The hearing commenced at 11:10 a.m.

APPEARANCES:

WILLIAM E. KENNARD, CHAIRMAN
COMMISSIONER MICHAEL K. POWELL
COMMISSIONER SUSAN NESS
COMMISSIONER HAROLD FURCHTGOTT-ROTH
COMMISSIONER GLORIA TRISTANI
STEVE HOOPER
STEVEN G. CHRUST
MAURICE FRANCE
ALI SHADMAN
CHARLES J. MCMINN
MILO MEDIN
W. RICHARD MORRIS
JOSEPH R. ZELL
JAMES Q. CROWE
CHAIRMAN KENNARD: Good morning and welcome. Welcome to the Commission's En Banc Hearing on bandwidth. I'm delighted that we have so much interest in this subject. I truly believe that encouraging more bandwidth, particularly, to residential consumers in the country, is the next great frontier in communications policy.

As I was saying, bandwidth is the great -- the next great frontier in communications policy. And I want the hallmark of this Commission's work to be that we encourage the competitive provision of high speed networks and services using any appropriate technology for all Americans wherever they live, at home, at work, in schools, libraries, hospitals, whether they live in cities or in rural areas, on reservations. Wherever there's demand, there should be bandwidth.

There are a wide variety of firms using various technologies all wanting to provide high speed networks and services. And I believe it's important that all of these firms, whether new entrants or established providers, be able to compete without being constrained by burdensome regulation or being held back unfairly through the exercise of market power by those who control essential bottleneck
facilities.

One of the great challenges that we have at the Commission is creating a regulatory environment, a de-regulatory environment where all these various technologies can compete in the marketplace, because many of them want to provide the same services, whether they are wireless, wire line.

And we're dealing in a legal framework where companies competing to provide these services are coming at it from different regulatory baskets. If you're a cable company, you're coming at it under Title VI of the Communications Act. If you're a wireless provider, you're coming at the problem from Title III. If you're a telephone company, you're coming at the issue from Title II. But fundamentally, the end-user wants the same type of services. So, that's our challenge.

And if we do our job right, America will have a competitive bandwidth market. And that will mean the best high bandwidth networks and the least regulations.

We've designed this proceeding today to explore the various opportunities and challenges that various industries face as they try to roll out high bandwidth capacity. We're going to have three panels today. We have
one on wireless access, one on wire line access, and the third on backbone transmission.

What I'd like to do is ask our panelists on each of the panels to give a short, five minute presentation. And after we complete one of the panels, we'll have some Q and A. I'm going to ask all of the panelists to introduce themselves at the beginning of their presentations. So, I won't introduce you now, but please give a brief introduction of who you are and who you represent when you make your presentation.

We have a timekeeper, LaVera Marshall, very experienced in these matters, who is going to keep everybody on track. And I would also like to direct everyone's attention to the diagram that we have up here, which depicts the alternative ways in which a customer can use the network to connect, either wireless, wire line, and then you have the backbone transmission there on the right.

I will conclude my opening remarks now and ask the other Commissioners if they have anything to say in opening. Commissioner Ness?

COMMISSIONER NESS: Thank you, Mr. Chairman. In Section 706A of the Telecommunications Act, Congress required the FCC to encourage the deployment on a reasonable
and timely basis of advanced telecommunications capability to all Americans. And today, we begin the task of ascertaining the progress of and the prospects for deployment of broadband capabilities.

When the Telecom Act was passed, it was widely believed that cable would compete for telephone business, and telco's would compete for the video business. There's only been a little bit of that today.

But both industries see a big business in meeting the growing demands for bandwidth. And this is where the growth opportunities of the two industries intersect, and this is where I think we're going to begin to see, as we've already done, competition taking place. Indeed, there are tremendous signs of competition coming. We see investment taking place in the infrastructure to be able to produce the broadband capability.

So, I foresee in the not too distant future that consumers will have an opportunity to choose their broadband supplier. But I hope to learn today what we can do to make this a widespread phenomena.

Part of this challenge is learning which rules we need to enforce, and which rules we need to sweep aside to promote this kind of development. And although we have
several 706 petitions that have been filed by telephone companies that are pending today, this isn't just about the telco's. It's about ILEC's and CLEC's and cable and wireless and satellite. All of these industries have a role to play, and I'm really glad to see that there is broad representation on this panel concerning broadband telecommunications.

So, thank you very much for convening the panel, Mr. Chairman.

CHAIRMAN KENNARD: Thank you, Commissioner.

Commissioner Furchtgott-Roth?

COMMISSIONER FURCHTGOTT-ROTH: Thank you, Mr. Chairman. I would like to welcome our guests to the FCC. I know many of you have come from far away, that you have very busy schedules. It is a great honor to have you here. I hope we all learn a lot today, and I hope that when you go back to your businesses, that you'll be able to say that you, too, have learned something here, and that this has been a worthwhile exercise for you. Thank you very much.

CHAIRMAN KENNARD: Thank you, Commissioner.

Commissioner Powell?

COMMISSIONER POWELL: Thank you. I'll keep my comments brief. I just would like to say that in addition
to welcoming the panelists, that I think this is an extraordinary crossroad in our intellectual thinking with regard to communication services, and we should keep that in mind. In a sense, the beginning of crossing the rubicon, sort of leaving the world of legacy systems and their inherent limitations not only in technology and the kinds of communication services we provide to the public, but as well in the regulatory structure that was built up and served well, and to a great degree, administering national policy with respect to those sorts of systems.

And so, this really is one of the many opening salvos of an important transition, both in terms of the way we provide communication services and the way that we regulate them. And so, I look forward to hearing from the panelists.

CHAIRMAN KENNARD: Thank you, Commissioner. Commissioner Tristani?

COMMISSIONER TRISTANI: Mr. Chairman. Section 706 talks about the point bandwidth to all Americans. And I want to stress, Mr. Chairman, all Americans. We know that the big cities and the densely populated areas are going to attract the companies and the competitors quickly. My concern is that the rural areas, and there are many, many...
rural areas in this country, benefit because they are part of all Americans.

I have to mention my state, New Mexico. It's the fifth largest state geographically in the nation. It has 1.6 million inhabitants. It has 33 counties. One of the counties is bigger, I believe, than more than 10 states, and it has about 900 inhabitants. Those are hard areas to deploy, too, but 706 doesn't make differences between areas in this country. It talks about all Americans.

So, I'm particularly interested in hearing how you can meet the challenge of deploying there. That's point number one.

Point number two is that Section 706 talks about deployment to schools and libraries. And I think we need to keep that in mind. Congress wisely put that parenthetical there. And with that, I'll make it brief and look forward to our panel.

CHAIRMAN KENNARD: Thank you, Commissioner. I'm pleased that we have such a high level group of panelists today. And so, without further ado, Mr. Hooper, would you like to get started?

MR. HOOPER: Thank you, Mr. Chairman and Commissioners. It's a pleasure and honor to be here today.
My name is Steve Hooper, and I wear two hats for the Craig McCaw family of companies. I am the co-CEO of Teledesic, and chairman of the board of NextLink Communications.

Fortunately, for competition, but maybe unfortunately for us, NextLink and Teledesic are two of hundreds of new companies that have been spawned since the Telecom Act of 1996.

Teledesic is a facilities-based provider, fibre optic systems and digital switching. We're in about 32 markets and 10 states today. And Teledesic, of course, is all about building a broadband network in the sky through a constellation of low Earth orbit satellites, 288 in a constellation, that will bring, Commissioners, broadband access to every rural home in this country, to every hospital, every library, in a way that is more cost effective than just about any other technology because of how it has to be deployed.

Now, you might wonder how a system in the air and a system in the ground are anywhere close to being in the same ballpark in serving these customers. But really, we view it as just two additional companies battling for bandwidth growth in this country and fighting against the incumbents who have a stronghold on the business today.
In addition to NextLink, part of the next job family of companies, we have NextBand which recently purchased 42 LMVS licenses covering about 50 percent of the U.S. population, as well. So, we have a collection of assets that either by air or by land, we believe we can offer broadband service to customers throughout the country.

Now, it's somewhat ironic that before the Commission, you have petitions from some of the ILEC's that on one hand, say that companies like NextLink and other CLEC's are fierce competitors in providing broadband advanced communication services to customers. Yet on the other hand in different proceedings, you have before you, those same ILEC's, saying things like, "We won't provide those services that we don't have the wherewithal to do it."

And I would argue on both counts that they are wrong. First, companies like Teledesic and NextLink and others represented on this panel, must provide advance telecommunication services because that's what the customers are demanding today. Broadband is growing at a rate, some say on the Internet, it's doubling every 100 days. And our customers are demanding these kinds of services. And in order for us to compete effectively, we must do it.

The other aspect of their claim, I also believe is
untrue. And that is, the Telecom Act of '96 and this Commission's pro-competitive activities have really spawned competition. And as a result of that competition, you have the ILEC's providing advance services that they weren't planning to provide before that.

Just as an example on this table, there are six companies represented here today that weren't here four years ago, with the exception maybe of Teledesic, that's been around since 1990. Four of those companies in the last 24 months, have raised over five billion dollars in the capital markets to provide strategic assets in this country to deploy broadband capabilities that weren't even thought of 24 months ago. So, the pro-competitive nature of this Commission and the Telecom Act has really made that happen.

Teledesic, as I said earlier, is a 288 satellite-based low Earth orbit system that is to bring broadband access. Again, based on the nature of low Earth orbit satellites, we cover every square inch of the globe as a result of what we do. So, we can provide at the same cost structure, a home in Montana or in New Mexico, where you have 900 residents in those large counties -- at the same cost structure, we can provide access to a business in Manhattan. So, we have a great technology that can provide
the kinds of services that you're looking for.

On the NextLink side, we also have the capability of providing high speed data access. About 20 percent of the customers today at NextLink are on our own facilities. We have high speed networks that we're deploying. But unfortunately, 80 percent we have to use the incumbents' local loop. It's just not economically feasible to build out everywhere overnight in this country. So, it's critical that we have access to those facilities. Not just to the plain services that customers want, but also to the advanced services. If we're going to serve all of America with these facilities, we need to have access to those networks that the ILEC's control.

So, based on our situation where we want to take broadband communications, we have a couple things that we would recommend the Commission do. First, we would recommend that the Commission deny the certain ILEC additions that are pending before you today. We think that the body of law that is envisioned in the Telecom Act and the rules that you have implemented thus far, is providing for effective competition. And to eliminate some of those regulations would make it more difficult for companies like NextLink to continue.
I see the red light is on, and that means I must cease, I guess.

CHAIRMAN KENNARD: Thank you. Mr. Chrust?

MR. CHRUST: Good morning, Mr. Chairman and Commissioners. And thank you for the opportunity to appear before you.

My name is Steven Chrust. I'm vice chairman of WinStar, a wireless competitive local exchange carrier. By way of introduction, WinStar Communications is a nationwide CLEC with broadband licenses in 38 gigaHertz spectrum covering the majority of the commercial population and much of the residential population serving small and medium-sized business customers, as well as long distance carriers and other wholesale customers.

Over the next several years, WinStar also will be using new multi-point technology which currently is being tested for commercial use over the next 12 months, first to business and then certain residential markets.

Our company generally offers the same services as other facilities-based CLECs, but our last mile connection is high capacity broadband wireless. This broadband wireless connection enables WinStar to significantly expand the addressable market and offers lower network buildout and
operating costs, because we do not need to obtain
construction permits, rights of way, dig up streets and
string fibre to poles or through conduit which itself, is a
very labor-intensive process.

We simply place small antennas on rooftops of
buildings where we serve customers. We offer a full array
of broadband services to the greater bandwidth we will be
able to deliver on a more cost effective basis than wired
mediums.

Because we do not need access to the incumbent
local exchange carrier local loop or the ILEC switch to
originate traffic except as a transition while we construct
our network, our interconnection needs are concentrated
principally at the interoffice level for the basic task of
interconnection of our network for the ILEC network, for
termination to customers not on our facilities.

It is important, though -- I can't emphasize this
too greatly, to fully appreciate the need for a transition
period which is sufficiently long to allow the new market
entrants to compete effectively against the entrenched
incumbents who hold great market power and substantial
advantages which form significant barriers to entry.

With respect to deployment of advanced

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telecommunications capabilities, let me begin by saying that there is no doubt that the Telecom Act has facilitated the deployment of broadband services. It tore down and reduced many of the legal barriers that stood in the way of the success of the company such as WinStar. Its vitality, effectiveness and relevance two and a half years after its enactment is undiminished.

As a direct result of the Act's passage, customers' needs are rapidly reshaping today's telecommunications marketplace. The first evidence of this phenomenon is the creation by the CLEC's of the nation's first digital local networks in direct response to increased customer demand for broadband capabilities. This represents a major point of differentiation from the ILEC's who still rely principally on copper wire technology for the local loop.

Importantly, however, the competitive pressures the CLEC's have brought to bear is directly responsible for moves by the incumbents to embrace new technologies and to upgrade their networks. This is not an accident or an anomaly that has occurred despite the Act. Rather, it is a direct result of the success of the Act. Competition, not regulatory relief is the best incentive to deployment of
advanced telecommunications capabilities. CLEC's today are among the nation's leading providers of data services. For example, WinStar uses spectrums to provide high capacity broadband services to our customers, what we call wireless fibre service. In addition to supporting such high bandwidth services, our 38 gigaHertz-based networks and the networks of other CLECs provided an additional advantage, the ability to offer and manage unified voice and data services over a single network infrastructure.

With respect to the role of Section 706 in fostering the deployment of advanced telecommunications capabilities, let me stress the Telecom Act has written its technology neutral. When it comes to interconnection, unbundling publication and resale of the incumbent's networks, the Act does not distinguish between data and voice. And that was not the point of Section 706. The Act stands for the proposition that networks are networks regardless of the services provided over them.

As their packet switch networks are developed and deployed, the incumbents will not abandon their circuit switch networks. They will merge their existing networks with the data networks.
In fact, if we allow 706, doing so will subvert the benefits technology is now beginning to offer as all services will be deliverable on the same network, reducing costs and increasing productivity. For CLEC's to reach their full potential in deploying technology for advance services and to provide added incentive for the incumbents to do the same, the Commission must make certain that the pro-competitive provisions of the '96 Act, Sections 251, 252 and 271 are fully implemented.

In addition, the Commission must insure that any actions taken under 706 are consistent with the interconnection policies and rules adopted by many state commissions.

Once you have access -- I'm sorry. Access to the low sensitive development of -- I'm sorry. I see my red light, 60 seconds.

CHAIRMAN KENNARD: You can finish your sentence, Mr. Chrust, if you want.

MR. CHRUST: Thanks. Once you have -- one of the issues that is very difficult for us is access to buildings and roof rights. Absolutely necessary, it is clearly a barrier to entry, and without the proper relief in order to equally access the buildings, the roof rights -- the
conduit, it will be nearly impossible to effectively deploy broadband capacity for the vast majority of buildings and homes in the United States. Thank you.

CHAIRMAN KENNARD: Thank you very much. Mr. France?

MR. FRANCE: Good morning, Mr. Chairman, ladies and gentlemen of the Commission. My name is Maurice France. I'm president of a company called Radio Connect Corporation, which as it implies, is a wireless company, very different from most.

I am here representing an industry that operates in the unlicensed bands, those presided over by Part 15 of Title XV of the CFR. I want you to know that you made me a very popular man in the last two or three days. I think by telephone or e-mail, I've heard from virtually everyone in the unlicensed industry to make sure that their two cents got put in here.

Also, I want to tell you that you have a real task ahead of you. I don't need to tell you, but it's going to get faster and faster. The momentum is going to be building. We'd like to help you.

You have at your disposal a wide range of technologies to make this thing come to pass. I believe you
need to use them all. And the way to win the race is to run
more than one horse. I think you need to run all that you
have to make this work.

When we talk about the technology available, we
tend to always segregate it in either wired or wireless.
I'd like for you to take a different view of technologies.
There are technologies that are service centered. And there
are technologies that are equipment centered. No one in my
business has any pretensions to be a service provider. We
provide equipment. And most of our equipment is built to be
used by people who pay a capital fee for that equipment, and
then operate it thereafter without the typical recurring
costs that are associated with infrastructure-based systems
like the service oriented access bands.

We're able to do this because of enabling
legislation and regulation from the FCC that has set aside
large blocks of shared frequencies. So, we don't have to
buy frequency. It's part of the public domain, if you will.
Because we share that, we have to use special techniques as
legislated by the FCC to make sure that we operate in those
bands without interfering with others and if others don't
interfere with ourselves.

We make use of a technology called spread spectrum
which takes on many forms. But all the spread spectrum that we use today directly or indirectly, flows from an invention during the second World War in 1942 by a woman by the name of Hedy Lamarr, that many of you may know as a movie actress of that era.

The kind of language at that time, nothing much was done until the '50s or '60s. And the Government moved it forward in great strides for use as secure communication, clandestine communications. And all of the aspects that made it worthwhile in the Government environment such as jamming margin, which we call interference rejection, or a minimum likelihood of detection, we call not interfering with others because our signal is so thin and so wide, are of great benefit, and allow us to make maximum use of the spectrum that you've presented for us.

I'd like to say that we have in our inventory, and "our" meaning the collective industries in this Part 15 distance area, the ability to do backbone, especially second and third tier backbone. We have the ability to do last mile, up to 20 last miles in one area. And we also have the ability to do the last hundred feet of wireless service in buildings.

We would like to be able to use these technologies
or make them available in however we can to support Section 706 activities. The thing we would like not to see is what happened in the universal service fund where service-centered activities were the only ones that were allowed for use there. That the schools and libraries are virtually enjoined from using a wireless system that does not have recurring costs associated with that. And long after the infusion of the capital money, they'll be left paying those recurring bills. So, we would like to make sure that we bring that forward.

There are barriers to what we want to do, but there's been some other additional enabling activities. Primarily, the changes in the 2.4 gigaHertz band that allow us to use higher power would gain antennas for point to point applications makes our 20 mile link absolutely possible.

We would say that the next step without contributing any more to the spectral density would be to allow us to use that same point to point technique, same power levels and a point multi-point environment. One tennis player serving to one tennis player is no different from one tennis player volleying with four others at the othe end of the baseline. There's still only one tennis
ball, so we aren't polluting the atmosphere any more.

The other thing that we would like to see is that same capability also made available in the 5.7 gigaHertz band where we see the real thrust beginning to support the residential users. Thank you very much.

CHAIRMAN KENNARD: Thank you, Mr. France. We'll now have a Q and A for just this panel. I just have a couple of questions for our first panel.

Mr. Hooper, you had indicated that in order for you to compete in the broadband marketplace, you need local loops. And I think in your written testimony you talked about co-location space. And I guess -- and then, Mr. Chrust, you talked about a transition period for new entrants and a period of time where as I read you, and maybe I'm inferring something here, but you envision a period where you would get a first mover advantage in the marketplace.

What I'm interested in knowing is, under what circumstances do you two believe that the incumbents should be able to provide these services at the same time as you're providing them? In other words, would you endorse, for example, a separate subsidiary requirement where the ILECs would be able to provide these services, but through a
MR. HOOPER: I'll address that first, Mr. Chairman, and then let my distinguished colleague add on or subtract from whatever I might say.

You know, our belief is that competition is the real driving engine for new services coming to the marketplace. So, we have no trouble competing against multiple people doing it at the same time.

Our big concern is the individuals who have control over the assets today that get to the last mile, if they aren't guided or regulated -- I know we know don't like to use that word, and we're trying to deregulate the world. But if they aren't guided in such a way that we have access to those facilities at the same time they are trying to deploy these services, then it won't be a competitive environment that you're looking for.

So, to the extent that a separate subsidiary could be created that it was fully open and it wasn't hiding what the real issues are, we certainly would be favorable toward something like that. But it really has to open up all of the elements of the network that the Act envisioned being opened up.

And to the extent we can accommodate that in such
a way, that would be fine for us. But I can go on and on
with stories of how the incumbents today are making it very
difficult with just the plain service to compete. And we'd
be very concerned that if in the advanced services we didn't
have some of the same protections that we have today under
the Act, that we wouldn't be allowed to compete in a timely
basis.

MR. CHRUST: Excellent. I would say a few
additional items. One is, there is a clear incumbent
advantage. It is hard to imagine how anyone cannot
understand the advantage of a hundred year head start during
a guaranteed rate of return monopoly environment which
allows the incumbent to capture virtually a hundred percent
of the market share.

In no way, shape or form would I suggest that they
should not be able to participate. I would suggest that the
separate subsidiary issue be taken one step further. And it
be an independent company not a separate subsidiary. I
think the difficulty in monitoring the relationship with a
hundred percent owned subsidiary will be virtually
impossible to implement.

I tell you the second aspect of it is, although we
have abandoned, apparently, the notion of market share as a
measure for the division or competitiveness within the local loop, the clear bottleneck to broadband information services, I would suggest that the issue be revisited. And at the very least if not revisited, then a more stringent enforcement of the 14 points which enable CLECs like WinStar and others, to effectively produce their networks, build businesses, gain market share, develop profitability and continue to raise the capital necessary to build the broadband local capacity.

That there will have to be more substantial implementation and clear measurements and impacts for lack of performance if that competition is truly to get to the marketplace.

The last point I'd make is that the timeframe under which this is likely to occur under any realistic set of assumptions needs to be effectively understood and evaluated. This is not going to happen in 24 months. It's going to happen over a decade or two. It took the incumbents a hundred years to get to where they are. Thank you.

CHAIRMAN KENNARD: Mr. Hooper?

MR. HOOPER: Chairman, could I add just one other point?
CHAIRMAN KENNARD: Sure.

MR. HOOPER: And that is, clearly this is a difficult issue for this Commission to address right now.
And the cautionary point I would add right now is we -- the new entrants are able to participate in an incredible bull market right now that's giving us the funding that we need to build the systems. And anything that you do that would potentially make the incumbents look like they have additional monopoly powers over the new entrants would severely stifle our ability to raise funds. And it is critical to raise funds to build out these systems.

Analysts estimate that 100 billion dollars will need to be raised over the next six to ten years in order to rebuild the facilities in this country. That won't happen in an environment that doesn't provide a pro-competitive situation for new people as well as the existing incumbent.
So, I would just add that point.

CHAIRMAN KENNARD: Thank you. Unbundling -- do you view the unbundling requirements in the voice world as different in the data world? In other words, the elements that are necessary to provide voice are materially different, aren't they, in voice than in the data world? Do you want to address that, Mr. Chrust?
MR. CHRUST: I would say that if not already, in the very immediate future, it gets rather basic. Bits is bits. Voice is data. Data is voice. Video is data. They're all the same. And to imagine -- if you may remember, computer inquiry two, a few years ago, which proved to be relatively ineffective, I believe, in dividing markets artificially.

By trying to divide the market here by voice and data, I think you are actually on the verge of grabbing defeat from the jaws of victory by creating an artificial regulatory environment that will diminish the incentives to create broadband networks, which I think is the objective.

CHAIRMAN KENNARD: Do you need unbundling at the switch in order to provide data?

MR. CHRUST: I think you generally need unbundling in order to effectively provide services as well as create the ability of the CLEC's to create enough market share revenues and cost covering revenues to create viable businesses, just as it was necessary for MCI in the early days of long distance to be able to resell AT&T's long distance network in order to be able to provide ubiquitous service. Here, too, you have similar, but more complicated issues, where the incumbent is a more biased bottleneck to
CHAIRMAN KENNARD: I just have one other question for this panel. And that is, are any of you providing or planning to provide high capacity bandwidth to residential consumers?

MR. FRANCE: You may see a brochure that I provided you called WISL, W-I-S-L, which is our wireless Internet service link. There's an unannounced product in the work called WHISTLER, which is wireless Internet service to the residents. And there, we're talking about a 5.7 gigaHertz point multi-point system with ADSL rates, about 700 kilobits outbound, about 150 kilobits inbound where an ISP can divide that among one or several or more individuals and provide a large number of residential server from one small point of presence.

CHAIRMAN KENNARD: Mr. Chrust, how about your company?

MR. CHRUST: Absolutely. In fact, to educational facilities as well, we have a whole division called WinStar for education which is targeted to providing services and information to schools and libraries. In addition, we fully intend in time as we build a network and create more stable economics to provide telecommunication services to the
residential customers within our service areas.

MR. HOOPER: And finally, Mr. Chairman, with
NextLink, it is today a business oriented CLEC, but we do
have plans for residential, especially with the LDMS
licenses that we have acquired. But Teledesic, on the other
hand, because of the nature of the architecture we are
using, we can provide, again, the same kind of service at
the same cost structure to a residence in Montana as we can
to a business in Manhattan. And that is clearly within the
business plan of Teledesic.

CHAIRMAN KENNARD: Thank you very much.

Commissioner Ness?

COMMISSIONER NESS: I'm pleased to hear the
progress that has been made so far to provide broadband
services out there, and I'm encouraged by that.

Mr. Hooper, you focus, in part, on your concern
about the incumbent provider being the bottleneck provider,
would it not also be the case just as, for example, U.S.
West could deploy a d-slam? There's no reason why the
companies that you represent would not equally be able to
deploy a d-slam and therefore, make that service available.
Why would U.S. West be required, if I understood your
testimony correctly, to make that particular advance service
available at tower pricing?

MR. HOOPER: Again, our view on the Telecom Act is that there really wasn't a differentiation between plain and advance services. So, we expected that the Act envisioned the ability to use all of the piece parts necessary to provide that service.

Now, in a major metropolitan area you are correct. We could very easily get our own electronics if we have the conditioned loop to provide to that service. But I would argue that in a business start-up like NextLink, and we are years away from having anywhere close to the profits of the incumbents have today, in order to serve more of the rural areas that your colleague was referencing, it is not necessarily economical.

So, in situations like that, it would be beneficial for us to have access to d-slams in those environments where because of the rate-based organizations that have these services today, they are able to do it on a more economical and you know, sharing of cost basis. So, you'll see us do a mix of both, but we don't want to be precluded from using those facilities in the instance where it's not economical to do it.

COMMISSIONER NESS: But following up on the
Chairman's question, if, in fact, the service was being provided by the incumbent in a separate subsidiary, a structurally separate subsidiary, would that alleviate some of your concerns that you would be dealing with a competitor on equal grounds? And assuming that the loops including subloops, potentially, were a condition and available to all on a non-discriminatory basis, would that alleviate some of your concern?

MR. HOOPER: On paper, Commissioner, that sounds terrific. But in reality, it just doesn't work that way. And if the reality of today is to be carried out even in separate subsidiaries of the future, we have a big concern that we still won't get the kind of access that we need to the services and the timeframe that we need them. It is just not easy to implement something like that in a hundred percent-owned subsidiary.

If it was an independent company, as my colleague suggested, we would be more comfortable with an environment like that. But a wholly-owned subsidiary, that does cause concern if we don't have the kind of relief that we envisioned spelled out in the Act.

MR. CHRUST: Could I add one point?

COMMISSIONER NESS: Please.
MR. CHRUST: There's another issue. If the logical conclusion is that an independent entity would therefore be the path by which the incumbents would be allowed to bundle long distance and bypass 271, then there's a more realistic market issue. And that is the pure market power of the incumbent.

I think none of us would dispute its power in the marketplace. I believe none of us would also dispute that if they were allowed to offer long distance immediately, that some 20 to 40 percent of the customer base would probably shift in a relatively short period of time to the incumbent for the pure simplicity of having it bundled on the same bill. Clear evidence of the market power.

If that in and of itself isn't a substantial barrier to entry, I don't know what is. It's hard to measure. It's hard to put on paper, and it's hard to physically separate. But it is the fact.

COMMISSIONER NESS: If I can follow up with you, not on this point, but on something else. You are providing wireless local loop services. And in doing so at 38 gigaHertz, you have gone to each of the state commissions where you are providing service and have received certification. Is that correct? How difficult was that
MR. CHRUST: I would say it was not terribly difficult. It was cumbersome, time consuming and a bit expensive, but not in the scheme of things, terribly difficult.

COMMISSIONER NESS: I ask that simply because we are examining -- in another proceeding, we are examining the issue of wireless local loop, and whether commercial mobile services should have flexible use, what should be the regulatory regime surrounding that, whether or not that is devoid of the need to appeal to state commissions for certification? And I was wondering what your experience had been of whether there was anything the Commission needed to remove any obstacles from competitive provision of service?

MR. CHRUST: Well, ours was not for mobile service, obviously. It was for fixed local loop. And it was essentially to provide it as a CLEC, not necessarily as a wireless carrier.

COMMISSIONER NESS: You raised your hand, Mr. Hooper.

MR. HOOPER: Yes, Commissioner. Again, the certification process itself is not a specially taxing activity. It's time consuming.
The thing that is bothersome in this process, however, is the franchising activity that goes on at the local city level. That is becoming a huge burden for us and a real impediment to providing a cost effective alternative to the local service, where we are asked to pay, you know, substantial percents of revenue where the incumbents, because they are under different regulations, don't have to do that.

That takes away a lot of the advantage we would have in lowering prices to the customer, because we are now being asked to add on rather substantial franchising fees that some of the incumbents don't pay.

COMMISSIONER NESS: It sounded as though the courts have begun to address that just this past week.

MR. HOOPER: Yeah, this past week. So, hopefully, that will be an indicator going forward. But that has been a big issue for us.

MR. CHRUST: It's important to understand that there is another barrier that I'm not sure whether it fits under the purview of the Commission, but it is clearly a barrier which needs to be counter-balanced to some degree. And that is the ability, as I said at the end of my prepared remarks, to access buildings and conduit within the
buildings. Clearly, the incumbents can come in free and
liability free to every structure in the United States.

We, on the other hand, come in with the apparent
dollar sign stuck to our forehead and seen as an economic
opportunity. Now I would say that it is fair on the part of
the real estate industry to see us as an economic
opportunity. All I'd like to see is equality.

COMMISSIONER NESS: Do you believe that the
Commission, under the Telecom Act, has the authority to do
anything about that situation?

MR. CHRUST: I would hope so, but I'm not sure.

COMMISSIONER NESS: Lastly, Mr. France, you
mentioned your dismay about not being able to provide
services for schools and libraries under Section 254. Was
my impression, notwithstanding the need for
telecommunication services, that we also were providing for
wireless on a non-discriminatory manner? Have you attempted
to apply for any services or any facilities under the
Telecom Act?

MR. FRANCE: No, we have not. We're an equipment
provider. But if we provide that equipment, for example, to
an ISP so that he might provide service to a school, he then
has to become that provider -- that service provider. And
in some cases, he has to do the registration process. In all, it's an extra tax on him that really precludes the free use of that bandwidth.

COMMISSIONER NESS: Because we had attempted under H2 that it was provided on a technologically neutral basis and that wireless providers would have every ability to get in and provide service. Therefore, equipment manufacturers would have an opportunity to sell their equipment to schools and libraries.

MR. FRANCE: To service providers.

COMMISSIONER NESS: You also mentioned two bands in which you'd like to see additional focus by the Commission, the 2.4 gigaHertz and 5.7 gigaHertz. We have provided for unlicensed UUI band in the five gigaHertz arena, and was wondering what your experience has been in deploying your equipment in that band. Has that worked for you or are there problems with getting broadband?

MR. FRANCE: You have to understand, we're a NACENT company.

COMMISSIONER NESS: Okay.

MR. FRANCE: Our status in this whole technology is that we are now in the FCC's equipment authorization cycle.
COMMISSIONER NESS: Okay.

MR. FRANCE: With large pin-up demand and a big warehouse ready to go.

COMMISSIONER NESS: Okay. Thank you very much.

CHAIRMAN KENNARD: Commissioner Furchtgott-Roth?

COMMISSIONER FURCHTGOTT-ROTH: Thank you, Mr. Chairman. I think we can tell by how time is slipping through quickly that there's a great deal of interest in these topics, and I'll try to at least to edge us back towards getting on time by keeping my questions very short.

Senator Burns of Montana is the author of Section 706, and many other members of Congress worked to perfect the language in conference. And there's some very novel and interesting words in Section 706, and I simply would like to ask the panel how they would interpret the verb "encourage."

Let me assure you if you need encouragement from the Commission, you are hereby encouraged to deploy these advanced services. But I suspect the language intended more than that, but I don't know exactly how much.

And second, the Commission needs to evaluate deployment on a timely basis. And I'm not sure exactly how best to interpret timely basis. You're welcome to comment on either of these phrases now, or if you'd prefer to wait

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and think about it and get back to us in writing after the hearing, that would be fine, as well.

MR. HOOPER: Well, I'll just take a quick stab, and we would love the opportunity to get back to you in writing, as well. You know, Mr. Chrust talked about timely, and I would just encourage the FCC that while you are working feverishly to try and pull all this together, --
timely, it will take time. You just don't rebuild the telecommunications system in this country over night.

And I would say the Act has worked extremely well getting competition out there now. Timely is based on when the market wants it. And the market wants it now, but the reality is it just takes a while to get things accomplished.

And in terms of -- what was the other?

COMMISSIONER FURCHTGOTT-ROTH: Encourage.

MR. HOOPER: Encourage. Again, we would interpret that to mean you want multiple options for the customer at the same time. And so, how do you do that in both the rural setting and in urban setting? Opening up the incumbent system that allows multiple people to use it whether they're coming by air or coming by land, is how we would interpret to be encouraged.

MR. CHRUST: On the issue of timeliness, I'd say
you have two choices, long and never. If you pursue certain paths that make competitive entry more difficult than it already is -- and it's not simple, I can guarantee you that, the answer will be never. But if you really want it to happen in a robust permanent cost-effective way, it delivers what you really intend it to deliver, it will be a very long period of time. If that period of time is not sufficiently managed, it will become never.

In terms of encourage, my answer to that is in that business is very risky and the opportunity to create the result and dependent on many variables, I would say if I were in your shoes, I would try and create as many opportunities for creating the end result as humanly possible. And by allowing a bottleneck to remain a bottleneck, you limit it to one possible alternative.

CHAIRMAN KENNARD: Okay. Mr. Powell?

COMMISSIONER POWELL: I'm struck by the presentation, I guess, particularly, Mr. Hooper and Mr. Chrust. Am I pronouncing your name correctly?

MR. CHRUST: Chrust.

COMMISSIONER POWELL: Chrust. Okay. Because in a way, though, in a related way, there are sort of two distinct stories we're hearing. One is the concern of the
incumbent because of the dependence upon essential facilities. And each of you differ in your need for that component, which is probably what explains your differences in presentation.

But there's also the discussion that Mr. Chrust is talking about, which is basically market power in the broader sense, the fact that they have first mover advantages, customer accounts, et cetera, et cetera, et cetera, and how you think of those two things can lead to different concerns.

But I wanted to address or throw out to you one of them that I'm concerned about, and that's sort of broadly innovation. Innovation growth by the new entrants but as well by the incumbent, because Mr. Hooper talked about the -- in expressing some concern about separate subsidiaries that it is easier to take, at least in the short term, advantage of those systems in the hands of incumbents. But of course, that assumes that they have them.

And part of the concern is that you make sure there continue to be sufficient amount of incentives for incumbents to continue to innovate, largely both for their own purposes, but also because they are the essential
facility on which other services are so dependent.

Normally with respect to innovation to some degree, the economic theory would say that we either grant some form of protection or exclusivity or the ability to enjoy or reap the rewards of such innovation in order to promote it. I mean, this is the theory that underlines copyright and patent law and other sorts of things and/or the ability to compete and constantly innovate as a driving force to constantly be able to compete.

So, in one sense I'd like to hear about what you think about innovation and what are the proper incentives for innovation by the incumbent. Secondly, I would say -- I'll just throw all my questions out at once.

With respect to market power, and I think Mr. Chrust particularly, if I was in his shoes, raises very serious concerns. But on the other hand, I'm not quite sure what the ultimate result of that sort of thinking is. And the sense that by your own admission, you say this is 20 years.

I don't have any fantasy that the market power of incumbents regardless of how much they open their network is going to erode extensively or dramatically for quite some time. And so, it is the suggestion that they simply would
be sort of condemned to legacy performance for 15 to 20 years while we've lost our competitive entrant market.

But that's a real problem. You know, 15 years after we broke up the long distance system, the incumbent still has 50 percent of the market. And I suspect that the problem -- the entrenched problem is even more significant with respect to local customers.

So, I'd just throw that out to both of you. Oh, let me add another thing.

The flip side of innovation is -- one of the things that struck me, Mr. Hooper, when you were talking about the importance of the facility, part of what we would hope for is the incentive to innovate on the part of entrants to get around that last mile problem. In that sense with WinStar and others who are looking for other ways to eviscerate the power of the incumbency, and it seems to me as a matter of policy, we would want to continue to look for ways -- to enceinte ways to diminish the last -- the power of the last mile. And so, if you'd kind of touch on that too, if you could.

That's a lot I know.

MR. HOOPER: Okay. Innovation. I would say that the two points you started on innovation are fair and
reasonable in a marketplace where everyone starts equally
where you create incentives like a patent protection and
royalty streams in order to enceinte people to develop into
new marketplaces so that they are willing to spend the R and
D dollars and take that risk for a protected return in the
future.

Here, however, you have a different situation.
You have a situation where you have a monopoly that has
virtually a hundred percent of the market share. I would
submit that the greatest incentive to cause them to
introduce new technologies into the marketplace and in their
own networks is the fear of market share loss, and
therefore, the need to provide the services that the
marketplace will demand.

There's a very critical difference, getting to
your third point, between the long distance market and the
local market. In the long distance market, competition
provided only two of the three necessary or usually demanded
elements. One, is choice of vendor. Two, is lower price.

Regardless of the fact that the incumbent or the
historical incumbent still has half the market, clearly
we've enjoyed dramatic reductions in long distance service
pricing. And we clearly have multiplicity of vendor choice.
What we don't have is new services. You buy the same minute you bought 20 years ago.

In the local market, something different is happening. You not only now need choice of vendor lower price, but you need a different kind of service, a service that the incumbent has very limited capabilities of being able to provide, which we've all said, broadband local capacity in a marketplace that has ever increasing demands for that broadband capacity.

So, the need to innovate is clear. The best way to get the incumbent to innovate is to give him the fear of market share loss. The best way to do that is to counter balance all of the market powers he currently enjoys in one form or another to induce that actual activity.

COMMISSIONER POWELL: Let me address one thing about what you said. The fear of market loss, I agree with that wholeheartedly, except for that the response, which you're trying to enceinte, that is, to innovate, is dependent upon at least the self-interested belief that the innovation would allow them to stay off the loss of market share or respond competitively in some sense to it.

And I guess it still gets back to the crux of my question which sometimes concerns me. If still the results
of those innovations are available to your competitors on a full and equal basis, then while you have the loss of market shares the initial incentive, where is the additional incentive for the innovation in order to produce a competitive response that would also accrue equally to those that you compete against?

MR. CHRUST: Well, it's a pretty complicated question, and it's difficult. But the issue here is that -- is one important thing to keep in mind, and that is that the incumbent is trying desperately to increase the productivity or protect the value of his embedded cost plan. He's not necessarily, if you've noticed, trying to do something out of territory except acquire other ILECs out of territory. He's not building anything out of territory. So, he's not incented.

He's not building out of territory, and the consolidation of the ILECs alludes me in its ability to be argued as increasing the competitive marketplace. I just -- it completely escapes me.

But the issue here is that you have the problem of them trying to protect their embedded assets. And if you separate the two, if you separate what is now the bottleneck which may gradually over time, become less of a bottleneck,
then the marketing, the entity with the marketing power will be separated from the entity with the physical bottleneck power.

COMMISSIONER POWELL: That's all I have. Mr. Hooper, did you want to --

MR. HOOPER: Yeah. The only thing I will add, just given the time here, is your last point, Mr. Commissioner. And that is, you know, getting around the last mile. We absolutely agree with that. And that is why we were out in the auctions and spent 134 millions dollars to get spectrum to cover half of the United States. And that is why we're planning to spend 10 billion dollars to provide last mile connectivity through Teledesic. It won't be operational for four and a half years, yet we're working on that to day. So, we absolutely agree with it.

And I'll go back to Mr. Chrust's point. There's got to be a transition time, though. How do you keep these other businesses operational? How do you continue to fund them from a capital market if you don't have assets to the monopoly bottlenecks while we build these other alternatives to get to the last mile?

CHAIRMAN KENNARD: Commissioner Tristani?

COMMISSIONER TRISTANI: Mr. Chairman. I believe,
Mr. Chrust, you said it might be 10 years before we get somewhere. And I don't want to sound like a pessimist, and I'm not going to be here -- well, sitting here, I hope, in 10 years. But I don't want to read in the paper that in 10 years we've got deployment to urban areas, and rural America is still out there waiting for the last -- not mile, but miles to get out to their homes.

I also appreciated, Commissioner Furchtgott-Roth, your question about what does encouragement mean. And I figure it must mean something more than talking about these issues. So, I'm asking you what can the Commission do to encourage deployment to rural America? It may be the same things you're talking about in general. But is there anything else specific that we can do?

MR. CHRUST: Well, first of all, I would say that I didn't mean to imply that 10 years would pass and no progress would be made. The intent of my comment was that it will take a long time, and progress will be gradual but certain in the right environment.

In terms of what the Commission can do, I believe that in its role, it is best positioned to effectively implement and enforce the intent of the '96 Act. And that if market share is not returnable to as a measure of real
competitiveness in the local marketplace, then at the very at least, the Commission ought to find methods by which it can effectively enforce the 14 points that were in the '96 Act.

MR. HOOPER: What I would add, Commissioner, is again to foster competition. But you know, to get to really rural America, you're going to need services and technologies that are not distant sensitive. And a lot of the things we've talked about, at least on this panel, are distance and density sensitive. I mean, let's be honest. To invest a dollar of capital in a CLEC, you want to know that there's a certain amount of capacity that you're going to get to have a reinvested dollar.

But there are technologies, and I would argue that they are predominantly wireless technologies that are going to solve the problem of rural America. So, to the extent that your pro-competitive regulation or deregulation, Mr. Chairman, can continue to foster and support things like WinStar or Teledesic to the extent you can help bring those to the market sooner, will be the things that you can do to really insure rural America has access to high speed broadband capabilities.

COMMISSIONER TRISTANI: Mr. France, you have something?
MR. FRANCE: We have a slightly different problem. We're limited in two ways. One is the laws of physics. There's a curvature of the Earth problem. How far can you go before you can't see over the horizon? And the other is the rather severe power limit that we have on our equipment. There are definitely different problems in dense urban areas and rather rural areas where the higher power level, if that were allowed, would not be of consequence because we're not -- don't have a very high density of activity. So, we could increase our capability but only marginally because not everybody's going to have a hundred foot tower to solve the curvature of the Earth problem. Leo, though, does have some sufficient antenna height for us to do that. So, we'll be able to solve that problem but to a point.

The other thing that one might think about, though, and it may be more cost effective, instead of having hundreds or thousands or let's say 90 in one of your counties -- 90 people. Instead of having 90 separate satellite Earth stations or links, if you will, if you had one central facility and then used a terrestrial link to distribute that capability among the towns or villages there within a 40 or 50 mile diameter, then you might have more
cost effective and more easily applicable approach.

    COMMISSIONER TRISTANI: That's it for me, Mr. Chairman.

    CHAIRMAN KENNARD: Okay. Thank you, Commissioner. We'll now move to our wire line panel. And I invite the wireless group to stay if you can, because I'm looking forward to a lively discussion between the panels at some point, hopefully, time permitting.

    Mr. Shadman?

    MR. SHADMAN: Thank you, Mr. Chairman and the Commissioners and for this opportunity. I'm Ali Shadman, vice president of corporate strategy at Ameritech.

    Without question, digital revolution and explosion of data services is the driving force behind significant changes in our industry, and it's going to shape the future of our industry. To stay at the forefront of what I call the global revolution, this nation does require an advanced telecommunication infrastructure consisting of multiple interconnected networks that can bring user friendly but also useful multi-media applications to consumers and businesses.

    To turn the vision of such an infrastructure into a marketplace reality, service providers like Ameritech will
face risks on three different fronts. One is the market risk. Will there be sufficient customer demand, and will there be a willingness to pay?

There will be technology risks. Will the technology work, and which technologies will win, and which standards will win in the marketplace?

Last but not least is the regulatory risk. Will rules and regulations effectively handicap a service provider -- potential service provider like Ameritech by forcing operating inefficiencies and limiting pricing flexibility in a competitive marketplace? Ameritech fully understands the risks associated with market and the technologies.

I'd like to address a couple of issues. First of all, what are these advanced services that we're talking about? And then second, what is the regulatory risk involved, and how is that impeding the deployment of the services?

Advanced telecommunication capabilities include Internet access using cards and emerging technologies such as ADSL, broadband business data services.

Let me talk about the regulatory risks. The largest barrier to a rapid deployment of broadband
telecommunication services is the inter-LATA restrictions. Broadband boundaries might make sense in the voice world where the nature of the given call can be pretty well defined by the telephone numbers involved in the origination and termination of the telephone call. In the virtual connectivity world of data, those boundaries don't really make a lot of sense.

Under current restrictions, Ameritech is forced to introduce an additional provider for the inter-LATA components of these advanced services. Introducing technical compatibility, billing, customer service, reliability issues, limiting liability to provide customers the services that they want, when it comes to these emerging services, the customers don't think up local and long distance.

Until this barrier is removed, our industry will continue to be somewhat frustrated by lack of progress in the deployment of these broadband services to the mass market. Removal of this inter-LATA restriction will allow Ameritech to play in this market -- this fast emerging market on a level playing field.

Let me conclude with maybe making two points. First, Ameritech will continue to meet its obligations under
the Act. Ameritech recognizes that as an incumbent LEC, we have obligations to other carriers seeking to deploy these broadband advance services. We will continue to provide unbundled loops. We will allow publication for transmission and will provide publication for transmission equipment. And we will provide non-discriminatory access to network elements.

Ameritech is planning to offer its advance telecom services to a data subsidiary. Ameritech's data subsidiary will act just like any CLEC using the existing operational support systems available to other CLECs. It would maintain separate books not on joint transmission and switching equipment, and obtain all of its telecommunication services through tariffs. We don't believe that all the 272 restrictions necessarily apply, especially in using joint necessary maintenance and insulation equipment.

Let me close by telling you what I think the Commission should do. To quickly and efficiently facilitate the provisioning of these services, the Commission should immediately authorize our data subsidiary to provide advance telecommunications services across latter boundaries. It should eliminate or minimize to the extent possible, regulatory requirements that will require inefficient
operation or redundant operation.

And last but not least, confirm that advance telecommunication capabilities provided by such a data subsidiary will not be subject to 251C obligations, and basically, will be regulated just like any other service provider. With such a level playing field, we'll be more than happy to make the investment necessary to bring these services to the mass markets.

I see my time is up. Thank you very much for your time.

CHAIRMAN KENNARD: Thank you. Mr. McMinn?

MR. MCMINN: Mr. Chairman, Commissioners, my name is Chuck McMinn. I'm the chairman of the board and co-founder of Covad Communications. I appreciate the opportunity to discuss 706 and the state of high speed broadband access in America.

The question before us posed by 706 is whether broadband services are being made available to American consumers in a reasonable and timely fashion. The answer to that question is unequivocally yes.

The ILEC's would tell you that broadband services will never be rolled out unless they are -- they have the unfettered ability to do so. I am here to tell you that
broadband services are being rolled out, and that the ILEC's are the reason that broadband services are not being rolled out faster. They are the problem, not the solution.

Covad is an example of a CLEC that was formed as a direct result of the Telecommunications Act of 1996. I came out of the PC industry. Covad is backed by Intel, the largest manufacturer of microprocessors in the world. I can tell you from personal experience that the future of the information age is in danger of being choked by insufficient network capacity.

We are trying to fix this problem. We are rolling out high speed DSL data services that are 50 times faster than today's typical analog modem. We have grown our network to pass over one million homes and businesses in the last 12 months. We have raised the capital to roll out our service to six more markets and pass over 20 million homes and small businesses in the next 12 months.

Not an insignificant accomplishment for a start-up. But we could do more except for the obstacles put in front of us by the ILECs. We have been slowed significantly in the last 12 months and continue to be hampered by the ILECs in a whole host of ways.

We are forced into lengthy interconnection
negotiations that last nine months or longer in each and
every state and every ILEC territory. We are forced to
purchase co-location cages at exorbitant prices that prevent
us from economically entering rural and smaller suburban
central offices.

We are forced to wait 180 days or longer to get
these cages built. Once the cages are turned over, we are
delayed months longer by the ILECs connecting these cages to
our network. And 20 percent of the time, we are even told
that we cannot get a cage because no space is available,
despite the fact that the ILECs are announcing DSL services
in these same no space CO's.

Then, on an ongoing basis, we are delayed in
ordering our loops through antiquated OSS systems. And when
the ILECs finally installs our loops, they get it wrong 60
percent of the time on the first try.

Clearly, we are being delayed in rolling out
broadband services by the ILECs. These ILECs are claiming
that the Telecommunication Act is a failure and are fighting
it and us every step of the way in court and outside. These
are the same companies that lobbied so hard and applauded
the Act when it was signed 28 months ago.

I find it inconceivable that these same ILECs
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should be rewarded by the FCC for their obstruction by being allowed to create a monopoly for broadband data through Section 706, under the guise that they're the only ones who will roll out these services. I'm in full agreement with the goal of 706 to roll out broadband services to all Americans. I favor any pro-competitive means to accelerate the deployment of broadband connections in the market.

In that spirit, and maybe somewhat surprisingly to you after what I had just said, I would support the ILECs being allowed to provide broadband data services without the need to unbundle those services, but only if it is done in a manner that promotes and increases competition and doesn't reduce it. Specifically, the ILECs should be allowed to offer high speed services in exactly the same way as I am forced to in a completely separate CLEC entity, subject to all of the interconnection rules, pricing, co-location and unbundled access restrictions that I have to deal with.

My belief is that if they are forced to deal with their own bureaucracy in order to provide these services and their economic success depends on it, they will eliminate or streamline that bureaucracy to the benefit of all CLECs. I am proposing a structured, self-implementing solution to this structural problem. The alternative, further
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regulatory hairsplitting and the consequential delay of broadband service rollouts is not in the interest of bandwidth-starved homes and businesses in America.

Make no mistake, though. The devil is in the details as to how this separate ILEC data entity is implemented. I cover some of these devilish details in my written testimony. If this separate CLEC is done wrong, we will be right back here in two years declaring the effort a failure. If it is done correctly, the vast majority of Americans will have more than one choice of high speed services in the same timeframe.

What the FCC should not do is pull defeat from the jaws of victory by declaring the Telecommunications Act a failure and extending the ILEC voice monopoly to data. Covad and CLECs like us, our proof that the Act is working. Give us and the ILECs a chance to compete on a level playing field, and the benefits of broadband connections will be brought to all Americans. Thank you.

CHAIRMAN KENNARD: Thank you. Mr. Medin?

MR. MEDIN: Thanks for inviting me out. My name is Milo Medin. I'm senior vice president for engineering and chief technical officer for At-Home Network. We're a Silicon Valley start-up formed about three years ago by a
bunch of venture capital guys and some of the cable operators.

I'm an engineer not a lawyer, so I don't necessarily know about all this 251, 706, all these other numbers. Like most start-ups, we have a relatively low lawyer to customer ratio.

You can read about our infrastructure and sort of our core philosophies and core architecture in our written statement. I won't bore you with that.

But a couple key points. When I was recruited from NASA, I spent 10 years there building communication networks for the space agency. The venture capital guys had this idea basically connecting cable modems to the Internet and making a ton of money doing that.

I, basically, told them that that wasn't going to work because of all the bottlenecks in the Internet, and because if you just did the math of taking multi-megabyte access to several million people, you would find that you just couldn't haul that capacity around very easily at all. And the servers at the other end point would get suggested and wouldn't be able to serve them.

So, we set out from the very start to basically try and build an intelligent network, a network where we put
servers into the middle of the system that accelerate performance that get around many of the bottlenecks in the infrastructure. In my opinion, to be able to offer broadband access to million of people at 40 bucks a month -- and by the way, people just aren't going to pay 100, 200 bucks a month for broadband access to their home. They just are not. I mean, there is just not enough income coming in to justify that cost. So, if you don't get it down below 40 bucks a month, you're not really aiming at a mass market product.

So, we said, what do we have to do, or how do we have to break the rules in how people build communication networks to hit that price point, because that's the price point we wanted -- we believe could get mass market deployment. So, we did things like building intelligence into the network, running very low cost optical transmission equipment, things that -- you know, knocks on it, not these very large voice-oriented data products and a bunch of other technologies.

We felt that standardized modems are really important. And so, we launched an effort with cable partners and cable labs called MCNS, which has basically allowed us to standardize all the cable modems that are
going to be rolled out. And in fact, I have some with me just to show you that they really do exist.

In Q-1 of '98 -- I can't talk about Q-2 because we haven't released our numbers yet. But in Q-1 of '98 we passed -- At Home Alone passed about six million homes fully two-way equipped fully capable of taking data services. We had over 90,000 subscribers. Our biggest impediment is how quickly we can install service. And I'll talk about some of the things we're doing to address that. The cable industry has really stepped up because of the regulatory stability that the Telecom Act has provided and is upgrading plans rolling out data services.

A lot of the analysts will tell you that the numbers at the end of 1997 were about seven and a half million homes which are data capable. '98 -- the projection is 24.8 million, 1999, 51 million, 2000, 72 million and 2001, about 78 million homes. So, the industry is absolutely committed to rolling this service out.

I just would like to show you a few things. These are -- this is actually a Sony engineering prototype. Sony is getting into the cable modem market. And if you just sort of pass this around, you might find this interesting. Real consumer electronics companies have entered the market.
space in order -- because we have standards and equipment. And they believe that this market is viable. And we intend to sell those, and those companies intend to sell those at retail.

Here's a Thompson engineering prototype. Again, fresh out of our lab. These modems will work with each other and other vendor's equipment in the head ends. So, you've got full interoperability, and unlike the usual equipment vendors that supply the cable industry which have locked them in for many years of proprietary solutions.

Also, one of the things that we've seen is, the biggest impediment is actually adding ethernet capability to the PC, because that takes time. You have to open the case, deal with, you know, bios issues, et cetera. So, we've developed, along with Intel and a small company, a little adapter that attaches ethernet which will work with a proprietary modem or these MCNS modems. By the way, this modem has a USB connector built right into it that will allow us to add at home service to a PC without any case opening or hacking about hardware.

And just to show you real quickly, we have a commitment to retail, we have a little box which today has just a few offers in it, et cetera and free installation, et
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cetera, or free service for a month -- installation. It
talks about our service event that we will have USB adapters
in these boxes and hopefully, they'll be sold with cable
modems in retail stores by the end of the year. So, we're
very excited about this business. Thank you.

CHAIRMAN KENNARD: Thank you very much, Milo.

We're going to depart from our planned schedule because
we're really falling behind. And what I am going to do is
going ahead with our third panel, and then we'll reserve some
time for questioning of all the panelists after Mr. Crowe
finishes his presentation.

Mr. Morris?

MR. MORRIS: Thank you, Mr. Chairman. My name is
Richard Morris. I am vice president of local market
integration in Sprint's national integrated services
organization. I appreciate the opportunity of addressing
the Commission today on 706 requirements and how Sprint is
deploying backbone and other broadband capabilities to the
consumer business market.

From a backbone standpoint, Sprint's been a leader
in deploying advance communications capabilities for years.
The first fibre optic all digital network in the United
States was deployed by Sprint. We have been evolving that
continually. And today, we have added sonared rings to that
topology and have deployed dense weight division multi-
plexing so that the backbone capability in the Sprint
network is enormous.

It is self-surviving. It has rings throughout the
United States, and has immense capacity. So, we really
don't believe that backbone capability is the problem. We
believe the problem is last mile connectivity. That's where
we think that additional work needs to be done.

Now, Sprint's vision on this is a little different
than you've heard elsewhere today. Sprint announced last
month it's integrated on demand network. And the key word
there is integrated. We intend to deploy a network that
carries voice, that carries video, that carries traditional
data, all on one access mechanism to the consumer and to
businesses.

We don't intend to create separate networks to
split off a voice into a circuit switch network. But
rather, to digitize it and carry it all on the Sprint ION
network using ATM technology to do that, and a device at the
premise that translates various protocols, Internet, voice,
ATM, frame relay, into an ATM protocol to be carried
seamlessly throughout the Sprint ATM network, the ION
At the interface points with the public switch telephone network, it will be converted to the other formats that are necessary to interface with the other networks. So, we think we have a broadband network that will carry high quality voice and data quickly, efficiently, and carry an immense out of that.

There are a lot of promising technologies for the last mile. You've heard discussions today of broadband wireless. We believe that there's some hope there, that that might be a technology that'll work in the future.

Cable modems certainly hold some promise. And XDSL, we have seen announced by both Covad, Northpoint, many of the ILECs. They appear to have a broader support announced than many other technologies. And we believe in the short run, that might be a solution to the last mile technology and bottleneck for suppliers like Sprint.

We don't intend to build down to individual subscribers, put another wire in. We'd rather use what's been paid for in the past, the twisted pair that's out there today or special access circuits that are already available. And that'll provide the bandwidth that we need to get to customers.
However, there are problems with even using the ILEC twisted pairs. Co-location has been mentioned previously, is a tremendous challenge. Many offices lack space to get in.

As you move down the size continuum to smaller offices, there simply is not enough market share to have two deployments, especially if you're talking about $50,000 or $75,000 an office to build a co-location cage to a thousand customers. You can't afford to deploy under those circumstances, especially if you're talking about a 15 or 20 percent penetration rate. You're down to a level where you simply can't get in unless you share the technology that's in place.

So, we believe that data transmission and voice transmission are all telecommunications. They should all be covered by the Communications Act of 1996. They should all be available for resale. They should all be available as unbundled network elements. And we believe that if they are, you can have innovative carriers such as Sprint utilize that bandwidth to provide value-added services that meet the needs of customers, that integrate all other services into one, rather than fragment them into several. They carry them all on one network, rather than send them over several.
And we hope the Commission will stay the course and do what's necessary to make that competitive outcome occur. Thank you.

CHAIRMAN KENNARD: Thank you, Mr. Morris. Mr. Zell?

MR. ZELL: Thank you very much. I'm going to just dig right in here. My name is Joe Zell. I'm the president of the data and Internet division of U.S. West Communications. I came to this company six years ago to try and bring some innovation to a sleepy old RBOC and start building some of these new data services. We have absolutely demonstrated that record of innovation in enterprise. And I want to talk you a little bit about what we're trying to do now.

Our vision for the consumer and small business market is what we've been describing as Web tone. My goal in life right now is to figure out how fast I can bring low priced, high speed, high bandwidth services to all of my marketplace. That is my objective. And I want to be able to share with you the facts since I am deep into this deployment on where my real costs are, what the real barriers are, and if you really do want to get service out to the consumer before the satellites go up, then I guess I
I would ask you to listen to these things because they're real.

I have now deployed in the last six months into 223 central offices this ADSL capability. I'm at about a million and a half homes past now. Clearly, more than any other RBOC. We're dead serious about making this happen. I've brought the service to market at about a $60 price point, about $40 for the underlying ADSL component. My intention is to drop the price into the $40 to $45 range as fast as I can, probably in a few months.

But from my standpoint, it is absolutely critical that we do aggressively deploy these services to our consumer because that is what they want. We have many, many great examples. I don't have time here today to go through them all with you. I'll just pick out one example about what the impact can be of getting Internet to places where it's not going to get to otherwise for a long time.

We just did a deployment in New Mexico and Arizona in support of the Bureau of Indian Affairs to try and bring Internet access to 26 schools, grade schools and elementary schools -- elementary and secondary on Indian reservations. These schools cannot get high speed Internet access. Their only hope was that I happened to have already built out a
360 node frame relay data network across my territory, and I was able to, sharing that backbone, bring them high speed Internet access over frame relay.

But interestingly enough, because in New Mexico, there's a -- excuse me, in Arizona, I had to cross a LATA. The interesting difference is that in New Mexico what the schools pay versus what they pay in Arizona where I had to pay for a LATA crossing, because I had to go off inefficiently route, go to a long distance carrier, buy the facility, put it in. That's added about $3,000 a month to the connection for those schools.

It means about $800 a month to each of those individual little schools on a reservation. That's real money. It's not the full value of a teacher's salary, but it adds up. And the point is, it is absolutely irrational, economic attacks that's being placed on it.

From my standpoint, what's important here is that we've gone as far as we can with this high speed Internet ADSL deployment. I cannot afford to go any further for three simple reasons.

One is, there is a significant bandwidth tax that I have to pay. I'm not allowed to build an Internet backbone. I can't be a peer network like every other ISP
and anybody else at this table. And therefore, for me to
just terminate my Internet traffic, God forbid I should get
any, but they're just terminated.

I've got to spend a thousand to two thousand
dollars per megabyte per month. You do the math on it. You
figure out how I'm going to try and bring Mr. Rural America
if I'm having to pay someone else that kind of money clearly
20 times what the economic cost is of that Internet backbone
capability. That's number one.

Number two is this current set of LATA
restrictions, clearly devised to serve the voice long
distance market, does nothing but increase the backhaul
inefficiency for me connecting up small places. If you'd
like to see maps, I'll be happy to submit something to the
Commission to prove this to you. This is just mathematics.

And what's happening is every time I'm forced to
go live within LATA boundaries and pay interexchange
carriers, it's adding costs to the service. And you know,
like it or not, we do have the benefit of shared economics.
The fact that I have built out a frame relay network, and
that if I got inter-LATA relief limited for data use only,
that I might be able to share that backbone for frame relay
traffic, for Internet traffic, for ATM traffic, for other
data services, is absolutely to the benefit of my customer. That's the way that we will achieve being able to drive low-priced services out to the consumer market.

My competitors are basically saying that they want open and non-discriminatory access to unbundled loops and co-locate space. U.S. West is enabling that. We have gone with cageless co-location. We are providing those capabilities to Covad and to many others in our territory. I'm not suggesting that their life is easy, but I am suggesting that we are trying to make this possible because we do believe it.

I think it's clear today from the panel that we have got abundant competition, both here and now, and coming soon in the form of facility-based satellite, MMDS, LMDS, unlicensed radio wave, cable modem, you name it, there's plenty out there. What's happening right now is that you're putting me in a position where I can't serve that customer, because I cannot lower my costs enough to get them beyond the 40 cities that I've currently deployed.

So, I just want to beg you to consider the real economic benefits to the consumer of enabling me to carry out further deployment of this service.

CHAIRMAN KENNARD: Thank you, Mr. Zell. Mr.
MR. CROWE: Thank you. Given the short time I have, I'm going to focus on a couple of points. My written submission contains far more detail. I'll speak in conclusions.

My name is Jim Crowe. I'm the former CEO of MFS Communications where we, I think, had as much experience with unbundled loop as, perhaps, any other company, perhaps, more than all the rest of the companies combined, I think, by count. We also, after the acquisition of UUNet, had significant experience in the real world of broadband. After our merger with WorldCom, I was the chairman there for a period of time and then left to start Level 3.

And simply put, the problem that we are trying to solve, I think, has been framed in the wrong terms. I believe for a long time that proper solution means defining the problem correctly. And in our case, I think the problem is simply that communications costs too much per unit, not that it costs too much, but it costs too much per unit. The goal is to continuously drive down the unit costs of bandwidth.

Just our vocabulary today illustrates my issue. We talk about deployment. We talk about upgrading. We talk
about a period of time as if that's sufficient, and then the
issue will be dealt with, that's the end of the problem.

And of course, what's happening is a complete
revolution in our industry where the economics of silicon
are finally coming to communications after 70 or 80 years of
monopoly, oligopoly equipment providers selling to monopoly
service providers. We have the promise of watching
bandwidth per unit drop now at a very large and continuous
rate for as far as the eye can see.

I choose that word, "as far as the eye -- or term,
"as far as the eye can see" deliberately. We spent the last
hundred years building a network that's about extending our
ears at a cost most of us find reasonable. The new network
that we're all discussing here is the very early start of
building an infrastructure that can extend our eyes around
the world at a reasonable price. This is going to happen.
It's going to happen because the market demands it because
there is such tremendous leverage on all parts of our
economy to this kind of communication system. But I think
the Commission has a real role in making sure it happens at
a more rapid rate than it otherwise might.

Let's fact it. Today, all of the providers have
assumptions about average asset lives that are unrealistic,
11, 12, 13 years at a time, when the underlying technology is doubling in price performance. Perhaps, every 15 to 20 months. We've got dividend payout ratios, including a company here to my right, that are 70, 80 percent of earnings at a time when it's apparent enormous amounts of capital are necessary to rebuild this network.

We've got regulatory policies that charge rates per unit of demand, per minute, et cetera, at a time when we're trying to push down unit prices. And that's at direct odds. It's a break on that sort of thing. What's necessary as a whole new approach to regulation, one that views its role as supporting the market, because none of us here at this table, in spite of our technical backgrounds, know where there this is all taking us.

Anyone at the table that believes they knew where technology is going -- believes they know where technology is going to take us in the next five years ought to tell us what their predictions were five years ago. I'd submit to you that today, technology is moving quickly, and it's fundamentally unpredictable. In fact, our whole business plan is built around building a network that can accommodate unpredictable technical change. We may or may not succeed along with everyone else at the table, but the market has to
Specifically, I think there are two things the Commission ought to do. First, look at its role as a steward of the market much the way the Securities and Exchange Commission does. Step in only when necessary. Continue to encourage industry participation, independent industry bodies to set standards to set economic terms. And view your role as one of a steward of the market of technology.

And second, the biggest single issue I think today was well stated by Mr. McMinn. He's absolutely correct about the realities of unbundled loops. I'll simply say this. In theory, it's nice to say that everyone has access to those loops, but the fact are they need conditioning and a lot of it.

And the facts are that the RBOCs today sell bits to form voice over those loops at a hundred times the rate that their competitors want to sell those same bits on those same loops. It's the IBM main frame to PC problem. You're asking RBOCs to help build the gallows with which their competitors expect to hang them. It's not realistic economically.

The Telecom Act is not realistic economically. If
you want it to work, you've got to separate the loop, not
the advance technology, not the DSLs. Those can be provided
by anyone.

But the loop itself is an essential facility in
the sense that you use that term, Mr. Chairman, in your
recent speech to the American Communications Bar
Association. It's an essential facility. It will be for
the foreseeable future, and it's vital to all Americans that
that be put to its highest and best use by innovators,
including U.S. West if they happen to have a great idea.
But you can't have one competitor own a bottleneck and
expect them to willingly make it available to competitors.

I see my time's up. Thank you.

CHAIRMAN KENNARD: Thank you, Mr. Crowe. Well
done. We're rapidly running out of time so I think what
we'll do in the question and answer period, is rather than
go to each Commissioner for questions seriatim, we'll just
have sort of a free for all. And I have found that we've
had the most interesting en bancs when we can get some of
the high powered talent out there to direct fire at one
another.

So, I'm going to try and get a little of that
going, and I'll start by asking just one question. And as
background, I really agree with what Mr. Crowe just said that the appropriate role of the Commission, the regulator, is to be a steward in the marketplace. We all know the cost of regulation to consumers and to innovation. And we have today an interesting phenomenon because we're of sort poised at the starting gate of a new technology or the deployment of a new technology.

So, I'd like to ask anyone who wants to answer this question. Let's just wipe the slate clean for a moment. Assume that all of these technologies are poised at the starting gate: cable, wireless, wire line. What would you advise us would be the most deregulatory, i.e., the most minimally regulatory way that we can provide a framework for the deployment of this technology? And I know that some of you may not agree that we can have a clean slate, but just bear with me for a moment here.

Mr. Shadman?

MR. SHADMAN: Chairman Kennard, I think the most important contribution that you can make for this discussion is actually if you could draw that line because as we go around the table, we do seem to sort out -- go back and forth on market --

CHAIRMAN KENNARD: Steve, we need Mr. Shadman's
MR. SHADMAN: I'm sorry. As I said, I think the most significant contribution is actually if you can draw that line and sort of focus the discussion on a going forward basis, instead of sort of going back and rehashing all the other issues that the Commission can deal with in another forum.

And I think, as you look around the table, I mean, clearly, we're all sort of chomping at the bit to go after the opportunity that's out there that we can all see. Some of us want others to kind of be held back and then, you know, give them a head start, and then let them -- let the others catch up later on. I think if you can really draw the line and focus the discussion on what is a level playing field going forward or what are essential facilities that need to be provided?

I mean, in terms of spectrum, you have access to all customers when you have hundreds of megabits of spectrum in LMBS. You have just chosen not to deploy the technology to get to those individual customers.

So, I think if you can draw the line, focus the discussion on going forward, what is the minimum set up requirements to create that level playing field, I think
that's the biggest contribution you can make.

CHAIRMAN KENNARD: Well, that is the question then. On the wire line side, though, what are those essential facilities?

MR. SHADMAN: It's clear to me that on the wire line, I mean, you can't really separate the wire line. You have two wires going into millions of U.S. households. And the remaining households are -- maybe 30 percent of them are another drop away from having that second wire going into -- actually, two wires going into individual homes.

And I think as long as there is some equal access to that wire, which is in our case, the unbundled loop, if you can guarantee that that is being made available on equal footing to all players, I don't see any reason why companies that can go to the market and bring five billion dollars of investment need incumbents to finance their start-up costs.

CHAIRMAN KENNARD: So, you think the only essential facility is the loop?

MR. SHADMAN: And co-location.

CHAIRMAN KENNARD: And co-location.

MR. SHADMAN: Obviously, where those loops are coming in.

CHAIRMAN KENNARD: Okay.
MR. ZELL: I'd like to just add to that if I could, Chairman. The suggestion that the solution to enabling that is somehow creating a separate subsidiary, a separate entity, some has gone as far as saying, completely defeats the purpose. What we end up having here is a debate about, what's it take to really demonstrate that someone is getting fair and equal access?

And we fully agree that we need to be able to demonstrate that they are getting that fair and equal access, because if they are going to be able to compete on a wire line basis over our loop, that's what's required. Putting me in a separate subsidiary or a separate entity far worse, only means that you have just cut a million people out of my territory that I'll never get to, because all it does is add inefficiency and add cost.

I considered it. When I joined -- when we started thinking about deploying ADSL, we looked at the option of being a CLEC in our own territory because we thought it might actually allow us to do it faster. And our conclusion was that it added so much cost to us in our case, that it completely defeated the purpose of us sharing the benefit of our shared economics and our scale and scope with the consumer. Because nobody else is going to Los Cruces, New
Mexico. I mean, until satellite comes, there is no other option for those customers in my opinion.

CHAIRMAN KENNARD: Mr. Medin?

MR. MEDIN: Is this on now? Great. One point I think ought to be made about this whole issue of rural markets, I actually don't necessarily believe the problem is in the last mile. That is to say, the actual mile from either the head-end out to the home or from the CL out to the home. The big problem with rural markets, Los Cruces, New Mexico, is actually, intra-LATA transport between them and the backbones.

People like Jim's company and Sprint have laid lots of fibre transcontinental. There's lot of competition in that space. You look at what Quest is doing and all the other competitors. The problem has to do with getting from the backbones' point of presence in some area, in some LATA, out to these remote areas.

In the metro areas, we have -- cable operators have fibre facilities. CAPS which have fiber facilities, et cetera. There's lot of glass around which forces the RBOCs to be competitive there. But a lot of the rural markets, the only glass that's in place, that gets to the COs, is owned by the RBOC. And it's been my experience, that the
moment that you touch an RBOC facility or buy something from
an RBOC, you're on a different price model that just
can't -- you just can't make multi-megabyte access work
reasonably.

So, one thing we're doing is actually looking at
putting in a relatively low speed ET1 line into these
smaller head-ends and then building a satellite overlay on
them that we can beam down data into our caches and other
things inside those markets. You know, the glass can carry
oodles of capacity as the Sprint guys are rolling out WDM
facility.

There are a very few RBOCs who have put WDM into
their infrastructure. There's all this unlit glass that's
there. And it's all sitting there, basically, because
they've got a price model for business access that they want
to protect.

So, you know, that's just the way I see it.

MR. MORRIS: I would agree with that also.

That's, leads to the point, that the bottleneck is not
necessarily the same in a rural area as it is in an urban
area. You may have transport that needs to be included in
whatever bottleneck you consider for rural areas because
there's all economically today, the one choice of how to get
there.

It's governed by average access charges that the Commission has some control over. And as those access charges are reduced for transport, then that broadband plant will be better utilized for others to innovate, including U.S. West, who recognize that they can't set up a separate subsidiary to serve those folks economically, either.

The same is true of many of us. We cannot compete there if we have to construct co-location cages and all those other things to get to those customers and use the high cost transport to get back to a concentration point.

COMMISSIONER TRISTANI: Mr. Chairman, can I just say something, since you've all been talking about Los Creces, New Mexico, and I just wanted to clarify a little bit here. It makes it sound like Los Creces is this tiny little village.

In New Mexico, it's the third largest city. I can't remember exactly on numbers, but I think it's well over 50,000. And I hate to hear that that's even hard to reach. So, --

MR. MEDIN: Plus, there's a huge NASA facility there, which does Tedris Groundlake. There's actually lots of fibre that goes into.
COMMISSIONER TRISTANI: We also have a good university there with a good basketball team. But I think it underscores a point about the problems in the bigger states and in the rural states.

People in New Mexico think Los Creces is urban. But the way it's being discussed, it's one of those hard to reach areas.

MR. ZELL: Could I just clarify relative to New Mexico, since it is mine to serve, among others? There are a couple of interesting observations there. One is, in support of what Milo said, it is absolutely correct that the cost that I incur to try and serve progressively smaller cities and towns, has a lot to do with, not only what do I have to pay to backhaul the data to that -- from that city to the Internet. I had already mentioned that I have to pay to hand it off to an Internet provider, whereas, most of these other companies don't because they can peer. But the backhauling is a significant piece of it.

Principally, what I'm trying to say here is that the economic advantage that we get from a 706 limited inter-LATA relief for data only, we won't do anything else on it, is that it lowers my cost for bandwidth, and it allows me to build a shared backbone, back haul network that allows me to
drive down that cost to getting to those smaller locations.

The other unique situation in New Mexico, however, is the Public Utility Commission, largely at the request of one of our competitors, a CLEC E-Spire, I think formerly known as Prince, essentially went after all of our cost data. They wanted us to provide all of our cost data for these innovative new services to our CLEC competitors. So, we said forget it. We'll just pull out of the state if that's what competition's all about, if you want to come in and check my books and challenge my prices, it's not going to work.

So --

COMMISSIONER TRISTANI: Is that the same reason you pulled out of Oregon, also?

MR. ZELL: No, Oregon is resolved -- that tariff went into effect yesterday, as did Washington. So, we had a couple of states where there were problems. But in New Mexico, we have a state public utility commission that is kind of swung to the other extreme.

MR. CROWE: Mr. Chairman, you asked, I think, what can the FCC do?

CHAIRMAN KENNARD: Yes.

MR. CROWE: To -- assuming there was a blank sheet
of paper? Well, first of all, I think is to separate
universal service subsidies from industry economics. Today,
they're mixed up. One of the providers is expected to use
the honor system to distribute the goods developed through
universal service. And that doesn't work.

While there is a real need for subsidy, I also
know quite a few folks, for instance, in Wyoming, that have
networks perhaps many, many, many times the average American
who are getting the benefit of universal service. That
makes no sense. Got to be targeted in the open by
policymakers, not by industry participants for those that
can afford the kind of access that we all think is necessary
and the policymakers finally decide is necessary. It
shouldn't be intermixed with industry economics.

Second, you can do what I think you recommended in
your speech. That is, distinguish between essential
facilities and those that can be competitive. Today, at
least in my view, there's one essential facility. That's
the copper loop. Not ADSL, not advanced services, not
trunking, not switching, not long haul. The market will
provide capital to compete with all of those and already is.

But that loop is not in a condition today to
accept advanced services. One of the players has to do
something to it to make it available to competitors, and
they have no interest, no economic interest in doing so.

MR. MCMINN: In fact, an economic disactive
disinterest from doing it.

MR. CROWE: Well, sure. They're acting in their
economic interests. What else would they do?

MR. MCMINN: I asked --

MR. CROWE: And finally -- I have one last point.

And finally, I think you got to remember that today's wide
band -- today's broadband is tomorrow's narrow band. This
process is just starting. It's going to be continuous.
We're headed -- the bandwidth of the optic nerve, by the
way, isn't characterized yet. But it's in the gigabits,
perhaps hundreds of gigabits a second. So, we've got a
long, long, long period of time before we deliver the kind
of bandwidth that people demand.

And individual assumptions about technologies
winners and losers, whose got to provide the service, will
prove inaccurate. You've got to let the market operate.

CHAIRMAN KENNARD: Thank you. Mr. McMinn?

MR. MCMINN: Yeah, I would agree wholeheartedly
with Jim that it is the last mile that is the critical
bottleneck. You know, Joe worries about his cost of
backhauls being his highest costs. That's the third or
fourth highest costs that I pay. I pay for loops. I pay
for co-location. I pay for power. I pay for floor space.
I pay for a lot of other things to the ILEC that make them a
much bigger cost element of my service.

And they're actually not very interested in
selling me that stuff. I asked every single ILEC that I
deal with -- who in this corporation, is paid a sales
commission for how much revenue I generate for you? And
each and every ILEC they say, "absolutely no one." And they
laugh at the notion that they might want my revenue. That
is a conflict of interest.

And the only way it's going to be resolved is to
split the provision of the things that I'm buying that I
want to buy a lot more of away from the group that actively
wants to discourage me from buying them.

COMMISSIONER NESS: Mr. McMinn, would having a
Section 272 separate subsidiary -- structurally separate
subsidiary, address some of the concerns that you're raising
as opposed to the competitive carriers separate subsidiary?

MR. MCMINN: I'm not a legal expert. I come into
this whole mumbo jumbo much like Milo did only in the last
several years. So, I won't -- I can't directly answer your
question relative to the legal requirements. Let me answer it from a business standpoint.

I want them on equal business footing, so that whatever I can do, they can do. Whatever I can't do, they can't do. And so, their incentive is aligned -- their economic incentive is aligned directly with mine.

COMMISSIONER NESS: Would anyone else like to answer that question or have experience with that question?

Mr. Chrust?

MR. CROWE: I hate to admit this, but 10 or 12 years of working in communications has made me more of a legal expert than I would like to be. And I think if you want to -- well, what I think is an excellent model for what can work in terms of structural separation, look at Empire City Subway. That's the organization that provides conduits to all comers in New York. It's owned by Bell-Atlantic now. It's a completely and structurally separate subsidiary, and it works. It works very well.

COMMISSIONER NESS: So, you agree that structural separation would provide the type of competition that you would --

MR. CROWE: With the term "structural" of course, having to be carefully defined.
COMMISSIONER NESS: Mr. Chrust?

MR. CHRUST: I would say in answer to this and in direct answer to the Chairman's point in terms of suggestions, I'd say, first, understand the incentives of the three constituencies you're hearing at this En Banc hearing. One is the incumbent protecting his market share. Two is the interexchange carrier trying to reduce his access costs, which is his largest costs for his primary source of revenue, which is voice communications controlled at the local level by the incumbent, which allows him to pay those 70 percent of earnings out in dividends.

Having stated that, I would suggest three alternatives or three recommendations. One is a separate company, not a separate subsidiary. I don't think there is great risk in creating a separate company and insuring that that company has no incentive to delay or block any of the facilities that are essential from being provided to all others.

Second of all, I would make sure that local and long distance remains separated for some extended period into the future dealing with a market power issue. And third, I would argue that enforcement of the equal access issues, the operating issues, be very aggressively
implemented and monitored over the next number of years.

MR. ZELL: But if you want to mix it up, I just
want to point out that these are mutually exclusive
outcomes. If you want to create a separate entity, clearly
that will give you a very clean easy way of assuring that
people get access to that essential unbundled element. It
just will absolutely have the adverse effect if the
objective is to try and find a way to serve all Americans
with new high speed data services.

Don't kid yourself. There is a huge economic
impact to solving the problem that way.

CHAIRMAN KENNARD: Mr. McMinn?

MR. MCMINN: No, it won't. Joe, you're looking at
it as if you are a CLEC that has to pay your exorbitant
prices. And that's why the business case didn't close. If
you are a CLEC that pays prices to an ILEC that's encouraged
to lower their costs, they will be lowered dramatically and
the business case will close.

MR. CHRUST: Can I also suggest one last point, at
least from my end that I think is getting lost here? Much
of the debate has surrounded around the existing copper
loop. It seems to me the incentives ought to be directed
towards creating alternative local broadband capacity,
because if we don't do that, we will find ourselves, because of Jim's comment in the ever increasing demand for local bandwidth, in an environment where DSL will not meet the demands of the marketplace.

COMMISSIONER NESS: These are not mutually exclusive objectives.

MR. CHRUST: No, I'm just --

MR. CROWE: And I'm afraid we've bumped into physics here at a certain point. Facts are at the portion of the electromagnetic spectrum that wireless operates, we're in the megabits and gigabits. When you're up in the wire line fibre area, we're talking about terahertz and terabits.

And I'm afraid we're talking about water mains and garden hoses in the same sentence. Wireless is not going to provide the kind of broadband access that all of us want into the future. Certainly, it has its place. For lower density and mobility, it's excellent. But just as a matter of physics, you're not going to see a competition between, you know, glass and the terahertz and wireless in the megahertz and gigahertz.

CHAIRMAN KENNARD: Mr. Medin?

MR. MEDIN: Actually, if you feed a wireless
network with lots of fibre optic cells, you might be able to actually do a lot better job of that.

MR. CROWE: You can't antenna means. Wire to hook it up.

MR. MEDIN: Well, that's right. But the point is the actual last mile might not have to be fibre.

MR. CROWE: Substitute technologies.

MR. MEDIN: Yeah. I would also just agree that I think in a lot of cases, we're trying to figure out ways of slicing the kidney bean here. The thing that you want to do, that the Commission ought to do is create incentives for alternate technologies, i.e., you know, cable, the wireless guys, et cetera, to go after it. Because as an engineer, it's been my experience that when you deal with remarketing of facilities or you're buying wholesale/retail, you don't get tremendous big -- tremendously large price swings.

When you go in with totally different technology, you have much more churn, much more opportunity to actually change the whole model of how businesses are provided and served. And creating those incentives so that operators with alternative facilities can, you know, have a reasonable shot at making a profitable business, will actually do, I think, a lot more to actually lower the cost of existing
infrastructure than just reselling existing stuff.

CHAIRMAN KENNARD: Mr. Hooper?

MR. HOOPER: Yeah. I just wanted to comment on, Commissioner or Mr. Chairman, your comment on the essential elements. And I agree with everything that's been said about the unbundled loop as the essential element and co-location. But I would also add the OSS system. I mean, no one's talked about that. And the provisioning rate that the ILECs will allow you to provision.

I mean, we do business in Southern California right now, and we alone, in Southern California with Pac-Bell, exhaust their capacity for unbundled loops as one operator. They've got to be able to expand their capability if you do create these separate structured subsidiaries. Without that, they still control the bottleneck.

COMMISSIONER NESS: That actually brings a question to bear on Mr. Zell's comment. You seem to suggest that there's no earthly way that you're going to be able to provide the services but for inter-LATA relief. One way of getting of inter-LATA relief would be through opening up your local market to competition and meeting the checklist requirements. You still have to provide separate subsidiaries to provide long distance service. But can you
comment on that? Why isn't that, certainly, something that
you ought to be working towards?

MR. ZELL: Well, we believe that we are working
towards it. I know that that's a subject of great debate
because you all evaluate how hard you think we're working
towards it. And I guess from my perspective, I just want to
go back and reiterate. I understand your point that we have
got to figure out a way to make sure that competitors have
access to those essential elements. And that is our
intention. I do want to work that out.

All I'm trying to suggest is, I am in the business
of running the business. I am not a lawyer. I am just
trying to figure out a way to drive this out to our consumer
market, and I understand where some of those economic
hurdles are. And that's what I'm trying to eliminate.

Clearly, this ability to get in sometime in my
lifetime, with inter-LATA relief just for data services, may
keep us from becoming dead man walking relative to these new
services.

COMMISSIONER NESS: Can anyone, lawyer or non-
lawyer, point to anything in the law or legislative history
that suggests that Congress used the phrase network elements
or any telecommunication service or inter-LATA services to
apply only to voice, not data, not circuit switch not packet switch? Can anyone point to any language in the law or legislative history?

Mr. Shadman?

MR. SHADMAN: Unfortunately, I'm not a lawyer so I won't be able to help you with that. But since I'm sort of maybe a business person and an operations person, I think that law was clearly intended not to forever and ever put certain companies in servitude and indentured servitude. But it was more of a -- sort of a historical perspective.

And clearly, the intention was most of those things had to do with the market power in the voice world. I think they have gone around and around. There is no market power as far as the incumbent LEC's are concerned. I can tell you that probably the combined ILECs represent less than 10 percent of the total data market that we are talking about at this point. There is no existing market power. I mean, clearly, the incumbents have incumbency, and they have market power in existing voice services. And that, I think, is a much more complicated process to go through.

So, that's really, I think, the issue. And can I maybe pose one more item? You mentioned the 272 issue. I think whatever the Commission does has to encourage the
efficient use of the central office, which is another part of what's needed to install these allotments. And I think that 272 restrictions does force the incumbents to do actual physical installations, as opposed to a virtual arrangement, which are much more efficient. And I think that combination should be available to all parties to use that space much more efficiently.

CHAIRMAN KENNARD: Mr. Morris?

MR. MORRIS: If I could go back to the prior Chairman's comment where he said, "What we need is not a voice network that can carry data, but a data network that can carry voice." I think if we look at a separate subsidiary, what we're doing is believing that we're in a static environment where we can divide voice from data. We simply cannot do that.

If you look at the Sprint ION network, it is digitizing voice. Voice will go over it. It will be just another bit on the stream.

If what you do is set up a separate data subsidiary for several ILEC's, it is not a large step to digitize voice. You have deregulated their network, created a de facto monopoly in that where they are first to deploy in many areas, not made that a level playing field.
So, I don't believe that you can create a separate subsidiary called data subsidiary and have that work. You may consider the local loop subsidiary as something that might be of merit, but you certainly can't divide it along voice and data lines because those are merged together today.

CHAIRMAN KENNARD: Good point. Mr. Chrust, I think you'll have the last word today. Mr. Chrust?

MR. CHRUST: I just wanted to actually just address a point that Jim had made, which seemed to imply that wireless technology and the local loop had relatively limited application, and I couldn't let that go.

MR. CROWE: Forgive me if I gave that impression.

MR. CHRUST: I think it's important to understand that the fibre-based carriers in the United States have gotten to a grand total of about 10,000 buildings. WinStar has gotten to about 2,500 in about one-third the time. And we fully expect that within a two to four year period, we'll be in at least as many buildings as the fibre-based carriers at the local loop level delivering in excess of multiple OC3 capacities to each building we address. Thank you.

CHAIRMAN KENNARD: Thank you. Commissioner Tristani, did you have another comment?
COMMISSIONER TRISTANI: I just want to make a closing comment.

CHAIRMAN KENNARD: Okay, please.

COMMISSIONER TRISTANI: I want to thank the panelists. This has been, for me, in my nine months here, the most interesting en banc that we've sat at. And I don't know if it has something to do with at least six of you are engineers. I don't know, maybe more. But even though I'm a lawyer, it's very refreshing to hear from you, and look forward to working some more on these difficult issues and hearing more about solutions for the rural world, which may be the same solution for everyone. But there are definite concerns, because it's access and bandwidth for all America that we're talking about.

CHAIRMAN KENNARD: Thank you, Commissioner. Commissioner Ness, closing remarks?

COMMISSIONER NESS: Just want to thank all of the panelists. You've provided us with a lot of information which we can proceed to analyze the situations. Thank you.

CHAIRMAN KENNARD: Commissioner Furchtgott-Roth?

COMMISSIONER FURCHTGOTT-ROTH: Well, I will echo the comments of Commissioner Ness and Commissioner Tristani in thanking you. I agree with Commissioner Tristani. This
has been one of the liveliest and most useful panels that we've had here, and that's a testament to what you brought to the table here today. So, I appreciate that very, very much and look forward to working with you closely as we resolve these issues.

I'd also like to thank the FCC staff who made this possible. In particular, Rebecca Dorch and Marcelino Ford-Livene. Also, Stag Newman, Dr. Bob Pepper, Dale Hatfield, Larry Strickling, Audrey Spivack and Jeff Lanning in the General Counsel's office.

So, thank you all very much for coming.

(Whereupon, at 1:15 p.m., the hearing was concluded.)
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