ph)
23 wireless telecommunication system and it was not always very
24 good, but it's good enough to have internet connectivity.

25 So he put a web site up about his Jakolof Bay ferry

1 service and he gets now during the season dozen of hits every
2 day from people all over the world trying to decide what they
3 can do when they go to Homer besides fish and it's increased
4 his business by quite a bit. Again, it's not an advanced
5 service. It's fairly low bandwidth, but it's the type of
thing

6 that makes development happen.

7 The other thing that Tom and Marsha did was to obtain
8 cellular phones which they now carry on their boats, so
instead

9 of having to try and find someone with a CB radio if you want
10 to talk to them and hope that Tom and Marsha's boat is in a
11 place where you can contact them on CB and you're going to
get

12 through, now you can call them on the cell phone. And you
can

13 say, well, Tom, I'm going to be an hour late getting out to
14 pick up, can you come an hour later, or it looks kind of
rough

15 out here, maybe you shouldn't pick me up today and they
answer

16 you. And all of a sudden it's much more efficient dispatch
of

17 this boat throughout Kachemak Bay.

18 And what's happened is they've gone from two boats now
to
19 four boats, doubled capacity and more, and now they have lots
20 of competitors as well. So the next step will be, I think,
for
21 Tom and Marsha not just the internet access or the very low
22 bandwidth of the cell phone, but a site where you can hear
the
23 sound of the boat as it goes through the water and hear the
sea
24 otters barking at you and feel -- and maybe even feel the
boat
25 rocking, I don't know, but you have to move.

1 As people get more intense and more sophisticated the
2 people in rural Alaska have to respond. It's not enough just
3 to have a post card or a piece of paper or a simple internet
4 site, but something that's multi-media that will show that
5 we're as good as anybody else any place in the country.

6 I had about 10 examples, but I think I've used most of
my
7 time so I'll stop there for the time being, but I think just
a
8 few concluding comments for about 30 seconds. Certainly we
9 live in an information age and the key to the information age
10 is that Alaska -- people can live in Alaska and work any
place.

11 We all read about telecommuting and telepoeting (ph).

12 We all know about the mythical Microsoft program in
Sutton
13 or someplace out there who wants way more bandwidth out than
he
14 can get, well, all this can happen. And if we want to move
15 Alaska from being an extractive economy to an information age
16 economy and a true center of global trade and connectivity,
17 there's no reason telecommunications can't do that. Thank
you.

18 LT. GOV. ULMER: Thanks again, Don. Our final panelist

19 this afternoon is Marvin Yoder. Marvin is the city manager
at
20 the Municipality of Galena, used to be a city manager down in
21 Southeast. He's certainly lived in many different parts of
22 Alaska. Mr. Yoder recently helped Galena win \$186,000
U.S.D.A.
23 grant for telehealth and distance learning, so Marvin, tell
us
24 what you've been doing.

25 MR. YODER: First of all, I listened to everyone throw
out

1 all these acronyms and I'm reminded of an incident with my
2 daughter, who was two, when I was out in the yard working and
I
3 had about a 10 foot stepladder up. I went into the house for
4 something and came back out and she was halfway up there and
as
5 soon as she saw me coming she kind of looked at me and
realized
6 where she was and says, what am I doing up here?
7 I was one of those people that went to high school back
in
8 the '50s and never heard much about any of this and then had
9 one experience in college at Oregon State where we had a
10 computer about half the size of this room to do a simple math
11 problem. And so then we fast forward to Galena 1996 and a
lot
12 of different things are happening.
13 Galena started getting connected inside the community,
14 ended up with computer labs in both -- in all the grade
15 schools, junior high, high school and the charter school.
Got
16 connected to the web and they decided that the students
needed
17 to continue on learning that at home, and so they connected

18 through the students at home. Each student has a home
computer

19 and also connected to the web from home. And so the entire
20 community is really wired and everyone has access to the
21 internet however they wish and it's a lot of people getting
on.

22 Also at the same time they decided they needed some of
23 that community know-how inside so they started training kids,
24 high school students, and we now have high school students
who
25 are compact certified there and can do warranty work on
compact

1 computers. We also have one student in high school in Galena
2 this last year that passed the Microsoft A certification so,
3 therefore, we think we have the capability inside our
community

4 to keep going to. Whatever is ahead, we'll do it.

5 That's been kind of Galena's motto. We call ourselves
6 innovative. People call us other things, but we are one of
7 those places that believe we can do things and we're not held
8 back that much.

9 In addition to this telemedicine grant then we are
trying

10 to figure out how to overcome some of the problems. One of
the

11 things is when you have a community that had about 200
12 telephones and suddenly you jump up to where you have more
than

13 that in modems and connections, the pipeline gets a little
14 small. And Interior Telephone is our provider out there and
15 they've worked hard to keep up with what's going on, but the
16 original hookup was, I think, about 28 and they went to 33,
and

17 yet there are times when that gets pretty tight when you have
a

18 whole bunch of people getting on at once.

19 I had an experience just, I think, about two weeks ago

20 where I opened up and found out I had 11 e-mail messages and
21 all of a sudden it got stuck on one for a long time and I
22 started trying to see what was going on. I ended up getting
23 about 400,000 bits of information in 45 minutes. It just
24 depends how many people are on at the time. There's some
times

25 you click on and nothing, you can't get on or you get kicked

1 off. I've had people tell me they wait till midnight to try
to
2 get on because there's just so many other people on it. And
so
3 one of the things we realize we need to do is to figure out
how
4 to get that -- over that one little hump.

5 We do have a proposal out right now, requests for
6 proposals from some companies to help us overcome that. We
7 feel that if we're going to do the telemedicine, distance
8 learning program as we said, we don't know if we're going to
go
9 with fiber optic or satellite or what we're going to do.

We're
10 just getting proposals on that and eventually we're going to
11 get that. Within the next year we expect to have that
problem
12 solved, but we do want to be able to reach out at those
higher
13 speeds and figure out what we're going to do.

14 The school district did put up a satellite and is not
15 really totally connected yet, but one of the examples of
16 persons on their own computer and trying to download
something

17 and it kept showing it was going to take over 45 minutes,
they

18 went into the one that was connected to the satellite and got
19 it in two minutes. So they felt like that there's some real
20 potential there. It's at 512, but depending on how they
split

21 it up.

22 Economic applications, where we going to be in five
years.

23 I've already had people in my office who are doing things in
24 the community that they think have an opportunity for a web
25 site or for some type of a connection. There's equal
tourism.

1 People flying in and rafting down the Nowitna River, the
Melozi
2 River, need to contact -- they need to find customers for
their
3 service. There's other that are doing pike fishing. One guy
4 especially has been doing real good at pike fishing. Mostly
5 he's been doing word of mouth. He's asking about a web site
6 because of his -- a lot of pike out in the flats and there
it's
7 mostly catch and release so it's a renewable resource. And
so
8 it's been things like that, that they're looking at.
9 And so we think that that's kind of the direction we're
10 going. We know we have the people there and when these
people
11 talk to me about it, I know they can do it because their kids
12 are in high school and they're learning how to set up web
pages
13 and all that. They're going to do it. And we're just
looking
14 forward to getting bandwidth up where we can do this in a
real
15 efficient manner.

16 LT. GOV. ULMER: Great, thank you very much. And thanks
17 to all of our panelists. Commissioner, do you have any

18 questions?

19 COMMISSIONER NESS: No, but I like a lot of the visions
20 that you've been talking about.

21 LT. GOV. ULMER: Commissioner?

22 CHAIR THOMPSON: I do. We heard this morning from
23 programs that deliver education and health care services and
24 those are programs that are presented funded through
different

25 federal programs. What examples do you have of economic

1 development? What I'm wondering is, you know, how soon is it
2 going to be before some of the businesses that -- like the
one

3 Mr. May gave us of an example of, are going to be able to
help

4 support the network or offer some support for the network?

5 MR. DAVIS: May I comment?

6 LT. GOV. ULMER: Go ahead.

7 MR. DAVIS: Well, WAVE is right now ready to do internet
8 kiosks. WAVE has stores in a lot of villages in the Calista
9 region all the way up to Selawik so it's outside of the
Calista

10 region. And what's hampering everything is availability for
11 internet. And WAVE is not at all untypical of what can
happen

12 out there. There are people out there that want to sell
13 jewelry or art work right now.

14 Five years ago an old man called me from Selawik wanted
to

15 put up a web site for fish hosting, for taking people out
16 fishing. He has a guiding license. He has a business. He
17 wants to promote it to Europe, and this was five years ago.
18 And since then he's bought a bigger boat.

19 LT. GOV. ULMER: Any of the other panelists wish.....

20 MR. YODER: I'd just say that right now besides the one

21 going though the school, there is interconnectivity through
22 Interior Telephone at a flat fee per month and you can get on
23 the internet that way. So there are already people in Galena
24 who are paying their way on that without going through any
25 (indiscernible- voice lowers).....

1 CHAIR THOMPSON: Mr. Yoder, we heard Mr. Harris talk
about
2 the decrease of folks in the village, the exodus, because
they
3 don't have the jobs. Do you think, based on what you've done
4 in the community of Galena, you're going to be able to keep
5 some of your people there?

6 MR. YODER: Right now we're probably in a growing mode.

7 I'm not sure exactly how long that can continue. There is
8 limited availability for jobs, for long-term jobs. Again,
you
9 get to the thing of do you have increasing jobs outside of
10 government and the answer is very few.

11 CHAIR THOMPSON: Uh-hum.

12 MR. YODER: Government is the big employer. And so --
but
13 yes, there are things settling in.

14 Whether or not -- if you look at it regionally, I'm not
15 sure, because regionally what you find is that some of the
16 people are moving into Galena because there's more jobs there
17 right now so they might come in from one of the other
villages,
18 and so you look at it on a regional basis and it's probably
19 pretty similar to what he's talking about.

20 LT. GOV. ULMER: Tom?

21 MR. HARRIS: The key is access to market. And there are
22 wonderful resources that Alaska has, but one of the Korean
23 trade representatives told me that if you can't get to market
24 you can't sell access to that resource.

25 Right at this moment in time approximately 65 percent of

1 all the guides in the state live outside the state as their
2 primary residence. These are the big game guides. And I've
3 just come back from the Safari Club annual meeting and it's a
4 huge industry, but it's an industry at this moment in time
that

5 because the rural Alaskan that lives in the community does
not

6 have access to. It's very challenging.

7 We just finished the Sportsmen Show here and it's
8 wonderful to see so many dot coms in there, but there were
9 still -- those who were actually from the villages, very few
of

10 them had dot coms, so their access to that market and being
11 able to meet that need and save that revenue for the
community

12 is severely handicapped.

13 So we're hoping that -- our organization, one of the
14 things we're doing when we invest in our new network is to
15 build in the capacity to host some web sites for the members
16 who can't host their own and that way try to find a way to
get

17 them to market. The cost per entry or our cost of getting to
18 that market as a result of that network has dropped by 90
19 percent and it's a direct saving onto our members.

20 LT. GOV. ULMER: Might just follow up just real briefly
on
21 your point about the key being access to markets and I just
22 make this comment briefly for our visitors to Alaska. I know
23 people who live on the East Coast tend to think of Alaska as
24 way out there at the end of the line, so to speak, and I just
25 want to give you a different perspective.

1 Alaska is really at the center of everything. We've
equal
2 distance to Japan, to Europe and to the East Coast. We're in
3 the middle of that, and so that has really created a
strategic
4 location advantage for Alaska that allows us in terms of our
5 transportation and our trans-shipment a strategic advantage
6 that people didn't think about before. Well, FedEx and
others
7 have now figured it out. And if you go out to the airport
8 you'll see a huge complex of air cargo.

9 The Anchorage International Airport has become the
center
10 of the hub, not way out there. So our access to market, our
11 ability to be a place which companies see, at least Anchorage
12 and by extension the rest of Alaska, is very close to
Anchorage
13 really. We are really in an amazing position to be able to
14 link up our transportation location advantage with our
15 telecommunications.

16 And, of course, because of the fiber optic out of --
17 really I've forgotten what the numbers are, someone here can
18 probably tell us that during the public testimony, but we
have

19 really more fiber out of Anchorage to the Lower 48 than the

20 East Coast has to Europe. It's really quite remarkable. We
21 have a lot of bandwidth.

22 So you kind of start to put all those things together,
you

23 get some wonderful economic development opportunities for the
24 state of Alaska. And although today we are focusing largely
on

25 some of the inadequacies, the glass being half full instead
of

1 -- or half empty instead of half full from the perspective of
2 rural Alaska. If we can improve that link Alaska as a whole
3 becomes a tremendous place for opportunity in this 21st
century

4 information -- linking the information technology with the
5 transportation and location advantage. Yes.

6 MR. DAVIS: I'll make it brief. In reference -- we're
7 here for the economic side, but in terms of, like, the people
8 leaving Galena or village population or whatever, having the
9 internet access is going to help the youth stay off of drugs.

10 It's going to help the suicide rate. It's going to help the
11 quality of living. Any which way you look at it, it's going
to

12 help rural Alaska. And that's going to pay off economically
in

13 health care, in education, in whatever you want to name, it's
14 going to pay off. It's going to nothing but good for rural
15 Alaska.

16 LT. GOV. ULMER: Okay. Nan, did you have anything?

17 CHAIR THOMPSON: No.

18 MR. RHYNER: If I might be able to respond to.....

19 LT. GOV. ULMER: Sure, go ahead.

20 MR. RHYNER:Commissioner Thompson? The one
resource

21 that many of these small villages have in abundance is human
22 resource. And what we have with the deployment of advanced
23 services is the opportunity to provide both the chicken and
egg

24 at the same time. It'll give us the opportuni- -- or the
25 ability to provide the educational tools to these communities

1 and then give them access back to the world wide market. And
2 what we can do with those human resources is develop like
3 service bureaus out there, do things like the school's doing
4 in
5 Galena, train these people to be web masters and set up E
6 commerce sites, those kind of things which will really take
7 advantage of the human resource.

8 LT. GOV. ULMER: Kathy, do you have any questions or
9 comments?

10 MS. BROWN: Yeah, I just want to try and be clear when I
11 leave that I understand. I heard some folks say that the
12 last

13 mile's the best mile in Alaska, so that's interesting to me
14 and

15 I just wonder if you all think that's true? In other words,
16 is

17 the local distribution system there and really ready for DSL,
18 for instance? Is there fixed wireless, are there wireless
19 carriers who are taking care of the short haul, but that the
20 problem is transport and long haul and that we heard this
21 morning that that was the problem. First, is that true?

22 And then secondly, I've heard a lot about sort of the --
23 the discussion goes two ways. One, let's have a monopoly
24 whether it be a government monopoly or a commercial monopoly
25 because, after all, we have to aggregate these services and

22 there's just not enough people to have more than one
provider.

23 I heard that.

24 On the other hand I heard, no, no, no, let's not do that
25 because we know that competitive pressures are what's going
to

1 bring prices down in choice of service. And I need to get a
2 sense from you all who are doing economic development how you
3 see that landscape?

4 MR. RHYNER: Well, coming from the LEC side, I guess
I'll

5 answer the first part of your question. And, again, as Mr.
6 Fauske said, most of these remote villages, the ones that are
7 primarily utilizing the satellite connections and are not on
8 the wired network that you were talking about, are generally
9 very compact. And there just isn't an issue with deploying
DSL
10 out there.

11 In fact, we've priced it out and we're in the process of
12 Beta testing both DSL and cable modems in these smaller
13 communities. We can deploy DSL in a small community like
this
14 for the first 24 customers for around \$50,000. I don't
believe
15 there's a wireless option out there that you can deploy for
16 those kind of dollars, so it's there. It exists. We can do
17 it.

18 The issue is how you get -- it's the transport of the
19 broadband out to the community that's the real issue.

20 MS. BROWN: Well, it sounds like it's the transport back

21 to Anchorage or to some other point, but not to the
community,

22 is that right? So here you have your ability to network that
23 community, but you need to get back to the point of presence,
24 say, of the internet provider,.....

25 MR. RHYNER: Exactly.

1 MS. BROWN:is that right?

2 MR. RHYNER: Yeah, either to Fairbanks, Anchorage or
3 Juneau. You have to get there so you can connect with the
4 terrestrial facility.

5 MS. BROWN: So let me ask you about this part, should
that

6 be competitive? Is it -- should it be provided by one
provider

7 or multiple providers? What's going to bring the best kind
of

8 thing to Alaska?

9 MR. RHYNER: Well, as I said in my opening remarks, I
10 think it needs to be a shared network. I think we could do
11 that through shared ownership, but I think it needs to be a
12 single network where everybody is concentrating on making it
13 work and making it the most efficient network we can make it.

14 MS. BROWN: Are there any -- is there anyone else who
15 thinks differently than that?

16 MR. HARRIS: I'd have to say that, you know, the old RCA
17 network was a monopoly but it was the best thing since sliced
18 bread for those communities. It opened up communication and
19 resources.

20 It hasn't been that long ago, in fact, '91 the last time
I

21 was living in the rural community, but you really saw the

22 impact of not having services. I saw government checks that
23 were charged check cashing fees of 35 percent simply because
24 they could not access money, could not -- and the ATMs that
25 have gone out there have done an enormous -- there needs to
be

1 more of them out there. But in some form of cash. And
rural

2 Alaska does pay the bill without those services sooner or
3 later.

4 LT. GOV. ULMER: Any other panelists care to comment on
5 that discussion? I suspect that there are probably a few
6 people in the audience that may also want to answer your
7 question, Kathy, under public testimony. Any other comments
or
8 questions?

9 MS. BROWN: Thank you.

10 LT. GOV. ULMER: Thank you very much to our economic
11 development panel, a very important part of Alaska's
12 utilization of this technology.

13 The final portion of our day is a public comment period.

14 I think I will go ahead and roll right into that without
taking

15 another break. At this point we only have four or five
people

16 who have signed up who actually wish to testify. We would
like

17 to make certain that anyone who is here today has that

18 opportunity. Is there another sign-up sheet somewhere,

Paula,

19 or just in case somebody changes their mind and decides that
20 they want to.....

21 If you'll just give Paula your name if you decide that
you

22 want to testify even though you haven't signed up to do so.

23 All right. Let's see, Ernie Baumgartner from McGrath
24 Light & Power. Are you still with us? Yes. I hate to ask
25 people to come to the microphone, but that's the only way we

1 can record your comments. Thank you very much. I hope
that's

2 not too intimidating. We're real friendly.....

3 MR. BAUMGARTNER: No, that's fine.

4 LT. GOV. ULMER:folks, so don't worry about the
mic.

5 MR. BAUMGARTNER: Okay. My name is Ernie Baumgartner.
6 I'm from McGrath. And to my (sic) employer McGrath Light &
7 Power which is a subsidiary of MTNT which is a Native
8 Corporation in that region. It's for four village
communities,

9 McGrath, Takotna, Nikolai, Telida, which is where MTNT come
10 from.

11 The issues that you've been addressing here today are
ones

12 that were very important to us. A year ago I was a total
baby

13 in this whole area. My use of the internet was to get on
14 CompuServe and go after my e-mail by dialing a long distance
15 number, then go and have dinner, come back, hopefully my e-
16 mails were in.

17 It's hard to run a business that way. It's very hard.
18 And so, consequently, we got to looking at and give it some
19 thought, I wonder if we can create our own ISP. And in so

20 doing and in going through the process of this I was
listening

21 to the testimony and the problems and so forth I see, I think
a

22 lot of the questions that were voiced we found at least

23 portions of the answers, not all of them and maybe not even
the

24 best answers, but at least some.

25 One is that you talk about bandwidth. Bandwidth is an

1 expensive commodity. We look up in space and you see the air
2 and you think it's unlimited, but there's only a certain ring
3 that you can put stationary satellites in. So, consequently,
4 at a 2 degree beam width there's only a finite number that
you

5 can stick up there, but we all know that.

6 Well, what we've done is that we've built an
7 infrastructure that has your major hubs like Anchorage,
8 Seattle, Fairbanks, that's put up individual pipes to every
9 receiver. And so for a community like McGrath we may have a
10 dozen federal agencies in there, maybe three or four state
11 agencies, the schools and so forth, and everybody has their
own

12 dedicated pipe right back to Anchorage or wherever they're
13 going. If, on the other hand, we put the traffic shapers
(ph)

14 on the McGrath end at the earth station, then we can share
that

15 bandwidth going back and eliminate some of the waste on the
16 bandwidth.

17 When you think about it, an office worker on a computer
18 that's connected on a dedicated line is usually not using
more

19 than what, 30 minutes of transmission time a day. And that's

20 if they're a busy person, yet you're paying for that
bandwidth

21 for 24 hours. So instead of having your network break out in
22 Anchorage we need to devise ways of traffic shaping on the
23 local end.

24 Now we did that in McGrath with the internet. We put an
25 ISP in at McGrath. We did that because one, we knew that

1 bandwidth was going to be expensive. And if we could give
2 people a local access point and then we only use bandwidth
when
3 we're trying to pass data back and forth, then we could buy a
4 much smaller segment of that bandwidth and give fast speed to
5 our customers.

6 In so doing we've also gone ahead and introduced
wireless
7 land. And we using an 11 megabyte spread spectrum wireless
out
8 there. This system is about as fast as your PC. You click,
9 it's there. The -- you go to get e-mail, when I go back home
10 I'll probably have oh, 50, 60 e-mails. It will take less
than
11 one second to pull them in. Just bing, it's there. This is
in
12 a rural community of 430 people.

13 We have Dial-Up access because the wireless
infrastructure
14 is expensive. The -- when we first started putting it in it
15 was about \$1,000 per customer. It's down about \$100 right
now.
16 So most people couldn't afford it so they wanted Dial-Up, so
we
17 put in 336 with modems, and you know, hooked up those that

18 couldn't afford the wireless that way. Well, they're only
336

19 to the server which means they get their e-mail just like
that.

20 If they're browsing we have a cash set-up in there so that
most

21 of their stuff if they've ever been on that side before, they
22 go with just upbasing information. It doesn't have to pass
all

23 that information through those pipes. So, consequently, our
24 customers are getting a high quality of service.

25 You know, I pulled in your web page on Thursday when I

1 heard about this. It took four seconds to get it from
2 Washington and download the whole thing the first time. Then
I
3 waited a little bit and went in and, of course, it was on my
4 proxy and I hit and it was there. I went to the State of
5 Alaska, which has a lot of graphics, a very beautiful home
6 page. That took me 20 seconds to bring it in the first time,
7 but after that it was there within about two or three.

8 So the point, again, is that the quality of what we have
9 produced out there is very good. Certainly up to standards
10 with anything in the city. It cost us about \$70,000 to put
11 that in. That is over twice what it should have, but we
didn't
12 know what we were doing so we were buying things we didn't
need
13 and having to do things twice and three times.

14 The -- we've learned enough now that we can put this in
a
15 location for, like I say, less than half. I think I
estimated
16 to the board \$30,000. The thing is that you have to have it
--
17 local expertise. So I looked around in McGrath and I found a
18 14 year old boy, and I said how would you like to have a
part-

19 time job for 8 bucks an hour. And he said, cool. So last
20 summer I took him over to Matnet in the valley here and I got
21 with a guy there, Tom Arnold, and I said can you teach him
how

22 to use Lennox. And he said, sure. So for three days he sat
23 with him.

24 Then he went home and I bought him a computer, a \$350
25 special right off the bottom shelf there and set him up. A

1 month later he came to me and said I broke my computer. I
2 said, what did you do? He said, I don't know, I destroyed
the
3 bios. So I said well, we don't want to do that too often.
He
4 said okay, so I bought him another computer, so I spent \$350
5 plus his three days there. And when we put the internet in
in
6 September he was ready to go. Now he's running that thing.
7 He's administering that.

8 The problem with 14 year olds they grow up. One neat
9 thing about people is we keep creating new 14 year olds. So
10 the supply won't run out.

11 The thing that I've noticed that I want to impress also
is
12 not that this can't be done. When we started talking to the
13 community about it I created a list and on one side I put
what
14 are the problems and what are going to be the obstacles to
15 overcome in creating an internet. We filled up a whole
sheet,
16 you know, those big, what do you call them -- well, just a
big
17 sheet of paper. We filled that whole thing up with all kinds
18 of reasons. Then we said well, what can we do? And we only

19 had three different ideas on it. One of them was well, we
can
20 look at see what it costs. So I went back to my office and
21 took the sheet with all the things we were the problems, just
22 wadded it up and threw it in the garbage, and we started on
the
23 three items that were on the left side. And that's the way
we
24 moved forward on this.
25 The community as a whole was real sluggish to respond.

1 Part of the reason is that they were getting some promise of
2 free internet service through the school. Of course, we
3 realized that that wasn't going to be commercially available,
4 so we were forced economically to look into this other
venture

5 too, and go ahead. But because of the interest of it
6 commercially, in other words, looking at it for our business,
7 and when I say that I'm talking about for the whole
community,

8 we focused real hard in delivering all the aspects necessary
9 for success.

10 We worked with the university to create classes to teach
11 people how to use the internet. We created more skill in our
12 people for working on problems. And when we first started
13 there people didn't know even what a browser was much less,
you

14 know, how to really use one effectively. Most machines were
15 old, didn't have the capabilities of even putting on IE-5 or
16 anything like that. So it was a process really of with each
17 person we turned on having to spend time with them, teach
them

18 and so forth and so on. We worked with the community,
19 university and school. Eventually you see that excitement
20 building.

21 The next step that we're going forward with now is when
I
22 get back there's going to be a meeting with the business
23 leaders to create a vision of growth for the community and
how
24 we can move forward. And one of the first items on that
agenda
25 is tourism because we don't have much other than people and

1 black spruce for natural resources there. So anyway, it's a
2 move forward.

3 And there were a lot of problems that were brought up,
but

4 most of them were not that difficult to solve. So if there's
5 ways that the -- you asked should the -- you know, this thing
6 be regulated or -- excuse me, monopolized or not, in most
small

7 communities there's not two of anything. You know, I've seen
8 grocery stores try to start up, and usually it doesn't work.

9 The small community can only handle one. On the other hand,
if

10 you block competition then it tends to stagnate things, so I
11 don't know what the answer is.

12 It's one that has to be looked pretty hard at, but I
13 definitely think that anything we can do to move forward to
14 reducing the long-haul costs because that's what we've all
been

15 talking about is going to help. And so the idea of looking
at

16 traffic shapers or some devices on the local end to
consolidate

17 the data going back is something worth looking at.

18 Another thing, that even in McGrath we've only been
going
19 a little bit on this, I've seen a definite migration from the
20 school system to the commercial system. And the reason is
21 because of the level of service and the quality. It's
22 definitely faster and if there's problems they're fixed right
23 away.

24 Since we turned up at the end of September we haven't
had
25 a single server crash. Our availability has been 99.98
percent

1 of the time, and those .02 percents were Eagle River earth
2 station issues. So, you know, the quality is there. It can
be
3 maintained locally, it's not that we can't do this. We can
do
4 it. Thank you.

5 LT. GOV. ULMER: Great. Ernie, thank you very much for
6 sharing your experience with us, and congratulations on what
7 you've been able to do for your community.

8 The next person on our list is Steve Hall with ACS. Are
9 you still here, Steve? Okay. Ramya Subramanian, how am I
doing
10 on that?

11 MS. SUBRAMANIAN: You got it.

12 LT. GOV. ULMER: All right. AKLA.

13 MS. SUBRAMANIAN: Thank you for the opportunity to speak
14 to the importance of expanding information technology access
to
15 the underserved rural and tribal areas.

16 My name is Ramya Subramanian, and I'm here today as the
17 current president of the Alaska Library Association, an
18 umbrella organization that represents several libraries,
19 public, state, academic, rural and urban alike.

20 The democratic principle of equal access to information
21 for all which formed the very foundation of public libraries

22 200 years ago are even truer today as we enter the age of
23 information technology. Libraries have played a very
critical
24 role in enabling residents of distant areas to become
literate
25 in the tools of information technology offering classes,

1 providing access to the resources via the internet.

Libraries

2 have always played a significant role in ensuring that no one
3 community, no one group of people or one ethnic group goes
4 unserved. Access to information no matter in what format is
a
5 fundamental need that our government must meet for every
6 citizen of this country.

7 Alaska is the largest state in the union with extremely
8 remote villages and communities. To this day only 85 percent
9 of the population has access to the internet with services
10 ranging from T-3 lines to 24.4 baud modem Dial-Up
connections.

11 The statewide electronic doorway or SLED subsidized by the
12 University of Alaska and the State Library made it possible
for
13 small rural communities to have access to the internet
through
14 a Dial-Up service.

15 In addition, the State in recognition of the importance
of
16 a well informed citizenry provided one time funding to the
17 Statewide Data Bases for Alaskans Project. This project was
18 designed to provide a collection of data bases rich in

19 periodicals and newspaper articles to every resident of
Alaska

20 from Barrow to Ketchikan. It is just the first step among
21 several new initiatives that we're planning to provide users
22 with access to a virtual library of resources, including
multi-

23 media resources. However, we find that a good 20 percent of
24 Alaskans cannot use these resources because of lack of
25 telecommunication infrastructure in their communities.

1 Improved broadband access has also a significant impact
on

2 another important area which you've discussed today, health
3 care. With the development of telemedicine we need to
deliver

4 information to health care professionals all over the state.

5 The Consortium Library at UAA, for example, has already been
6 exploring new technologies to deliver information quickly to
7 the rural health care providers, so the development of
8 broadband access will significantly improve access and into
the

9 speedy delivery of health care.

10 And development of E commerce are presenting Alaskans
with

11 new business opportunities enabling them to participate in
this

12 revolution without the disadvantage of being distance and
13 removed from the Lower 48 metropolises of the United States.

14 It's going to enable a small business entrepreneur to have
15 advantages that were not available before. So I urge you to
16 support equitable access to the provision of broadband
services

17 to all Alaskans to the last mile.

18 We cannot use the affordability issue to leave anyone
out,
19 it's too costly an excuse. The Alaska Library Community
which
20 has always been vitally interested in a healthy, educated and
21 economically viable state is standing by to assist in every
22 possible way.

23 I thank you for the opportunity to testify today.

24 LT. GOV. ULMER: Thank you very much, Ramya, for
reminding

25 us of the importance of equal access to information and the

1 role that libraries have historically played in that. Thank
2 you very much.

3 Greg Healy with Presentation Products, I believe is --
4 thank you.

5 MR. HEALY: Thank you very much for giving me the
6 opportunity to speak today. And I really represent like some
7 of the other people did today, the strategic partner, the
8 solution provider segment of this issue. And Presentation
9 Products is sort of that delivery vehicle and we focus very
10 heavily on the video teleconferencing. And coming from the
11 Lower 48 to Alaska to do business I didn't -- I think I got a
12 little bit spoiled. And so coming up here I didn't really
13 believe that it was going to be an issue.

14 And Mark Springer from the DDC mentioned a test that was
15 done with white boarding as well as with video
16 teleconferencing. I was part of the team that went out there
17 to do that and it just did not work. And so I think that
18 that's really why this whole topic and subject has become
very

19 dear to me because it's an issue that Bethel is facing with
the

20 LKSD as well as many others where you have 56 different
21 villages and a calculus class that needs to be taught, and
you

22 don't have 56 different teachers. And that's just one
example

23 of how this can be utilized as well as on the telemedicine
24 side.

25 Many people made a lot of very great comments today on
the

1 distance education segment. And Mr. Chick Beckley made a
2 comment, which I can relate to, which it's all about people,
3 not bits and bytes. And I very much agree with that. And
4 that's why I found today so interesting is because I'm here
to
5 really find that solution because I can't provide a solution
to
6 the communities without the proper bandwidth, without Bethel
7 another segment was missing. And I'm desperately in need of
8 partnership there and everyone else in this room to work
with.

9 Whether it's going to be satellite, whether it's going to be
10 ISDN because the other comment made by Dave Fauske, I don't
11 know if I'm butchering his name or not, but referred to
Alaska
12 is a combination of Minnesota and Micronesia. Anchorage and
13 Fairbanks, ISDN.

14 I've ISDN in my office, but I don't know if everyone
knows
15 this, but ISDN can only go outbound out of Alaska, no inbound
16 ISDN can happen. So that leads me to a statement which must
be
17 made that when services are going to be deployed in Alaska
they

18 must be deployed fully. And I think we have to deploy them
in

19 a manner which we get as much as we can up front. And
believe

20 me, people find a way to use that bandwidth.

21 And the only thing that I'll leave you with is that the
22 thing that I encourage all of the people that I do business
23 with to do is to do a forecast, a business forecast of their
24 associated technology, and then a scalable solution can be
25 implemented. And people like Skybridge, they must be

1 considered very heavily and we must look at a solution that's
2 going to take us, not what's going to work today, but what's
3 going to work three years from now, five years from now when,
4 you know, all these things become very, very real and they're
5 right in front of us. So I appreciate your time and it's
very

6 much a pleasure to speak for you.

7 LT. GOV. ULMER: A very quick question.

8 MR. HEALY: Sure.

9 LT. GOV. ULMER: You said you went out to figure out
where

10 or not it could work and it just didn't work. Why didn't it
11 work?

12 MR. HEALY: It was a bandwidth question. You know,
13 they're teaching a class to students and some people will say
14 128k will work. And I believe it was Chairman Thompson, I
hope

15 I'm doing your title correctly, you had a question in regards
16 to video quality being key. 128k connection is going to give
17 you 15 FPS or 15 frames per second. 384 is going to give you
18 30 frames per second. It's pretty much real time. You're
19 looking at maybe a half second delay. And if I'm wrong there
20 and there's people in here that know they can definitely
21 inform, but 30 frames per second is very doable. And you're
22 going to lose a lot of -- a lot of children's or students

23 interest in a class at 15 frames per second.

24 So in Bethel, going back to your question, we tried to
do

25 a test literally less than a mile away between the LKSD and
the

1 University right up by the DDC. And we could not get any
video

2 quality and we could not get any audio. It just wasn't
3 happening. Some of the remote sites aren't running 128.
4 They're running 80k, they're running 60k, so that's.....

5 LT. GOV. ULMER: Is this the last mile or the long mile?

6 MR. HEALY: This was -- I'm actually talking about two
7 different things. The first one was the test there between
the

8 two different sites in Bethel. And the second one was just
the

9 research that I did about what actually is going on in the
10 remote sites and the different villages on what type of
11 bandwidth they're running. So it was a question not of
12 hardware, not of anything else, but of there not being enough
13 bandwidth to carry the video quality, compression and
14 decompression of video. Thank you.

15 LT. GOV. ULMER: Thank you. Martin Cary of GCI, are you
16 still here? Yes.

17 MR. CARY: Thank you, Lieutenant Governor. Well, I
18 couldn't let those last comments go without at least offering
a
19 counter-perspective.

20 I'm representing GCI, but I'd like to maybe represent a
21 position that in 1990 while representing the North Slope

22 Borough School District trying to build a network in a non-
23 competitive environment I spent over 18 months working with
the
24 then current long distance provider to convince them to
invest
25 in infrastructure to support our application. The only

1 proposal was that I buy all of the equipment necessary and
then

2 pay a very large monthly fee.

3 Knowing a little bit about the telecommunications
business

4 if it wasn't for the weight of the North Slope Borough and
5 their belief that the North Slope Borough had the financial
6 resources to bypass them, they finally provided service.

7 You shouldn't expect -- you shouldn't have to have that kind
of

8 confrontation with, you know, your potential provider in the
9 long term.

10 Another incidence, and I'm not going to go through --
11 there's been a lot of debate about competition in Alaska, but
a

12 couple of other examples. In 1999 Health Corporation in
Alaska

13 had up on the rural health care web site a request for data
14 service for 18 months without any responses. It was an area
15 that we didn't have facilities. We responded anyway after 18
16 months and they accepted our proposal. There was a carrier
17 that could have responded but for some reason didn't.

So.....

18 Another example is just look at long distance phone
rates

19 in this state, you know, they were in the 30 to 50 cent a
20 minute range, analog technology, double hopped. Mid-1990s
GCI

21 built out a 50 site DAMA project which was a demonstration
22 project at the time and is providing single hop, digital
23 connectivity at 14 cents a minute. What's happened to long
24 distance rates in all of those communities? It's now 14
cents
25 a minute.

1 Incidentally, the other long distance provider shortly
2 afterwards announced their own DAMA project. So competition
3 obviously brings heightened interest.

4 In the area of internet in schools, internet being an
5 unregulated service we've provided proposals in all areas of
6 the state where schools had their requests on their 470s on
the

7 Schools and Libraries web site.

8 2230

9 (Tape change)

10 Tape 5

11 0015

12 In many cases we were the only bidder. If we hadn't have bid
13 that service, they wouldn't have had service. Now when they
14 put their 470s up, they have a significant amount of
interest.

15 And prices have dropped probably 25 percent since the first
16 year that we provided service, and now the current kind of
17 services which are being proposed.

18 In regards to the last mile, I'll agree with the local
19 exchange carriers that have said that they can support T-1
and

20 DSL kinds of connectivities. I personally haven't
experienced

21 problems with the last mile in rural Alaska. In very few

22 cases, their plant may not have had the -- enough wire pairs,
23 and there was certainly a delay in build-out, but in terms of
24 the plant, they're in -- generally in pretty good condition.

25 However, as technology marches forward and we begin to deploy

1 our next evolution of programs, we may, in fact, have a local
2 loop problem.

3 We will be delivering multi-megabyte service into our
4 satellite stations. The capability of our stations are not
5 limited to the low bandwidth being deployed today. It's an
6 issues of efficiencies, and we're not foolish in that. The
way

7 we've had to deploy because of the technology and the
network,

8 it is inefficient, and we're moving very quickly to change
9 that. So there will be multi-megabyte connectivity into
these

10 small communities.

11 So just to follow up, competition motivates people.
It's

12 what drives innovation, and I think it's foolish to think
13 otherwise. Thanks.

14 LT. GOV. ULMER: Thank you very much, Mark. Or, oops,
15 sorry. Wrong piece of paper. Mark Vasconi is next. That's
16 the piece of paper I was looking at. I apologize. And I
think

17 after that we've only Karen Crane, if I'm not mistaken. If
18 there's someone else that -- Mark? Okay. Great.

19 MR. VASCONI: Good afternoon, and thank you. I also
want

20 to say thank you to Martin. You actually made some comments
21 that I was about to make, but I will reiterate them quickly.

22 I wanted to focus on the issue of which is the most
23 efficient, one carrier going into a particular community to
24 provide backbone transport or numerous carriers potentially
25 going into a community to provide backbone transport. And I

1 think there's some history that we've been able to observe
very

2 recently. And by that I mean within the last five or six
3 years.

4 Prior to 1995 Alascom had a monopoly throughout most of Bush
5 Alaska, and with GCI's 50 earth station deployment of DAMA
6 capabilities, we have seen not only rates drop, not only in
--

7 not only in rural Alaska, but also in urban Alaska for a
number

8 of reasons, but we've also seen the deployment of new
9 technology in locations in the Bush. We've seen the
deployment

10 of new services, and that technology deployment that I
referred

11 to has not only been in terms of DAMA, but we've also seen
12 deployment of technologies such as VSAT, small aperture dish
13 satellite capabilities that GCI has brought to the Bush.

14 I think the record seems to indicate that when
competition

15 has been provided in rural Alaska, the benefits have largely
16 been those that have accrued to end users.

17 From the standpoint of efficiency, I think it makes
great

18 sense to try and promote whatever efficiencies one can get

19 through aggregating traffic, whether that aggregation is with
20 schools, libraries, village centers, as well as health care
21 organizations, and then have competition for the backbone
piece

22 of the network. That seems to be something that in certain
23 respects we may be seeing with the schools and libraries
24 program where we are competing for service to the schools.

25 GCI is competing for service to the schools. We're

1 deploying a particular form of architecture. GCI may be
2 deploying something else. And it occurs to me that that's
the
3 kind of result one wants to see with competition. Not only
4 does competition mean a reduction in prices and a possible
5 increase in services, it may also mean an increase in how
6 technology is used in the network, or at least some variation
7 in how technology's used in the network.

8 So overall, I believe, the 50 earth station
demonstration
9 project that GCI has put together, as well as the investment
in
10 the network that GCI has advanced has been good for
consumers,
11 and I think it's also been very good for AT&T Alascom in that
12 it has forced us to focus on issues and on technologies that
13 otherwise we may have taken a longer and more studied
14 approached to. Competition means you have to make decisions
15 and you have to invest. Thank you.

16 LT. GOV. ULMER: Thank you very much, Mark. Karen
Crane,
17 the director of the Division of Libraries.

18 MS. CRANE: Thank you. One of the reasons that I wanted
19 to come today to take an opportunity to say how much we
support

20 the hard work that the FCC and some of the FCC commissioners
21 have done on the E-Rate, even this far outside the Beltway.

I

22 think it's fair to say that we're aware of the pressures, the
23 political pressures that have been brought to bear on this
24 program, and we really appreciate your hard work.

25 I hope that you can see that E-Rate has been a
tremendous

1 success in Alaska. It has pushed the technological
2 infrastructure light years farther and faster than would have
3 happened without it. I'm amazed at listening to the
testimony

4 and the discussion today at how different the problems are
5 today than they were just two or three years ago, and it's
6 E-Rate that has now pushed us to the opportunities that we're
7 seeing.

8 I'm sure you're aware, but maybe some of the audience is
9 not aware that of the 50 states, Alaska has received the
10 highest amount of per student subsidy in the first two years
of

11 the E-Rate program, about \$179 per student. The reason we've
12 done so well, of course, is the great need that there is in
the

13 state, the high cost, and then some very hard work by a lot
of

14 the people in this room.

15 Libraries have not been as successful as the school
16 districts. And in talking to my peers across the country, I
17 think that Alaska is not unique with the problems here. Only
18 about half of our public libraries are participating. Quite
a

19 few of those only are receiving POTS. Of the public
libraries

20 in this state, half of our public libraries operate on total
21 annual budgets of \$25,000 a year or less. And of those, a
22 number of them, it's \$15,000 a year or less. So you can see
23 that we don't have a lot of technical expertise resident in
24 those public libraries.

25 The complexity of the program, even with the significant

1 hand-holding that the State Library is trying to provide to
2 public libraries around the state, there's a strong
3 disincentive for libraries to participate. The hard
deadlines,
4 the changing and complex rules are just, frankly, more than
5 they can cope with. You can imagine our amusement as the
close
6 of the year two window was extended because of a snow storm
on
7 the East Coast. There is no next day air service available
for
8 much of Alaska. Next week service is often not an option
9 either, and so those hard deadlines are very difficult for
the
10 public libraries.

11 I think that Chick Beckley's comment earlier this
12 afternoon sums up a lot of what I want to say, and that is
that
13 we are still thirsty.

14 In speaking to the lack of cooperation between the
health
15 programs and the schools, I think a lot of what you're seeing
16 there has simply been the difference in roll-out between the
17 two programs. We're now entering into year three of E-Rate
18 with the schools, we finished year one with the health care

19 programs. And I think as both programs stabilize and start
20 moving, they're going to see a lot more cooperation there.
21 That's one of the roles that we've taken at the State Library
22 is trying to encourage in all of the communities that we're
23 dealing with, and especially those communities with very
small
24 public libraries that don't have the expertise that we've
25 talked about, that they cooperate and partner with other

1 agencies in their community.

2 My concern with the E-Rate today is the same that it was
3 in the beginning. I have learned today that I'm going to
have

4 to change my terms, because I keep calling it the last mile
5 issue, and what I mean by the last mile, I suppose, after
6 listening to the discussion today is really the last person
7 issue in Alaska.

8 The private sector really has stepped up to the plate
with

9 E-Rate and has worked hard to meet the needs across the
state.

10 I've heard today several times though that we have plenty of
11 capacity, that the problem is money. How many of our
citizens

12 are we going to leave behind? Is there an acceptable
13 percentage here, you know, five percent, ten percent, 15
14 percent?

15 Still today we subsidize telephone service across this
16 country, and I believe that the state -- at the state and
17 federal level we're going to have to commit to subsidizing
18 internet service in some way to meet the needs of our rural
19 residents. Whether it is with competition, whether it's with
20 one service that serves statewide, I don't know the answer to

21 that. But at some point, to reach that last person in
Alaska,

22 we are going to have to step up and be able to provide some
23 assistance.

24 At the State Library we continue to fund SLED, Statewide
25 Libraries Electronic Doorway, and we are trying to provide

1 access to citizens of the state who live in areas without
other
2 service. And we pay the telecommunications cost for that
3 service. We've tried hard not to compete with the public --
4 the private sector there. We don't offer e-mail. You know,
5 it's basic service. We also have an amount of time, that
6 public can log on for an hour and then they're off. We also
7 offer the service without graphics, so that they're not as
8 worried with pulling those graphics through modems that just
9 won't handle it.

10 But even with this service, we can only reach somewhere
11 now over 40 communities in the state that aren't able to get
12 service in any other way. We'd be willing to expand that if
13 there were a statewide option available to us. At this
point,

14 there's not. So we still have a long way to go in the
library
15 community.

16 In listening to the discussions of economic development,
17 we live in an information age. Access is important, but
18 information is as important as the access in helping to fuel
19 that economic development. And so we think that what
libraries
20 can provide are very important. We appreciate your help and
21 assistance.

22 LT. GOV. ULMER: Thank you, Karen. I just want to thank
23 you in a public session for all the work that you and your
24 staff did working with the school districts all across Alaska
25 to make sure that they were all ready to apply for E-Rate,
and

1 I think our per capita ratings reflect in large measure the
2 fact that you were ahead of the curve in comparison to many
3 states.

4 MS. CRANE: Uh-huh. But it's Stella back there that
5 really gets the kudos.

6 LT. GOV. ULMER: Okay. Stella, you, too. Thanks. Mark
7 Springer.

8 MR. SPRINGER: Thanks very much. My name is Mark
9 Springer, I'm the coordinator of the Distance Delivery
10 Consortium in Bethel, and for the record I'd like to name the
11 DDC's members, our full members. The Kuskokwim campus of the
12 University of Alaska Fairbanks, the Yukon Kuskokwim Health
13 Corporation, Lower Kuskokwim School District, Lower Yukon
14 School District, Yupiat School District, Kashunamiut School
15 District, St. Mary's School District, Bethel Broadcasting,
16 Incorporated, KYUK, and the City of Bethel, Alaska.

17 The DDC is a statewide leader in community networking
18 through our region's common e-mail and bulletin board
platform,
19 the first class system. Nearly 5,000 residents of the Y-K
20 Delta have internet e-mail accounts, and our member agencies
21 e-mail servers are interconnected via TCPN -- TCPIP and POTS,
22 providing what all our users consider to be a critical
regional
23 technical resource.

24 It's really evident from what Jack Rhyner and what
Marvin

25 Yoder and Ernie Baumgartner said, is that in rural Alaska,

1 demand exists for internet service, and that -- not only
2 demand, but, you know, it grows exponentially when the
3 service
4 is there. Sadly, not every teleco or potential provider in
5 the
6 state believes this to be the case. But what Galena and
7 McGrath show is the same Alaskan spirit that the bush pilot
8 who
9 had crashed in the middle of nowhere and then hack out a
10 landing -- a take-off strip and carve himself a new propeller
11 shows. That very same spirit. And it's very, very inspiring
12 I
13 think for all of us that live in rural Alaska and either
14 don't
15 have the connectivity we want or don't have it at all, can
16 look
17 at these two communities and really say, right on.

12 As far as an advanced network for Alaska is concerned, I
13 agree with Jack and with Tom Brady, that the time is here to
14 have some long-range planning discussions. You know, it used
15 to be back when RCA ran things, they were required to put out
16 a
17 communications plan every year. I remember those, the Alaska
18 Communications Plan. And, you know, we don't have that now.

18 We've got a very competitive situation between the two
instate
19 carriers and, you know, whether that's in the long run going
to
20 be good or bad is hard to say, but I think it's very
21 appropriate to do some long-range planning, and I think that
an
22 appropriate way to do this is to encourage Senator Stevens to
23 commission the Office of Technology Assessment to take a look
24 at the Alaska network and Alaska network's needs. And the
25 reason I say is that OTA has a real good name here in Alaska,

1 particularly from the rural water and sewer study that they
2 did.

3 As a father of five children who range in age from four
4 to
5 16, I need to take the long view, and I really believe that a
6 long range solution, something you have to look as an
7 extension

8 of the terrestrial digital microwave system from the Railbelt
9 out to rural Alaska. I think that you can go down through
10 Lake

11 Minchumina into McGrath, up to Galena, and down into Bethel
12 doing that. I think the first natural deal, really, is for
13 somebody to go and run a toll grade microwave system from
14 Bethel to Aniak. You can do it with about three hops, and
15 Alascom and GCI will shut down their earth stations in Aniak
16 in

17 a heartbeat and jump on that and run into Bethel, and we'll
18 have that whole upper Kuskokwim area will -- will have that
19 high speed service. Digital microwave radio is actually
20 faster

21 and better than fiber.

22 Using the existing Alas -- Air Force long-range radar
23 sites, mountaintop sites along with additional intermediate
24 points, I think that over the years we can build a robust

20 terrestrial network. And the nice thing about doing that is
a
21 50-year mortgage. I mean, the existing system that we've got
22 right now, the CIRIS system and Alascom's microwave system,
23 those are old towers. That's not new equipment. That stuff
24 was built during World War II, and those towers are still
25 holding up fine.

1 And I think we -- I think that that's really in the long
2 run, and everybody's talking two years, five years, we need
to
3 take a real, real long view. We don't know what's going to
4 happen 30 years from now. You know, satellites are very
5 vulnerable, satellites are very expensive. They've got to be
6 replaced. I really think that the long-range
7 telecommunications planning for this state has got to be
8 thinking about moving out terrestrially, and, you know, it's
a
9 good way to go.

10 As far as the E-Rate's concerned, I'd like to suggest
that
11 review of the impact and the efficiency of the E-Rate and RHC
12 funding in Alaska get done with an eye towards identifying
ways
13 of saving tax dollars. Let's remember. What's the E-Rate?
14 The E-Rate's -- 20 years ago the E-Rate was the war tax.
15 Remember, we used to pay war tax on telephone bills. Now
we're
16 paying E-Rate tax. I think speaking, you know, from the
17 perspective of my members as consumers of this subsidy who
want
18 it to last forever, you know, we can support nothing less
than

19 taking a good hard look at it. Sure, it's a new program.

It's

20 very expensive, and I think that there -- whether it's using
21 wireless equipment in a local loop, or whatever, I think that
22 there are efficiencies that can be found.

23 Finally, I would like to suggest that community
technology

24 centers be figured into the USF program somehow, whether
25 they're made as an affiliation with schools or what. I mean,

1 the fact is that guys like Ernie Baumgartner or Marvin Yoder
2 notwithstanding, you're going to hear local providers saying,
3 but we need some kind of a subsidy to bring service to the
4 public. We need some kind of an anchor tenant to bring
service

5 to the public in these small communities. I hate to say it,
6 but there are people in the industry who still don't get it.

7 And, okay, fine.

8 Let's figure out a way to bring some more subsidy for
9 them, and I think the community technology centers, there's
10 only one or two in Alaska, but they're a great idea, and
11 they're a way to get, you know, technology in the hands of
12 people. We hear a little bit of talk about kiosks, things
like

13 that. If there's a way to include CTC's into the E-Rate
14 program, or to the USF program, I think it would be very,
very

15 helpful to rural Alaska.

16 And on behalf of the Distance Delivery Consortium and
its

17 members, thank you for having this hearing, and I sure
18 appreciated the opportunity to be on a panel, and the
19 opportunity to testify to you this afternoon.

20 LT. GOV. ULMER: Thank you, Mark. Are there any people

21 that I have missed, and if so, would you just -- whoever else
22 wants to testify who hasn't, if you'd come to -- down to the
23 front row? I will have to ask you to keep your remarks to
just

24 a couple more minutes, because I was basing how much time I
25 gave people based on how many people had signed up, and -- so
I

1 apologize, but just a couple of minutes.

2 MR. TOYER: Good afternoon, Lt. Governor, Commissioner.

3 My name is William Toyer. I work for the Southwest Alaska
4 Municipal Conference. We're a regional economic development
5 district, and we represent 50 communities in the southwest of
6 Alaska. But that's really not what I want to talk about.

7 What I'd like to talk about is the social consequence of
8 the deployment of these technologies. We're really
encouraging

9 the empowerment of communities, and that's a lot different
than

10 just asking for their input. I think that it would be useful
11 to look to partnering, and opportunities for partnering
within

12 the communities themselves, asking about what their
13 requirements are, and their insights into what their
14 requirements are are really important if you're going to
15 actually genuinely partner with communities.

16 Later this month we're going to have an opportunity to
17 discuss the rural/urban divide in Alaska, and I think that
the

18 deployment of advanced telecommunications is one way to
bridge

19 the differences within our communities. I think that this is

20 an important critical component of it.

21 But a separate issue, as you consider the aggregation of
22 services, I'd like you to consider the access for emergency
23 services. Some new emergent areas of demand could be
24 telejustice and public safety. And I'd like to see that
25 communication that's critical in times of disaster is
available

1 throughout Alaska.

2 And finally, the real purpose of deploying advanced
3 services could be the lifting up of Alaskans spirit as a
4 community and as a whole. And I'd like to see that happen as
a
5 result of some your inquiries today. Thank you for your
time.

6 LT. GOV. ULMER: Thank you. Thank you very much,
7 (indiscernible). Are you testifying? Tom?

8 MR. BRADY: Thank you, Lt. Governor Ulmer. Just real
9 briefly, I'd like to talk about one subject that we didn't
get

10 into this morning, but it's the cumulative effect of
regulation

11 on network architecture. If you look in the history of
Alaska,

12 we never really paid for our own network. In World War II,
the

13 military came in and put in a network. We fundamentally used
14 that in some variation until the mid 1970s. After that, that
15 was sold. GCI represented the first new input in the early
16 '80s from outside of a network.

17 Now we've evolved to where the architecture of our
network

18 is driven by the regulations that pay for it. It's not paid
by
19 the consumers, it's paid by the regulators. It's paid by the
20 people in Kansas and New York. So, consequently, if we don't
21 take long-term view of the impact of the cumulative effect of
22 regulations on what it does to the network, you build a
network
23 that the regulators create the market for. I think the best
24 example of that is DAMA. It does a wonderful job of voice,
but
25 it results in 70 percent of the network not being available
for

1 doing any other service.

2 So I'd challenge, you know, the regulatory structure, be
3 it state and federal, to look five years down the road and
say

4 what is going to be the impact of Skybridge if it works? Is
it

5 going to undo what we've built in the state of Alaska? What
we

6 have to be wary of is that in the future there will be people
7 coming into our yard who don't live here, and who simply --

8 whose business plan doesn't include here, but it can. That's
9 the most significant input to our network in the future is

10 somebody from Outside. And it's independent of the
regulatory

11 structure, and we have to understand what the impact of
that's

12 going to be on our network, because five years from now it
13 probably won't look quite the same. Thank you.

14 LT. GOV. ULMER: Thank you, Tom. Steve?

15 MR. HAMLLEN: Thank you, Lt. Governor. I'm Steve Hamlen
16 with United Utilities. I'd like to thank Commissioner Ness
and

17 her staff for coming to Alaska once again. We had the
pleasure

18 of having you in Hooper Bay.

19 United Utilities is a -- is the only Native owned
20 telephone company in the state of Alaska. Most of our
21 shareholders live at or below the poverty level.

22 One of the things that I'd like for you to give some
23 thought to when you talk about advanced services, 20 years
ago

24 our villages didn't have any telephone service at all.

Today

25 they do have telephone service. And when you look at our

6200

1 customers, we have two-thirds of those customers that
2 participate in the Lifeline Program, and two-thirds of those
3 customers toll block their telephones. And these customers
4 can't afford to place long distance calls at 14 cents a
minute
5 to do things that you and I who live in urban communities can
6 do. If you're in Noatak and you want to talk to a doctor or
to
7 a dentist or to perform other activities that we can do
locally
8 in Anchorage and other urban centers, you have to place a
long
9 distance call. So we do not have comparable local exchange
10 services throughout rural Alaska.

11 Now, one of the things that we -- we proposed several
12 recommendations in your underserved and unserved proceeding,
13 and we did get support from the State of Alaska and the
14 Commission to see if there isn't a subsidy mechanism that we
15 could target to low income households to expand the low
income
16 lifeline program to include assistance for low income
17 households. So in the discussion of advanced services and so
18 forth, I just thought it might be beneficial to take this
19 moment, think about those folks that are -- and we have --
most

20 of our households again live below the poverty level, who
have

21 been forced to toll block their phone, because they can't --
22 they don't have the same access of local exchange services
that

23 we have. Thank you.

24 LT. GOV. ULMER: Thank you very much, Steve. I would
like

25 to provide an opportunity for a few closing remarks from

1 everyone up here at the table. I can't believe that we are
2 going to end on time. Kathy, do you have any closing
remarks?

3 MS. BROWN: I just really thank you for this
opportunity.

4 I really appreciate it, Lt. Governor, and you, Nan, for
having

5 me here. I think this really starts to inform the debate
over

6 how we advance this whole area. It makes a whole lot of
7 difference when we can put faces and voices to the stacks of
8 paper we get in Washington, and so the opportunity to come
and

9 meet you all is really very much appreciated. Thank you.

10 COMMISSIONER THOMPSON: Thank you. I can believe we're
11 ending on time, because you were running the show. And I
want

12 to thank you for coming here to do that, and giving your
13 attention to these issues for the past three days. They've
14 been a long three days, but they've been really interesting.

I

15 think we've all learned a lot.

16 I'm impressed again, and I was proud to share my state
17 with these folks from the FCC, because Alaskans are so

18 innovative and resourceful under very extreme circumstances
at
19 times, and I think what we've learned and heard here today is
20 that there's some really good examples of this state, of
people
21 thinking creatively and working together to try and solve
some
22 of the problems. What we hope to do is expand on those and
23 share some of those ideas more broadly so that we can get
24 services deployed more broadly within the state.
25 And I agree, I'm thrilled that we do have
representatives

1 from FCC here, and that the Joint Conference is coming here
to
2 make some of the record, because I feel like you really need
to
3 do -- need to see our state to appreciate its differences,
and
4 the FCC must get tired of hearing, but we're different, but
5 we're different, because probably every one of our pleadings
6 say it, but now there's a few more folks that understand that
7 that's true, and why that's true, so thank you for coming.

8 LT. GOV. ULMER: Susan?

9 COMMISSIONER NESS: Thank you, and I also again want to
10 thank Chairman Thompson and the Lt. Governor Fran Ulmer for
11 their enormous contribution to our understanding of what
Alaska
12 is all about. The vision of the future, the excitement, the
13 enthusiasm of a state that really has it together, and I've
been
14 so very impressed. I was here, as we said before in 1997,
and
15 I came back, and I'm thrilled to see a lot of progress that
16 has, in fact, been made.

17 I have my list of issues that I need to check on to see
if

18 we can do things to make the systems run even better. But
more
19 to the point, I have a much better understanding of the
larger
20 picture and what we need to do to provide both advanced
21 communications and just basic phone service to all parts of
22 this state, and how we take that information back and we look
23 at the steps that we need to be taking across the country to
24 make our telecommunications services the best in the world.
So
25 I want to thank all of you for the time that you've given to
us

1 today, your generosity over the course of the last number of
2 days in having us better understand your situation. And I'm
3 extremely grateful. Thank you.

4 LT. GOV. ULMER: Well, just a few more thanks. Thanks
to
5 the panelists who I think did an excellent job of covering
our
6 subject matter today. Thanks to the staff of the RCA and the
7 FCC and my staff for all of your hard work in organizing both
8 the tours and the trips and today's event, and thanks to the
9 providers and the communities that were our hosts, our
10 sponsors, our -- the people who showed us around all of the
11 communities that we've been in over the last couple of days.

12 They were very generous with their time and making certain
that
13 we could paint the picture of how different Alaska is, how
14 wonderful Alaska is, and how challenging Alaska is. But most
15 of all, thanks to the FCC, because your effort to combine
with
16 the state commission, I think this is an excellent example of
a
17 federal/state partnership.

18 The FCC could have gone off and done its own thing
without

19 the state regulatory commissions and without going out to the
20 people all across America to hear from people about not only
21 what is happening, but our hopes for what could happen, and I
22 think the new paradigm of the cooperation between the federal
23 and state entities has been an excellent way for us to
proceed.

24 And, of course, being able to do this with communities, with
25 regional organizations, with the private sector is the only
way

1 we can make progress for this state and for our nation.

2 So, again, thanks to all of you for coming today. I

hope

3 you found it as interesting as I did, and I sincerely hope

that

4 when we all get together one year, two, years, four years

from

5 now, and look back at today, we can say, we've come a long

way,

6 baby. Thank you very much, ladies and gentlemen.

7 0890

8 (Off record - 4:05 p.m.)

9 (END OF PROCEEDINGS)

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C E R T I F I C A T E

UNITED STATES OF AMERICA)
)ss.
STATE OF ALASKA)

I, Rebecca Nelms, Notary Public in and for the State of Alaska, residing at Anchorage, Alaska, and Reporter for R & R Court Reporters, Inc., do hereby certify:

THAT the annexed and foregoing THE FEDERAL - STATE JOINT CONFERENCE ON ADVANCED TELECOMMUNICATIONS SERVICES, ANCHORAGE FIELD HEARING taken by Suzan Olson, on the 17th day of April, 2000, commencing at the hour of 9:00 o'clock a.m, at the Z.J. Loussac Library, Anchorage, Alaska;

THAT this Transcript, as heretofore annexed, is a true and correct transcription of the proceedings transcribed by Julie Gonzales, Meredith Downing, Suzan Olson and myself;

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal this 19th day of April, 2000.

Notary Public in and for
Alaska

My Commission Expires:

10/10/02

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