



FEDERAL COMMUNICATIONS COMMISSION

In the matter of: )  
 )  
EN BANC HEARING )  
JULY 9, 1998 )  
 )

Federal Communications  
Commission  
Room 856  
1919 M Street, N.W.  
Washington, D.C.

Thursday,  
July 9, 1998

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

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

2                   CHAIRMAN KENNARD:   Good morning and welcome.  
3   Welcome to the Commission's En Banc Hearing on bandwidth.  
4   I'm delighted that we have so much interest in this subject.  
5   I truly believe that encouraging more bandwidth,  
6   particularly, to residential consumers in the country, is  
7   the next great frontier in communications policy.

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

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

1 facilities.

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

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

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

20 We've designed this proceeding today to explore  
21 the various opportunities and challenges that various  
22 industries face as they try to roll out high bandwidth  
23 capacity. We're going to have three panels today. We have

1 one on wireless access, one on wire line access, and the  
2 third on backbone transmission.

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

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

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

21           COMMISSIONER NESS: Thank you, Mr. Chairman. In  
22 Section 706A of the Telecommunications Act, Congress  
23 required the FCC to encourage the deployment on a reasonable

1 and timely basis of advanced telecommunications capability  
2 to all Americans. And today, we begin the task of  
3 ascertaining the progress of and the prospects for  
4 deployment of broadband capabilities.

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

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

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

21 Part of this challenge is learning which rules we  
22 need to enforce, and which rules we need to sweep aside to  
23 promote this kind of development. And although we have

1 several 706 petitions that have been filed by telephone  
2 companies that are pending today, this isn't just about the  
3 telco's. It's about ILEC's and CLEC's and cable and  
4 wireless and satellite. All of these industries have a role  
5 to play, and I'm really glad to see that there is broad  
6 representation on this panel concerning broadband  
7 telecommunications.

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

10 CHAIRMAN KENNARD: Thank you, Commissioner.  
11 Commissioner Furchtgott-Roth?

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

20 CHAIRMAN KENNARD: Thank you, Commissioner.  
21 Commissioner Powell?

22 COMMISSIONER POWELL: Thank you. I'll keep my  
23 comments brief. I just would like to say that in addition

1 to welcoming the panelists, that I think this is an  
2 extraordinary crossroad in our intellectual thinking with  
3 regard to communication services, and we should keep that in  
4 mind. In a sense, the beginning of crossing the rubicon,  
5 sort of leaving the world of legacy systems and their  
6 inherent limitations not only in technology and the kinds of  
7 communication services we provide to the public, but as well  
8 in the regulatory structure that was built up and served  
9 well, and to a great degree, administering national policy  
10 with respect to those sorts of systems.

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

16 CHAIRMAN KENNARD: Thank you, Commissioner.  
17 Commissioner Tristani?

18 COMMISSIONER TRISTANI: Mr. Chairman. Section 706  
19 talks about the point bandwidth to all Americans. And I  
20 want to stress, Mr. Chairman, all Americans. We know that  
21 the big cities and the densely populated areas are going to  
22 attract the companies and the competitors quickly. My  
23 concern is that the rural areas, and there are many, many

1 rural areas in this country, benefit because they are part  
2 of all Americans.

3 I have to mention my state, New Mexico. It's the  
4 fifth largest state geographically in the nation. It has  
5 1.6 million inhabitants. It has 33 counties. One of the  
6 counties is bigger, I believe, than more than 10 states, and  
7 it has about 900 inhabitants. Those are hard areas to  
8 deploy, too, but 706 doesn't make differences between areas  
9 in this country. It talks about all Americans.

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

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

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

22 MR. HOOPER: Thank you, Mr. Chairman and  
23 Commissioners. It's a pleasure and honor to be here today.

1 My name is Steve Hooper, and I wear two hats for the Craig  
2 McCaw family of companies. I am the co-CEO of Teledesic,  
3 and chairman of the board of NextLink Communications.

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

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

18 Now, you might wonder how a system in the air and  
19 a system in the ground are anywhere close to being in the  
20 same ballpark in serving these customers. But really, we  
21 view it as just two additional companies battling for  
22 bandwidth growth in this country and fighting against the  
23 incumbents who have a stronghold on the business today.

1           In addition to NextLink, part of the next job  
2 family of companies, we have NextBand which recently  
3 purchased 42 LMVS licenses covering about 50 percent of the  
4 U.S. population, as well. So, we have a collection of  
5 assets that either by air or by land, we believe we can  
6 offer broadband service to customers throughout the country.

7           Now, it's somewhat ironic that before the  
8 Commission, you have petitions from some of the ILEC's that  
9 on one hand, say that companies like NextLink and other  
10 CLEC's are fierce competitors in providing broadband  
11 advanced communication services to customers. Yet on the  
12 other hand in different proceedings, you have before you,  
13 those same ILEC's, saying things like, "We won't provide  
14 those services that we don't have the wherewithal to do it."  
15 And I would argue on both counts that they are wrong.

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

23           The other aspect of their claim, I also believe is

1 untrue. And that is, the Telecom Act of '96 and this  
2 Commission's pro-competitive activities have really spawned  
3 competition. And as a result of that competition, you have  
4 the ILEC's providing advance services that they weren't  
5 planning to provide before that.

6 Just as an example on this table, there are six  
7 companies represented here today that weren't here four  
8 years ago, with the exception maybe of Teledesic, that's  
9 been around since 1990. Four of those companies in the last  
10 24 months, have raised over five billion dollars in the  
11 capital markets to provide strategic assets in this country  
12 to deploy broadband capabilities that weren't even thought  
13 of 24 months ago. So, the pro-competitive nature of this  
14 Commission and the Telecom Act has really made that happen.

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

1 the kinds of services that you're looking for.

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

14 So, based on our situation where we want to take  
15 broadband communications, we have a couple things that we  
16 would recommend the Commission do. First, we would  
17 recommend that the Commission deny the certain ILEC  
18 additions that are pending before you today. We think that  
19 the body of law that is envisioned in the Telecom Act and  
20 the rules that you have implemented thus far, is providing  
21 for effective competition. And to eliminate some of those  
22 regulations would make it more difficult for companies like  
23 NextLink to continue.

1 I see the red light is on, and that means I must  
2 cease, I guess.

3 CHAIRMAN KENNARD: Thank you. Mr. Chrust?

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

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

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

19 Our company generally offers the same services as  
20 other facilities-based CLECs, but our last mile connection  
21 is high capacity broadband wireless. This broadband  
22 wireless connection enables WinStar to significantly expand  
23 the addressable market and offers lower network buildout and

1 operating costs, because we do not need to obtain  
2 construction permits, rights of way, dig up streets and  
3 string fibre to poles or through conduit which itself, is a  
4 very labor-intensive process.

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

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

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

23 With respect to deployment of advanced

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

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

17           Importantly, however, the competitive pressures  
18 the CLEC's have brought to bear is directly responsible for  
19 moves by the incumbents to embrace new technologies and to  
20 upgrade their networks. This is not an accident or an  
21 anomaly that has occurred despite the Act. Rather, it is a  
22 direct result of the success of the Act. Competition, not  
23 regulatory relief is the best incentive to deployment of

1 advanced telecommunications capabilities.

2 CLEC's today are among the nation's leading  
3 providers of data services. For example, WinStar uses  
4 spectrums to provide high capacity broadband services to our  
5 customers, what we call wireless fibre service. In addition  
6 to supporting such high bandwidth services, our 38  
7 gigaHertz-based networks and the networks of other CLECs  
8 provided an additional advantage, the ability to offer and  
9 manage unified voice and data services over a single network  
10 infrastructure.

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

20 As their packet switch networks are developed and  
21 deployed, the incumbents will not abandon their circuit  
22 switch networks. They will merge their existing networks  
23 with the data networks.

1           In fact, if we allow 706, doing so will subvert  
2 the benefits technology is now beginning to offer as all  
3 services will be deliverable on the same network, reducing  
4 costs and increasing productivity. For CLEC's to reach  
5 their full potential in deploying technology for advance  
6 services and to provide added incentive for the incumbents  
7 to do the same, the Commission must make certain that the  
8 pro-competitive provisions of the '96 Act, Sections 251, 252  
9 and 271 are fully implemented.

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

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

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

19           MR. CHRUST: Thanks. Once you have -- one of the  
20 issues that is very difficult for us is access to buildings  
21 and roof rights. Absolutely necessary, it is clearly a  
22 barrier to entry, and without the proper relief in order to  
23 equally access the buildings, the roof rights -- the

1 conduit, it will be nearly impossible to effectively deploy  
2 broadband capacity for the vast majority of buildings and  
3 homes in the United States. Thank you.

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

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

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

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

22 You have at your disposal a wide range of  
23 technologies to make this thing come to pass. I believe you

1 need to use them all. And the way to win the race is to run  
2 more than one horse. I think you need to run all that you  
3 have to make this work.

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

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

23           We make use of a technology called spread spectrum

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

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

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

23            We would like to be able to use these technologies

1 or make them available in however we can to support Section  
2 706 activities. The thing we would like not to see is what  
3 happened in the universal service fund where service-  
4 centered activities were the only ones that were allowed for  
5 use there. That the schools and libraries are virtually  
6 enjoined from using a wireless system that does not have  
7 recurring costs associated with that. And long after the  
8 infusion of the capital money, they'll be left paying those  
9 recurring bills. So, we would like to make sure that we  
10 bring that forward.

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

17           We would say that the next step without  
18 contributing any more to the spectral density would be to  
19 allow us to use that same point to point technique, same  
20 power levels and a point multi-point environment. One  
21 tennis player serving to one tennis player is no different  
22 from one tennis player volleying with four others at the  
23 othe end of the baseline. There's still only one tennis

1 ball, so we aren't polluting the atmosphere any more.

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

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

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

18 What I'm interested in knowing is, under what  
19 circumstances do you two believe that the incumbents should  
20 be able to provide these services at the same time as you're  
21 providing them? In other words, would you endorse, for  
22 example, a separate subsidiary requirement where the ILECs  
23 would be able to provide these services, but through a

1 separate sub?

2 MR. HOOPER: I'll address that first, Mr.  
3 Chairman, and then let my distinguished colleague add on or  
4 subtract from whatever I might say.

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

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

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

23 And to the extent we can accommodate that in such

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

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

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

22 I tell you the second aspect of it is, although we  
23 have abandoned, apparently, the notion of market share as a

1 measure for the division or competitiveness within the local  
2 loop, the clear bottleneck to broadband information  
3 services, I would suggest that the issue be revisited. And  
4 at the very least if not revisited, then a more stringent  
5 enforcement of the 14 points which enable CLECs like WinStar  
6 and others, to effectively produce their networks, build  
7 businesses, gain market share, develop profitability and  
8 continue to raise the capital necessary to build the  
9 broadband local capacity.

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

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

21 CHAIRMAN KENNARD: Mr. Hooper?

22 MR. HOOPER: Chairman, could I add just one other  
23 point?

1                   CHAIRMAN KENNARD:    Sure.

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

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

18                  CHAIRMAN KENNARD:    Thank you.    Unbundling -- do  
19                  you view the unbundling requirements in the voice world as  
20                  different in the data world?    In other words, the elements  
21                  that are necessary to provide voice are materially  
22                  different, aren't they, in voice than in the data world?    Do  
23                  you want to address that, Mr. Chrust?

1           MR. CHRUST: I would say that if not already, in  
2 the very immediate future, it gets rather basic. Bits is  
3 bits. Voice is data. Data is voice. Video is data.  
4 They're all the same. And to imagine -- if you may  
5 remember, computer inquiry two, a few years ago, which  
6 proved to be relatively ineffective, I believe, in dividing  
7 markets artificially.

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

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

15           MR. CHRUST: I think you generally need unbundling  
16 in order to effectively provide services as well as create  
17 the ability of the CLEC's to create enough market share  
18 revenues and cost covering revenues to create viable  
19 businesses, just as it was necessary for MCI in the early  
20 days of long distance to be able to resell AT&T's long  
21 distance network in order to be able to provide ubiquitous  
22 service. Here, too, you have similar, but more complicated  
23 issues, where the incumbent is a more biased bottleneck to

1 the competitive marketplace.

2 CHAIRMAN KENNARD: I just have one other question  
3 for this panel. And that is, are any of you providing or  
4 planning to provide high capacity bandwidth to residential  
5 consumers?

6 MR. FRANCE: You may see a brochure that I  
7 provided you called WISL, W-I-S-L, which is our wireless  
8 Internet service link. There's an unannounced product in  
9 the work called WHISTLER, which is wireless Internet service  
10 to the residents. And there, we're talking about a 5.7  
11 gigaHertz point multi-point system with ADSL rates, about  
12 700 kilobits outbound, about 150 kilobits inbound where an  
13 ISP can divide that among one or several or more individuals  
14 and provide a large number of residential server from one  
15 small point of presence.

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

18 MR. CHRUST: Absolutely. In fact, to educational  
19 facilities as well, we have a whole division called WinStar  
20 for education which is targeted to providing services and  
21 information to schools and libraries. In addition, we fully  
22 intend in time as we build a network and create more stable  
23 economics to provide telecommunication services to the

1 residential customers within our service areas.

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

11 CHAIRMAN KENNARD: Thank you very much.  
12 Commissioner Ness?

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

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

1 available at tower pricing?

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

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

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

23 COMMISSIONER NESS: But following up on the

1 Chairman's question, if, in fact, the service was being  
2 provided by the incumbent in a separate subsidiary, a  
3 structurally separate subsidiary, would that alleviate some  
4 of your concerns that you would be dealing with a competitor  
5 on equal grounds? And assuming that the loops including  
6 subloops, potentially, were a condition and available to all  
7 on a non-discriminatory basis, would that alleviate some of  
8 your concern?

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

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

22 MR. CHRUST: Could I add one point?

23 COMMISSIONER NESS: Please.

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

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

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

18           COMMISSIONER NESS: If I can follow up with you,  
19 not on this point, but on something else. You are providing  
20 wireless local loop services. And in doing so at 38  
21 gigaHertz, you have gone to each of the state commissions  
22 where you are providing service and have received  
23 certification. Is that correct? How difficult was that

1 process?

2 MR. CHRUST: I would say it was not terribly  
3 difficult. It was cumbersome, time consuming and a bit  
4 expensive, but not in the scheme of things, terribly  
5 difficult.

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

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

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

21 MR. HOOPER: Yes, Commissioner. Again, the  
22 certification process itself is not a specially taxing  
23 activity. It's time consuming.

1           The thing that is bothersome in this process,  
2           however, is the franchising activity that goes on at the  
3           local city level. That is becoming a huge burden for us and  
4           a real impediment to providing a cost effective alternative  
5           to the local service, where we are asked to pay, you know,  
6           substantial percents of revenue where the incumbents,  
7           because they are under different regulations, don't have to  
8           do that.

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

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

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

18          MR. CHRUST: It's important to understand that  
19          there is another barrier that I'm not sure whether it fits  
20          under the purview of the Commission, but it is clearly a  
21          barrier which needs to be counter-balanced to some degree.  
22          And that is the ability, as I said at the end of my prepared  
23          remarks, to access buildings and conduit within the

1 buildings. Clearly, the incumbents can come in free and  
2 liability free to every structure in the United States.

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

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

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

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

20 MR. FRANCE: No, we have not. We're an equipment  
21 provider. But if we provide that equipment, for example, to  
22 an ISP so that he might provide service to a school, he then  
23 has to become that provider -- that service provider. And

1 in some cases, he has to do the registration process. In  
2 all, it's an extra tax on him that really precludes the free  
3 use of that bandwidth.

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

10 MR. FRANCE: To service providers.

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

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

20 COMMISSIONER NESS: Okay.

21 MR. FRANCE: Our status in this whole technology  
22 is that we are now in the FCC's equipment authorization  
23 cycle.

1 COMMISSIONER NESS: Okay.

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

4 COMMISSIONER NESS: Okay. Thank you very much.

5 CHAIRMAN KENNARD: Commissioner Furchtgott-Roth?

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

11 Senator Burns of Montana is the author of Section  
12 706, and many other members of Congress worked to perfect  
13 the language in conference. And there's some very novel and  
14 interesting words in Section 706, and I simply would like to  
15 ask the panel how they would interpret the verb "encourage."  
16 Let me assure you if you need encouragement from the  
17 Commission, you are hereby encouraged to deploy these  
18 advanced services. But I suspect the language intended more  
19 than that, but I don't know exactly how much.

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

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

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

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

14 And in terms of -- what was the other?

15 COMMISSIONER FURCHTGOTT-ROTH: Encourage.

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

23 MR. CHRUST: On the issue of timeliness, I'd say

1 you have two choices, long and never. If you pursue certain  
2 paths that make competitive entry more difficult than it  
3 already is -- and it's not simple, I can guarantee you that,  
4 the answer will be never. But if you really want it to  
5 happen in a robust permanent cost-effective way, it delivers  
6 what you really intend it to deliver, it will be a very long  
7 period of time. If that period of time is not sufficiently  
8 managed, it will become never.

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

16 CHAIRMAN KENNARD: Okay. Mr. Powell?

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

20 MR. CHRUST: Chrust.

21 COMMISSIONER POWELL: Chrust. Okay. Because in a  
22 way, though, in a related way, there are sort of two  
23 distinct stories we're hearing. One is the concern of the

1 incumbent because of the dependence upon essential  
2 facilities. And each of you differ in your need for that  
3 component, which is probably what explains your differences  
4 in presentation.

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

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

20 And part of the concern is that you make sure  
21 there continue to be sufficient amount of incentives for  
22 incumbents to continue to innovate, largely both for their  
23 own purposes, but also because they are the essential

1 facility on which other services are so dependent.

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

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

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

20 I don't have any fantasy that the market power of  
21 incumbents regardless of how much they open their network is  
22 going to erode extensively or dramatically for quite some  
23 time. And so, it is the suggestion that they simply would

1 be sort of condemned to legacy performance for 15 to 20  
2 years while we've lost our competitive entrant market.

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

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

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

21 That's a lot I know.

22 MR. HOOPER: Okay. Innovation. I would say that  
23 the two points you started on innovation are fair and

1 reasonable in a marketplace where everyone starts equally  
2 where you create incentives like a patent protection and  
3 royalty streams in order to encourage people to develop into  
4 new marketplaces so that they are willing to spend the R and  
5 D dollars and take that risk for a protected return in the  
6 future.

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

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

20           Regardless of the fact that the incumbent or the  
21 historical incumbent still has half the market, clearly  
22 we've enjoyed dramatic reductions in long distance service  
23 pricing. And we clearly have multiplicity of vendor choice.

1 What we don't have is new services. You buy the same minute  
2 you bought 20 years ago.

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

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

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

22 And I guess it still gets back to the crux of my  
23 question which sometimes concerns me. If still the results

1 of those innovations are available to your competitors on a  
2 full and equal basis, then while you have the loss of market  
3 shares the initial incentive, where is the additional  
4 incentive for the innovation in order to produce a  
5 competitive response that would also accrue equally to those  
6 that you compete against?

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

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

20 But the issue here is that you have the problem of  
21 them trying to protect their embedded assets. And if you  
22 separate the two, if you separate what is now the bottleneck  
23 which may gradually over time, become less of a bottleneck,

1 then the marketing, the entity with the marketing power will  
2 be separated from the entity with the physical bottleneck  
3 power.

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

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

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

22 CHAIRMAN KENNARD: Commissioner Tristani?

23 COMMISSIONER TRISTANI: Mr. Chairman. I believe,

1 Mr. Chrust, you said it might be 10 years before we get  
2 somewhere. And I don't want to sound like a pessimist, and  
3 I'm not going to be here -- well, sitting here, I hope, in  
4 10 years. But I don't want to read in the paper that in 10  
5 years we've got deployment to urban areas, and rural America  
6 is still out there waiting for the last -- not mile, but  
7 miles to get out to their homes.

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

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

20 In terms of what the Commission can do, I believe  
21 that in its role, it is best positioned to effectively  
22 implement and enforce the intent of the '96 Act. And that  
23 if market share is not returnable to as a measure of real

1 competitiveness in the local marketplace, then at the very  
2 least, the Commission ought to find methods by which it can  
3 effectively enforce the 14 points that were in the '96 Act.

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

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

22 COMMISSIONER TRISTANI: Mr. France, you have  
23 something?

1           MR. FRANCE: We have a slightly different problem.  
2 We're limited in two ways. One is the laws of physics.  
3 There's a curvature of the Earth problem. How far can you  
4 go before you can't see over the horizon? And the other is  
5 the rather severe power limit that we have on our equipment.

6           There are definitely different problems in dense  
7 urban areas and rather rural areas where the higher power  
8 level, if that were allowed, would not be of consequence  
9 because we're not -- don't have a very high density of  
10 activity. So, we could increase our capability but only  
11 marginally because not everybody's going to have a hundred  
12 foot tower to solve the curvature of the Earth problem.

13           Leo, though, does have some sufficient antenna  
14 height for us to do that. So, we'll be able to solve that  
15 problem but to a point.

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

1 cost effective and more easily applicable approach.

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

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

9 Mr. Shadman?

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

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

22 To turn the vision of such an infrastructure into  
23 a marketplace reality, service providers like Ameritech will

1 face risks on three different fronts. One is the market  
2 risk. Will there be sufficient customer demand, and will  
3 there be a willingness to pay?

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

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

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

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

22 Let me talk about the regulatory risks. The  
23 largest barrier to a rapid deployment of broadband

1 telecommunication services is the inter-LATA restrictions.  
2 Broadband boundaries might make sense in the voice world  
3 where the nature of the given call can be pretty well  
4 defined by the telephone numbers involved in the origination  
5 and termination of the telephone call. In the virtual  
6 connectivity world of data, those boundaries don't really  
7 make a lot of sense.

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

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

22 Let me conclude with maybe making two points.  
23 First, Ameritech will continue to meet its obligations under

1 the Act. Ameritech recognizes that as an incumbent LEC, we  
2 have obligations to other carriers seeking to deploy these  
3 broadband advance services. We will continue to provide  
4 unbundled loops. We will allow publication for transmission  
5 and will provide publication for transmission equipment.  
6 And we will provide non-discriminatory access to network  
7 elements.

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

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

1 operation or redundant operation.

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

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

11 CHAIRMAN KENNARD: Thank you. Mr. McMinn?

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

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

21 The ILEC's would tell you that broadband services  
22 will never be rolled out unless they are -- they have the  
23 unfettered ability to do so. I am here to tell you that

1 broadband services are being rolled out, and that the ILEC's  
2 are the reason that broadband services are not being rolled  
3 out faster. They are the problem, not the solution.

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

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

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

23 We are forced into lengthy interconnection

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

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

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

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

23 I find it inconceivable that these same ILECs

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

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

18           My belief is that if they are forced to deal with  
19 their own bureaucracy in order to provide these services and  
20 their economic success depends on it, they will eliminate or  
21 streamline that bureaucracy to the benefit of all CLECs. I  
22 am proposing a structured, self-implementing solution to  
23 this structural problem. The alternative, further

1 regulatory hairsplitting and the consequential delay of  
2 broadband service rollouts is not in the interest of  
3 bandwidth-starved homes and businesses in America.

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

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

19           CHAIRMAN KENNARD: Thank you. Mr. Medin?

20           MR. MEDIN: Thanks for inviting me out. My name  
21 is Milo Medin. I'm senior vice president for engineering  
22 and chief technical officer for At-Home Network. We're a  
23 Silicon Valley start-up formed about three years ago by a

1 bunch of venture capital guys and some of the cable  
2 operators.

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

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

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

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

22 So, we set out from the very start to basically  
23 try and build an intelligent network, a network where we put

1 servers into the middle of the system that accelerate  
2 performance that get around many of the bottlenecks in the  
3 infrastructure. In my opinion, to be able to offer  
4 broadband access to million of people at 40 bucks a month --  
5 and by the way, people just aren't going to pay 100, 200  
6 bucks a month for broadband access to their home. They just  
7 are not. I mean, there is just not enough income coming in  
8 to justify that cost. So, if you don't get it down below 40  
9 bucks a month, you're not really aiming at a mass market  
10 product.

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

20 We felt that standardized modems are really  
21 important. And so, we launched an effort with cable  
22 partners and cable labs called MCNS, which has basically  
23 allowed us to standardize all the cable modems that are

1 going to be rolled out. And in fact, I have some with me  
2 just to show you that they really do exist.

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

13 A lot of the analysts will tell you that the  
14 numbers at the end of 1997 were about seven and a half  
15 million homes which are data capable. '98 -- the projection  
16 is 24.8 million, 1999, 51 million, 2000, 72 million and  
17 2001, about 78 million homes. So, the industry is  
18 absolutely committed to rolling this service out.

19 I just would like to show you a few things. These  
20 are -- this is actually a Sony engineering prototype. Sony  
21 is getting into the cable modem market. And if you just  
22 sort of pass this around, you might find this interesting.  
23 Real consumer electronics companies have entered the market

1 space in order -- because we have standards and equipment.  
2 And they believe that this market is viable. And we intend  
3 to sell those, and those companies intend to sell those at  
4 retail.

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

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

21 And just to show you real quickly, we have a  
22 commitment to retail, we have a little box which today has  
23 just a few offers in it, et cetera and free installation, et

1 cetera, or free service for a month -- installation. It  
2 talks about our service event that we will have USB adapters  
3 in these boxes and hopefully, they'll be sold with cable  
4 modems in retail stores by the end of the year. So, we're  
5 very excited about this business. Thank you.

6 CHAIRMAN KENNARD: Thank you very much, Milo.  
7 We're going to depart from our planned schedule because  
8 we're really falling behind. And what I am going to do is  
9 go ahead with our third panel, and then we'll reserve some  
10 time for questioning of all the panelists after Mr. Crowe  
11 finishes his presentation.

12 Mr. Morris?

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

20 From a backbone standpoint, Sprint's been a leader  
21 in deploying advance communications capabilities for years.  
22 The first fibre optic all digital network in the United  
23 States was deployed by Sprint. We have been evolving that

1 continually. And today, we have added sonared rings to that  
2 topology and have deployed dense weight division multi-  
3 plexing so that the backbone capability in the Sprint  
4 network is enormous.

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

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

17 We don't intend to create separate networks to  
18 split off a voice into a circuit switch network. But  
19 rather, to digitize it and carry it all on the Sprint ION  
20 network using ATM technology to do that, and a device at the  
21 premise that translates various protocols, Internet, voice,  
22 ATM, frame relay, into an ATM protocol to be carried  
23 seamlessly throughout the Sprint ATM network, the ION

1 network.

2           At the interface points with the public switch  
3 telephone network, it will be converted to the other formats  
4 that are necessary to interface with the other networks.  
5 So, we think we have a broadband network that will carry  
6 high quality voice and data quickly, efficiently, and carry  
7 an immense out of that.

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

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

18           We don't intend to build down to individual  
19 subscribers, put another wire in. We'd rather use what's  
20 been paid for in the past, the twisted pair that's out there  
21 today or special access circuits that are already available.  
22 And that'll provide the bandwidth that we need to get to  
23 customers.

1           However, there are problems with even using the  
2 ILEC twisted pairs. Co-location has been mentioned  
3 previously, is a tremendous challenge. Many offices lack  
4 space to get in.

5           As you move down the size continuum to smaller  
6 offices, there simply is not enough market share to have two  
7 deployments, especially if you're talking about \$50,000 or  
8 \$75,000 an office to build a co-location cage to a thousand  
9 customers. You can't afford to deploy under those  
10 circumstances, especially if you're talking about a 15 or 20  
11 percent penetration rate. You're down to a level where you  
12 simply can't get in unless you share the technology that's  
13 in place.

14           So, we believe that data transmission and voice  
15 transmission are all telecommunications. They should all be  
16 covered by the Communications Act of 1996. They should all  
17 be available for resale. They should all be available as  
18 unbundled network elements. And we believe that if they  
19 are, you can have innovative carriers such as Sprint utilize  
20 that bandwidth to provide value-added services that meet the  
21 needs of customers, that integrate all other services into  
22 one, rather than fragment them into several. They carry  
23 them all on one network, rather than send them over several.

1           And we hope the Commission will stay the course  
2           and do what's necessary to make that competitive outcome  
3           occur. Thank you.

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

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

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

1 would ask you to listen to these things because they're  
2 real.

3 I have now deployed in the last six months into  
4 223 central offices this ADSL capability. I'm at about a  
5 million and a half homes past now. Clearly, more than any  
6 other RBOC. We're dead serious about making this happen.  
7 I've brought the service to market at about a \$60 price  
8 point, about \$40 for the underlying ADSL component. My  
9 intention is to drop the price into the \$40 to \$45 range as  
10 fast as I can, probably in a few months.

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

18 We just did a deployment in New Mexico and Arizona  
19 in support of the Bureau of Indian Affairs to try and bring  
20 Internet access to 26 schools, grade schools and elementary  
21 schools -- elementary and secondary on Indian reservations.  
22 These schools cannot get high speed Internet access. Their  
23 only hope was that I happened to have already built out a

1 360 node frame relay data network across my territory, and I  
2 was able to, sharing that backbone, bring them high speed  
3 Internet access over frame relay.

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

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

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

21 One is, there is a significant bandwidth tax that  
22 I have to pay. I'm not allowed to build an Internet  
23 backbone. I can't be a peer network like every other ISP

1 and anybody else at this table. And therefore, for me to  
2 just terminate my Internet traffic, God forbid I should get  
3 any, but they're just terminated.

4 I've got to spend a thousand to two thousand  
5 dollars per megabyte per month. You do the math on it. You  
6 figure out how I'm going to try and bring Mr. Rural America  
7 if I'm having to pay someone else that kind of money clearly  
8 20 times what the economic cost is of that Internet backbone  
9 capability. That's number one.

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

16 And what's happening is every time I'm forced to  
17 go live within LATA boundaries and pay interexchange  
18 carriers, it's adding costs to the service. And you know,  
19 like it or not, we do have the benefit of shared economics.  
20 The fact that I have built out a frame relay network, and  
21 that if I got inter-LATA relief limited for data use only,  
22 that I might be able to share that backbone for frame relay  
23 traffic, for Internet traffic, for ATM traffic, for other

1 data services, is absolutely to the benefit of my customer.  
2 That's the way that we will achieve being able to drive low-  
3 priced services out to the consumer market.

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

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

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

23 CHAIRMAN KENNARD: Thank you, Mr. Zell. Mr.

1 Crowe?

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

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

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

22 Just our vocabulary today illustrates my issue.  
23 We talk about deployment. We talk about upgrading. We talk

1 about a period of time as if that's sufficient, and then the  
2 issue will be dealt with, that's the end of the problem.

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

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

22 Let's fact it. Today, all of the providers have  
23 assumptions about average asset lives that are unrealistic,

1 11, 12, 13 years at a time, when the underlying technology  
2 is doubling in price performance. Perhaps, every 15 to 20  
3 months. We've got dividend payout ratios, including a  
4 company here to my right, that are 70, 80 percent of  
5 earnings at a time when it's apparent enormous amounts of  
6 capital are necessary to rebuild this network.

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

15 Anyone at the table that believes they knew where  
16 technology is going -- believes they know where technology  
17 is going to take us in the next five years ought to tell us  
18 what their predictions were five years ago. I'd submit to  
19 you that today, technology is moving quickly, and it's  
20 fundamentally unpredictable. In fact, our whole business  
21 plan is built around building a network that can accommodate  
22 unpredictable technical change. We may or may not succeed  
23 along with everyone else at the table, but the market has to

1 work.

2 Specifically, I think there are two things the  
3 Commission ought to do. First, look at its role as a  
4 steward of the market much the way the Securities and  
5 Exchange Commission does. Step in only when necessary.  
6 Continue to encourage industry participation, independent  
7 industry bodies to set standards to set economic terms. And  
8 view your role as one of a steward of the market of  
9 technology.

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

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

23 The Telecom Act is not realistic economically. If

1 you want it to work, you've got to separate the loop, not  
2 the advance technology, not the DSLs. Those can be provided  
3 by anyone.

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

13 I see my time's up. Thank you.

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

22 So, I'm going to try and get a little of that  
23 going, and I'll start by asking just one question. And as

1 background, I really agree with what Mr. Crowe just said  
2 that the appropriate role of the Commission, the regulator,  
3 is to be a steward in the marketplace. We all know the cost  
4 of regulation to consumers and to innovation. And we have  
5 today an interesting phenomenon because we're of sort poised  
6 at the starting gate of a new technology or the deployment  
7 of a new technology.

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

17           Mr. Shadman?

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

23           CHAIRMAN KENNARD: Steve, we need Mr. Shadman's

1     mike on him.

2             MR. SHADMAN: I'm sorry. As I said, I think the  
3     most significant contribution is actually if you can draw  
4     that line and sort of focus the discussion on a going  
5     forward basis, instead of sort of going back and rehashing  
6     all the other issues that the Commission can deal with  
7     in another forum.

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

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

21            So, I think if you can draw the line, focus the  
22    discussion on going forward, what is the minimum set up  
23    requirements to create that level playing field, I think

1 that's the biggest contribution you can make.

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

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

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

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

19 MR. SHADMAN: And co-location.

20 CHAIRMAN KENNARD: And co-location.

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

23 CHAIRMAN KENNARD: Okay.

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

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

16           I considered it. When I joined -- when we started  
17 thinking about deploying ADSL, we looked at the option of  
18 being a CLEC in our own territory because we thought it  
19 might actually allow us to do it faster. And our conclusion  
20 was that it added so much cost to us in our case, that it  
21 completely defeated the purpose of us sharing the benefit of  
22 our shared economics and our scale and scope with the  
23 consumer. Because nobody else is going to Los Cruces, New

1 Mexico. I mean, until satellite comes, there is no other  
2 option for those customers in my opinion.

3 CHAIRMAN KENNARD: Mr. Medin?

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

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

18 In the metro areas, we have -- cable operators  
19 have fibre facilities. CAPS which have fiber facilities, et  
20 cetera. There's lot of glass around which forces the RBOCs  
21 to be competitive there. But a lot of the rural markets,  
22 the only glass that's in place, that gets to the COs, is  
23 owned by the RBOC. And it's been my experience, that the

1 moment that you touch an RBOC facility or buy something from  
2 an RBOC, you're on a different price model that just  
3 can't -- you just can't make multi-megabyte access work  
4 reasonably.

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

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

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

18           MR. MORRIS: I would agree with that also.  
19 That's, leads to the point, that the bottleneck is not  
20 necessarily the same in a rural area as it is in an urban  
21 area. You may have transport that needs to be included in  
22 whatever bottleneck you consider for rural areas because  
23 there's all economically today, the one choice of how to get

1 there.

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

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

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

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

21 MR. MEDIN: Plus, there's a huge NASA facility  
22 there, which does Tedris Groundlake. There's actually lots  
23 of fibre that goes into.

1                   COMMISSIONER TRISTANI: We also have a good  
2 university there with a good basketball team. But I think  
3 it underscores a point about the problems in the bigger  
4 states and in the rural states.

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

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

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

1 drive down that cost to getting to those smaller locations.

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

12 So --

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

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

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

22 CHAIRMAN KENNARD: Yes.

23 MR. CROWE: To -- assuming there was a blank sheet

1 of paper? Well, first of all, I think is to separate  
2 universal service subsidies from industry economics. Today,  
3 they're mixed up. One of the providers is expected to use  
4 the honor system to distribute the goods developed through  
5 universal service. And that doesn't work.

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

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

22           But that loop is not in a condition today to  
23 accept advanced services. One of the players has to do

1 something to it to make it available to competitors, and  
2 they have no interest, no economic interest in doing so.

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

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

7 MR. MCMINN: I asked --

8 MR. CROWE: And finally -- I have one last point.  
9 And finally, I think you got to remember that today's wide  
10 band -- today's broadband is tomorrow's narrow band. This  
11 process is just starting. It's going to be continuous.  
12 We're headed -- the bandwidth of the optic nerve, by the  
13 way, isn't characterized yet. But it's in the gigabits,  
14 perhaps hundreds of gigabits a second. So, we've got a  
15 long, long, long period of time before we deliver the kind  
16 of bandwidth that people demand.

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

20 CHAIRMAN KENNARD: Thank you. Mr. McMinn?

21 MR. MCMINN: Yeah, I would agree wholeheartedly  
22 with Jim that it is the last mile that is the critical  
23 bottleneck. You know, Joe worries about his cost of

1 backhauls being his highest costs. That's the third or  
2 fourth highest costs that I pay. I pay for loops. I pay  
3 for co-location. I pay for power. I pay for floor space.  
4 I pay for a lot of other things to the ILEC that make them a  
5 much bigger cost element of my service.

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

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

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

21 MR. MCMINN: I'm not a legal expert. I come into  
22 this whole mumbo jumbo much like Milo did only in the last  
23 several years. So, I won't -- I can't directly answer your

1 question relative to the legal requirements. Let me answer  
2 it from a business standpoint.

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

7 COMMISSIONER NESS: Would anyone else like to  
8 answer that question or have experience with that question?  
9 Mr. Chrust?

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

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

22 MR. CROWE: With the term "structural" of course,  
23 having to be carefully defined.

1                   COMMISSIONER NESS: Mr. Chrust?

2                   MR. CHRUST: I would say in answer to this and in  
3 direct answer to the Chairman's point in terms of  
4 suggestions, I'd say, first, understand the incentives of  
5 the three constituencies you're hearing at this En Banc  
6 hearing. One is the incumbent protecting his market share.  
7 Two is the interexchange carrier trying to reduce his access  
8 costs, which is his largest costs for his primary source of  
9 revenue, which is voice communications controlled at the  
10 local level by the incumbent, which allows him to pay those  
11 70 percent of earnings out in dividends.

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

19                   Second of all, I would make sure that local and  
20 long distance remains separated for some extended period  
21 into the future dealing with a market power issue. And  
22 third, I would argue that enforcement of the equal access  
23 issues, the operating issues, be very aggressively

1 implemented and monitored over the next number of years.

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

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

12 CHAIRMAN KENNARD: Mr. McMinn?

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

19 MR. CHRUST: Can I also suggest one last point, at  
20 least from my end that I think is getting lost here? Much  
21 of the debate has surrounded around the existing copper  
22 loop. It seems to me the incentives ought to be directed  
23 towards creating alternative local broadband capacity,

1 because if we don't do that, we will find ourselves, because  
2 of Jim's comment in the ever increasing demand for local  
3 bandwidth, in an environment where DSL will not meet the  
4 demands of the marketplace.

5 COMMISSIONER NESS: These are not mutually  
6 exclusive objectives.

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

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

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

22 CHAIRMAN KENNARD: Mr. Medin?

23 MR. MEDIN: Actually, if you feed a wireless

1 network with lots of fibre optic cells, you might be able to  
2 actually do a lot better job of that.

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

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

7 MR. CROWE: Substitute technologies.

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

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

1 infrastructure than just reselling existing stuff.

2 CHAIRMAN KENNARD: Mr. Hooper?

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

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

16 COMMISSIONER NESS: That actually brings a  
17 question to bear on Mr. Zell's comment. You seem to suggest  
18 that there's no earthly way that you're going to be able to  
19 provide the services but for inter-LATA relief. One way of  
20 getting of inter-LATA relief would be through opening up  
21 your local market to competition and meeting the checklist  
22 requirements. You still have to provide separate  
23 subsidiaries to provide long distance service. But can you

1 comment on that? Why isn't that, certainly, something that  
2 you ought to be working towards?

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

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

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

20 COMMISSIONER NESS: Can anyone, lawyer or non-  
21 lawyer, point to anything in the law or legislative history  
22 that suggests that Congress used the phrase network elements  
23 or any telecommunication service or inter-LATA services to

1 apply only to voice, not data, not circuit switch not packet  
2 switch? Can anyone point to any language in the law or  
3 legislative history?

4 Mr. Shadman?

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

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

21 So, that's really, I think, the issue. And can I  
22 maybe pose one more item? You mentioned the 272 issue. I  
23 think whatever the Commission does has to encourage the

1 efficient use of the central office, which is another part  
2 of what's needed to install these allotments. And I think  
3 that 272 restrictions does force the incumbents to do actual  
4 physical installations, as opposed to a virtual arrangement,  
5 which are much more efficient. And I think that combination  
6 should be available to all parties to use that space much  
7 more efficiently.

8 CHAIRMAN KENNARD: Mr. Morris?

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

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

19 If what you do is set up a separate data  
20 subsidiary for several ILEC's, it is not a large step to  
21 digitize voice. You have deregulated their network, created  
22 a de facto monopoly in that where they are first to deploy  
23 in many areas, not made that a level playing field.

1           So, I don't believe that you can create a separate  
2 subsidiary called data subsidiary and have that work. You  
3 may consider the local loop subsidiary as something that  
4 might be of merit, but you certainly can't divide it along  
5 voice and data lines because those are merged together  
6 today.

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

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

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

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

22          CHAIRMAN KENNARD: Thank you. Commissioner  
23 Tristani, did you have another comment?

1                   COMMISSIONER TRISTANI: I just want to make a  
2 closing comment.

3                   CHAIRMAN KENNARD: Okay, please.

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

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

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

20                  CHAIRMAN KENNARD: Commissioner Furchtgott-Roth?

21                  COMMISSIONER FURCHTGOTT-ROTH: Well, I will echo  
22 the comments of Commissioner Ness and Commissioner Tristani  
23 in thanking you. I agree with Commissioner Tristani. This

1 has been one of the liveliest and most useful panels that  
2 we've had here, and that's a testament to what you brought  
3 to the table here today. So, I appreciate that very, very  
4 much and look forward to working with you closely as we  
5 resolve these issues.

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

11 So, thank you all very much for coming.

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

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