

1 I'm sure, that would make it better, and there are
2 some things that just can't change until we get
3 down the road in some new technology, too.

4 MR. MARSHALL: Your example points one
5 towards having an arbiter, and that is really
6 stupid, and steps into the rights and enforces a
7 land line solution over the --

8 MR. HARASETH: Yes, and that would be
9 one possibility, which gets into that, rights and
10 spectrum access.

11 MR. WILKINS: I would say that my
12 comment would be from a standpoint of one word. I
13 would say make the policies flexible. We are in a
14 situation where there is a limited supply, and
15 there is growing demand. I think a couple of
16 people have pointed this out in the audience today.

17
18 And for the market itself, you know,
19 the better and more flexible use of the spectrum --
20 you know, let the market decide. Supply and
21 Demand. Let the market decide

22 MR. MARSHALL: Gerry.

23 PROF. FAULHABER: We have an
24 opportunity here, and I think particularly with
25 Paul's task force, to address some fundamental

1 reform and to sort of think this issue through and
2 not simply tweak Gosplan, and the notion is that we
3 are in something of a spectrum pickle these days.
4 It seems to be scarce.

5 And many people view that as an
6 artificial scarcity, and the recommendations of
7 some of us I think have been aimed at decreasing
8 that scarcity by a lot. The economists tend to
9 look to markets to do it, and the technical people
10 tend to look to new technologies to do it, and I am
11 in favor of both.

12 Now, we know how much people pay for
13 spectrum these days, and I will make a prediction,
14 a personal prediction only, which is to say that if
15 we could deploy both markets, and the new
16 technologies jointly, the price of much spectrum,
17 or as economists say, spectrum at the margin, will
18 be very, very low.

19 And in that sense the technologist's
20 nirvana of no scarcity may in fact be true. That
21 is not good news to Verizon, of course.

22 MR. FITCH: I would echo Marc, and Mike
23 Lynch's comments. I think that a broad framework
24 with flexibility to the operators and users is the
25 best way to get to greater and more efficient use

1 of the spectrum. I also think -- and this is
2 something that hasn't come up, except just very
3 briefly now in the last couple of comments.

4 The international harmonization issue
5 is a critical one, and the U.S. has to get its
6 international preparation and representation
7 processed to be more effective. We have gone from
8 a long tradition in history of leaving decision
9 making in the ITU to following decision making in
10 the ITU in some cases, and for all of the various
11 interests that care about these issues is
12 problematic.

13 So there is a kind of harmonization
14 domestically, and also very important harmonization
15 internationally.

16 MR. MARSHALL: I had thought we would -
17 - that people would be a lot longer frankly. So we
18 will have an opportunity to take some audience
19 responses to that question as well.

20 MR. ACHTNER: Edward Achtner, from
21 Telecom Fillings. I have heard I guess two
22 separate views, or at least I would characterize
23 them as two separate views, the boxing of like kind
24 -- of spectrum in a like kind manner from a service
25 perspective, but also just supposing that over the

1 ability for flexible use.

2 The Commission is now looking at one
3 particular issue with regard to the flexible use of
4 mobile satellite spectrum, and looking at
5 terrestrial repeaters and terrestrial
6 retransmission devices.

7 And I am curious as to if we look at
8 spectrum eventually has it becomes a commodity, the
9 commodization of everything requires that you have
10 the standardized contracts that have been spoken
11 of.

12 We know what a barrel of oil is, and we
13 know what a bushel of grain is, but the problem is
14 -- interference was brought up earlier, and when
15 you are dealing with services that are not like-
16 kind, and when you are dealing with MSS, as opposed
17 to terrestrial retransmission, you are dealing with
18 instances whereby I don't think personally the
19 spectrum can be commoditized because you do have
20 different ramifications of that use, both on a
21 local level geographically, and internationally
22 from a frequency allocation perspective.

23 So this question or statement is
24 addressed to the panel at large. I am wondering if
25 there is a way to reconcile this grouping of

1 spectrum in a like-kind manner from a service
2 perspective, versus is commodization and truly
3 flexible delivery if the technology, such as
4 cognitive radio and SDR, are able to support that.

5 Thank you.

6 DR. GOLDBURG: I will give you a
7 technical response to that. There is some sorts of
8 technology

9 -- I mean, I am just talking from a radio
10 perspective, and one could do this with software
11 defined radios, and the radios of 40 years ago, and
12 you would get the same answer.

13 Some sorts of systems, for example,
14 can't coexist in the same spectrums, and let me
15 take the case of people actually doing spectrum
16 sharing. If I tried to operate two high powered
17 cellular systems in exactly the same band, I might
18 be able to do it.

19 But the interference would be so high
20 that I would only be able to dribble a little bit
21 of data through either system. So from a technical
22 standpoint, it is not spectrally efficient in terms
23 of bits per hertz.

24 On the other hand, you can take two
25 local area systems, or very short range systems,

1 and actually operate them in the same spectrum. So
2 I could have as many people do my 802.11 access
3 point at one side of the house, and my 2.4
4 gigahertz cordless phone at the other side of the
5 house, and they work, because it is a lower power
6 scenario, and also because I can sort of avoid
7 precisely co-locating the system, and the whole
8 problem is sort of scaled down to one of tens of
9 meters instead of sort of tens of miles.

10 So it is those sorts of arguments that
11 lie behind having a small number of allocations for
12 like kinds of systems, because then it is possible
13 to do the frequency coordination and the network
14 planning that make them coexist with one another.

15 But just to have complete free range
16 and let anyone do what they want I think would
17 result in inefficient uses of the spectrum, both
18 technically and probably economically.

19 MR. MARSHALL: Mike.

20 MR. FITCH: Yes, I agree. I think the
21 starting point for grouping is the technical
22 characteristics, and not the service as such, and
23 that is an important part of the service obviously.

24 The nature of the service is another
25 potential category by which is sort of a ubiquitous

1 service, a specialized service, geographic,
2 widespread or not. But I think the starting point
3 would be the technical characteristics -- high
4 power, low power, spread, non-spread, et cetera.

5 MR. MARSHALL: Gerry.

6 PROF. FAULHABER: Let me address an
7 issue that you raise and Mike raised, too, which
8 certainly would be a problem with a major regime
9 change if we made it here, and that is the
10 international implications, which particularly
11 impact satellite, I think.

12 We have been here before where we have
13 made major regime changes in government regulation
14 and business, and we have actually done it twice
15 where it has had an implication with our overseas
16 trading partners.

17 The first was deregulation of airlines,
18 where we deregulate with airlines here, and then
19 the IATA cartel fell apart, and the British, and
20 all kinds of problems occurred. And there are
21 problems when you are dealing with foreign
22 countries in which they maintain the older --

23 (Brief Interruption.)

24 MR. MARSHALL: I think you are busy.

25 PROF. FAULHABER: And yet -- and it has

1 taken a number of years to work out. But it is not
2 impossible. That was very tough to do that. I
3 think it would be harder actually than spectrum,
4 but we also have gone into deregulation of
5 telecommunications in this country, and there was
6 an issue of how we are handling international
7 calls, and what about the international settlements
8 process, and that has been a mess.

9 But it is a mess that can be managed,
10 and I would view that if we did this in spectrum,
11 we would have the same problem. And just like when
12 we did it in telecoms, it was the international
13 calls and the international settlements that was
14 the main bone of contention, and I think it would
15 be satellites.

16 So Mike is quite right from his
17 perspective to be worried about this. This would
18 be a problem. But it is not an insolvable one. It
19 is not like, oh, we have to throw our hands up. We
20 would have to work it.

21 MR. MARSHALL: I would like to comment
22 just a little bit on the question of harmonization.

23 I think that was a great idea 20 years ago, and I
24 think in satellites obviously it is an inevitable
25 requirement.

1 But I think we ought to be looking to
2 that, and as one of the issues of technology sort
3 of takes off, we can check off -- you know, the
4 cell phones went from one mode to four modes, and I
5 suspect that they can go to 16, 32, 64, pretty much
6 whatever they need to do.

7 And if we invest a lot of money in
8 ripping infrastructure out, and just move people to
9 look like we are in Europe. We don't have
10 countries that are 20 miles apart, and we don't
11 have people driving across borders a lot.

12 It would be nice to think of
13 harmonization, but I think it is something that a
14 dollar spent would be a dollar wasted, compared to
15 all the other somewhat more important issues that
16 are going to get worse with technology rather than
17 better.

18 MR. WILKINS: The only comment that I
19 would make is that I think that gentleman talked
20 about the oil as a commodity, but in oil, every
21 barrel of oil is not the same. There are
22 differences.

23 . So what you do is spell that out in a
24 standardized agreement, and then address it as
25 such, and then having a moving, working document as

1 the technology changed.

2 MR. MARSHALL: I would like to sort of
3 challenge the group. There has been sort of an
4 issue, an undercurrent here, and we have really
5 focused on the right to transmit, and a lot of the
6 questions have kind of broached to who accounts for
7 the right to receive.

8 In the property model, I can put 5,000
9 watts right against the edge of the van and I guess
10 that is my right, like I could build a garbage dump
11 in the corner of my property in suburbia. So in
12 the different frameworks, how do you view the ones
13 -- well, every one on this board has pretty much
14 had advocacy for one or other frameworks, and how
15 does it account for the coexistence with adjoining
16 property owners with adjoining systems.

17 And then, Gerry, I think you have the
18 most extreme case.

19 PROF. FAULHABER: I beg your pardon?

20 MR. MARSHALL: I think you are proud of
21 having the most extreme case. I think in your case
22 that is a compliment.

23 PROF. FAULHABER: No, no, I think I am
24 the representative of democratic capitalism here,
25 okay? I think I am mainstream America. Okay. The

1 use of the garbage dump --

2 MR. MARSHALL: Don't accuse the rest of
3 us as being fellow comrades.

4 PROF. FAULHABER: Yes, okay. The use
5 of the land example is a good one, because
6 economists would refer to this -- the garbage dump,
7 and asphalt plant next door -- as an externality,
8 or as a spillover.

9 That is to say that I could do stuff
10 with my property that interferes with my neighbor's
11 ability to use their property, okay? And that is
12 inherent in land use, and much of what passes when
13 you buy land are restrictions associated with that
14 property, designed to control those spillovers.

15 In spectrum, we have exactly the same
16 problem, except that we call it interference, okay?

17 And I responded to the gentleman before is that
18 just as we do with land use, we would have to
19 control those spillovers through the use of
20 property rights.

21 Now, this may be a requirement about
22 how much out-of-band power you can emit. There
23 could be a number of ways to do that. Just like
24 there is a lot of smart lawyers here, there is a
25 lot of smart technologists here as well who could

1 help define those things carefully and cleanly.

2 But that would be -- you know, this is
3 not a new issue. I mean, property rights have
4 dealt with the issue of spill-overs and
5 externalities, and although this is obviously a
6 different field of application, I think the
7 principle is fairly well understood, and there is a
8 lot of existence of law and property law which
9 deals with these sorts of issues. This is not a
10 new problem, and that's how I would handle it.

11 MR. MARSHALL: That almost recreates
12 the FCC again doesn't it?

13 PROF. FAULHABER: No, and let me make
14 it clear that Gosplan doesn't enforce the property
15 rights, okay? But this is a good place to put it.

16 One of the things that they came out before as
17 well was that if you have property rights, who
18 enforces them. Well, it is exactly who enforces it
19 if your neighbor builds an asphalt plant next to
20 you, which is to say the courts.

21 Now, that kind of gets to the issue of
22 -- and an important one here with both property
23 rights and with any of the schemes that we are
24 talking about, which are transactions costs.

25 How easy is it to enforce your property

1 rights through the courts, versus how easy is it to
2 enforce your property rights through Gosplan, or
3 the FCC, and that is an empirical issue.

4 I have a predilection to say that,
5 well, you know, most of commercial America runs
6 through the courts and we seem to think that is
7 okay, although we chouse about how litigious we
8 are.

9 Nevertheless, I think the Gosplan
10 approach hasn't worked out all that well, and the
11 notion is that these contentions work their way up
12 to the White house, which is not a low transaction
13 cost activity I will tell you. So, yes, but the
14 focus ought to be on transactions costs.

15 MR. ENGELMAN: There is several
16 questions in the audience, and let me start from
17 this person back here in the back, who I am not
18 sure has spoken before.

19 MR. EPSTEIN: Bart Epstein, from Latham
20 and Watkins. I have talked, but I moved. Sorry to
21 be tricky. At the end of the day, we have to come
22 up with some specific recommendations, in addition
23 to the interesting academic discussions.

24 As an individual, I wanted to offer
25 three thoughts to possibly take back. The first is

1 that we need to redirect more efforts from fighting
2 intersharing. Right now we spend a tremendous
3 amount of time squabbling over who has what rights
4 because they are vaguely worded, and in many
5 instances two people have rights to the same piece
6 of spectrum.

7 Speaking as an individual, I would
8 suggest that the best person to decide how he can
9 share is the person who has the primary rights, and
10 if you want to have a certain band shared, you
11 should allocate all of the rights to a primary
12 user, and then let that primary user sublease the
13 rights to a third party.

14 And then to the extent that you want to
15 say that you want the government to capture some
16 benefit, you can allow the government to share
17 those revenues. This way, if I am the user, and I
18 am only using 15 percent of the band, instead of
19 spending all of my time fighting and lobbying to
20 keep exclusive control, it might be more profitable
21 for me to sublease to somebody else, and then share
22 that perhaps directly with the FCC to hire more --
23 various more people.

24 The next thing which might be worth
25 considering is telling -- I bet we wish today that

1 we had told all of the licensees 40 years ago that
2 their licenses would expire in 40 years unless they
3 either met the requirements for a safe harbor, or
4 otherwise demonstrated their continuing need.

5 Then we wouldn't have a problem with
6 UHF broadcasters, because we could say that they
7 didn't meet the requirements of whatever the
8 general efficiency minimums were, and if we
9 established a system like that today, where we put
10 all licensees on notice that 40, 50, 60 years from
11 now, their licenses will expire unless let's say at
12 the halfway period that they have demonstrated that
13 their technology is starting to develop.

14 And that is something which would again
15 bring the private incentives in line with the
16 public needs, and to the extent that people needed
17 an incentive to develop efficient technologies,
18 they would know that if they developed them
19 quickly, and they were doing them effectively, they
20 would meet the safe harbor, and perhaps get an
21 automatic extension of their license.

22 And then they could therefore sell
23 their technology more efficiently, saying to their
24 users that you can go ahead and buy our X, because
25 you can know that it is going to be useable for a

1 long time.

2 And my third and final specific
3 suggestion has to do in part with a tremendous
4 number of dumb systems that we have out there. And
5 it is very easy to encourage smart systems. If you
6 want smart systems, to set aside some band for
7 them, and say the only people who can come into
8 this band are people who employ some minimum level
9 of intelligent, cognitive, features.

10 And the working group, the 802 work, is
11 a perfect example, and as we have discussed the
12 other day, Microsoft has sent in a proposal I
13 believe in the 5 gigahertz band that says set this
14 aside for wireless networking that uses some kind
15 of industry consensus, and I would like to support
16 that. Thank you.

17 MR. MARSHALL: Did you want to make a
18 comment on this?

19 DR. GOLDBURG: Yes. So I would
20 rephrase your last point just slightly. Instead of
21 setting aside bands for certain technologies, maybe
22 set aside bands for certain spectral efficiency
23 targets, which might be higher than what have been
24 defined elsewhere.

25 I mean, if you look through the history

1 of the Commission's allocations where bands were
2 set aside for specific technologies, or like the
3 isochronous part of unlicensed PCS, where there was
4 this listen before talk protocol, and very much
5 like some of the cognitive radio things that we
6 heard described earlier.

7 I think if you took all of the
8 panelists hands, you could count the number of
9 devices allocated in that -- you know, 10
10 megahertz nationwide band today
11 -- you know, 10 years after it was created.

12 So I think that we definitely want to
13 stay away from mandating technologies, or I believe
14 the Commission should.

15 MR. ENGELMAN: Up front here. Oh, you
16 have somebody with a mike back there. Go ahead.

17 MR. GILLIG: Just a comment on the
18 property rights model. Something that we have not
19 talked about too much. We are sort of talking
20 about spectrum as though all spectrum is the same,
21 and we know that land on a swamp in Florida is not
22 the same as bedrock somewhere else.

23 So if we are going to go to something
24 like that, whoever is doing the selling and the
25 buying have to be very cautious of what they are

1 selling and what they are buying, because when you
2 buy this piece of spectrum, you had better know
3 what the interference is in there.

4 And if I am going to use it for public
5 safety, I want that to be interference free
6 essentially, and there is going to have to be a lot
7 of rights and knowledge that goes with this.

8 MR. ENGELMAN: To Diane, and then to
9 Gene, and then back over here.

10 MS. CORNELL: Diane Cornell with
11 Cellular Communications and Internet Association.
12 I have got a couple of sort of practical transition
13 questions, and I am going to aim them at the
14 different ends of the table. I, too, perceive sort
15 of different models, and maybe I will put Mike over
16 with the other -- with Mike and Marc over here a
17 bit.

18 Sorry, Mike, maybe you will accept
19 that. But for Jerry, and Brant, and those folks at
20 that end of the table -- well, actually, this is
21 sort of a general comment. We are dealing with a
22 situation where all the spectrum is given out, and
23 we are dealing with incumbents.

24 And that is where the sort of
25 transition questions come in. I would ask Gerry,

1 in particular, I think you were commenting on this
2 earlier, the difficulty I think is defined in terms
3 of property like rights, and I would call them more
4 perhaps license rights. I think it is easier as
5 you were suggesting to define what those rights
6 might be, in terms of output characteristics.

7 I think the much harder question,
8 particularly as technology evolves, is how do you
9 define those rights, and what interference you must
10 accept. And Northpoint, that whole proceeding is a
11 classic example of that.

12 I think that is a lot harder to do, and
13 I would ask you to comment on that. And then for
14 the other folks is the comment or the question of
15 trying to group like systems, and in particular
16 spectrum blocks, I think is something that a lot of
17 people have emphasized and I thought would be very
18 useful.

19 The question, or the very simple
20 question is how do we get from where we are today,
21 where that is certainly not the case, to that kind
22 of scenario.

23 MR. MARSHALL: Gerry, we all have got
24 different questions here, and so you get to do
25 yours first.

1 PROF. FAULHABER: Let me answer both
2 questions. You are absolutely right about not only
3 saying what are your output characteristics, but
4 what must you accept in the way of potential
5 interference.

6 This is very similar to what you do now
7 when you go into Part 15, which is to say that you
8 are supposed to generate no interference and accept
9 all interference.

10 Well, that is pretty extreme, but
11 clearly that has to be part of the property right
12 system. Let me briefly mention the transition
13 issue, because so far I have been talking about
14 property rights as an end state as it were.

15 This is not a transition plan of which
16 I am the author. It is actually being authored by
17 two fellows here in the Office of Plans and Policy,
18 which they have somewhat salubriously called the
19 big bang auction, okay?

20 And it gets to my earlier point of you
21 are not going to take auction back from people. It
22 just is not going to happen, and their proposal is
23 in the more extreme form would be to take existing
24 spectrum and the people who currently have the
25 rights to it -- let's assume there is only one

1 primary, and to have a huge auction.

2 People can put their spectrum in the
3 auction if they wish. I am saying there loosely.
4 The auction is held all at once, and people can bid
5 on spectrum. If you happen to be a public safety
6 person -- you are a police chief, okay, or a fire
7 department chief, and you have auction, and you
8 have some spectrum, and you can put all or part of
9 it at auction.

10 If you get bids that you like, or maybe
11 the mayor likes, for some of it or all of it, you
12 may take the bid. You may say, okay, we will give
13 you half of it, and we will use a new digital
14 technology to use the rest of it more efficiently
15 and meet all of our needs.

16 So you basically can monetize it, and
17 two things happen. Number one is that you get the
18 money. The mayor gets the money, and the FCC and
19 OMB don't get the money in this spectrum auction.
20 And that may not be fair., but they have the
21 spectrum right now, and they get to use it.

22 If you put the spectrum at auction,
23 then from then on, even if you decide not to accept
24 the bid, it then becomes yours. It is really
25 yours. Fee simple. You know, subject to the

1 easement that we mentioned before.

2 This would be a way to get that
3 spectrum into the market, and it would be a way to
4 monetize it, and in essence, nobody loses. The
5 public safety people don't lose, and in fact they
6 get to monetize part of their asset if they want
7 to, okay?

8 They also get to put conditions on it.

9 They can say, oh, this is mine, and now I can
10 lease it to people under certain conditions. So
11 they get a great deal more flexibility.

12 And if they want in the future, they
13 can buy more. But, in essence, in one big bang, it
14 gets us out of the spectrum management business,
15 and puts it into the market.

16 Do I think that the t.v. guys that own
17 scads of spectrum in the digital range, or the UHF
18 guys, deserve this? No. But it is too late and we
19 have given it away. So the notion is let's provide
20 incentives for people to put it in the market. So
21 that would be my transition plan.

22 MR. MARSHALL: Now you had a different
23 question down here as I understand it.

24 MS. CORNELL: Maybe they can comment on
25 Gerry's comments and --

1 MR. MARSHALL: Well, let's comment on
2 him first, and then we can go to the much less
3 interesting second question.

4 DR. GOLDBURG: I will take a crack at
5 the transition plan. I think it actually has to be
6 an evolutionary process and it will occur over many
7 years. As frequency is reformed, and now the
8 Commissions is now starting to reform UHF, and
9 there may be opportunities for other spectrum that
10 just has not been commercially used the way people
11 thought it was when it was originally allocated.

12 So I think over time one can slowly
13 move towards this type of very idealized scheme
14 that I described. I mean, I think another thing
15 that that would help would probably be if this
16 weren't left to the Commission on its own, in the
17 sense that there are other government agencies
18 involved, like NTIA, which could maybe be involved
19 in the process, and maybe there could be a sequence
20 of spectrum swaps that over time, rather than the
21 sort of higgledy-pickledy arrangement of spectrum
22 that we have today.

23 There would be these larger groups of
24 spectrum organized in a way that made coexistence
25 easier.

1 MR. LYNCH: And building on Marc again.

2 As we do that transition, as a person who dearly
3 loves being in Geneva so much of the year -- and I
4 see Mike shaking his head, and he probably knows
5 where I am going on this, but I am going to use the
6 H-word that someone didn't like on the table.

7 But the more that we can get in line
8 with Article V of the Radio regs, and harmonize
9 with it, and as a manufacturer, I am going to tell
10 you that it will be an economy of scale on there.

11 And like it or not, I have heard other
12 people in government say, no, there won't be, but
13 yes, there will be, there will be economies of
14 scale. And I can even cite you some now, where the
15 U.S. Government is buying European equipment
16 because it is cheaper than what is being
17 manufactured in this country for the same purpose.

18 MR. WILKINS: I would like to comment.

19

20 MR. MARSHALL: Sure.

21 MR. WILKINS: The only response I would
22 say is that I have been pro-market obviously, but I
23 am not advocating a complete -- an abolition, I
24 think, of the rules and regulations, and oversight
25 of the FCC, or any of its State regulatory

1 commissions, the issue becomes how efficiently to
2 allocate the spectrum.

3 And I think from our standpoint as a
4 market maker, although I would love to have an
5 auction tomorrow -- and we would love to handle
6 that auction for everyone by the way for a nominal
7 fee.

8 But the issue would be that there is a
9 way to do this, and maybe an evolutionary period.
10 I am not saying over several years, but there is a
11 way to maybe reach this at a much faster pace.
12 Again, to take advantage, because again obviously
13 from a market perspective, there are buyers and
14 there are sellers, and there is unused product.

15 And there are buyers who want to obtain
16 this product, and I think from the various
17 standpoints there is a way to put the two together.

18 MR. MARSHALL: Your comment was made
19 that there is no loser, and I think to represent
20 the potential losers, I think what you have got is
21 a great way to capture an efficient allocation
22 today.

23 But I think one has got to also
24 challenge any framework with 10 years from now as
25 new technologies emerge, do they negotiate it with

1 a hundred-thousand fire chiefs to aggregate 24
2 kilohertz pieces, or can they argue in a national
3 forum.

4 We went through a discussion of 3G, and
5 it was a national discussion about a national
6 asset, and we reached some conclusions. There
7 seems to be no replacement for that in a process
8 that snapshots incumbent rights, arguably more or
9 less efficient, but if one has got to challenge
10 that, and not today, but what is happening 10
11 years, or 20 years, from now.

12 And how do you bring out large-scale
13 spectrum dependent systems without forcing people
14 into dealing with something that looks like Europe
15 after the fall of the Roman Empire, and lots and
16 lots of little Duchies and such would be my one
17 comment.

18 And so I think one cannot take the
19 framework that, yes, I may not be a loser today.
20 Everybody gets something for it today, and it is
21 dividing up the empire. The question one has got
22 to challenge is what is in it 10 or 20 years from
23 now.

24 MR. FITCH: Well, I just wanted to add
25 one thing in response to Diane's question, where I

1 think there is actually a pretty fair amount of FCC
2 history along this path, and there have been long
3 periods where they have done a lot of removing kind
4 of sub-barriers and aggregating, and grouping in
5 larger blocks.

6 On the other hand the process at the
7 ITU is horrificly the opposite. I mean, they are
8 really in the slice and dice mode over there, and
9 kind of the more detailed regulation about the
10 introduction of every new use, or service, or sub-
11 category of anything.

12 And you see that just in the
13 proliferation in the international radio
14 regulations. So I think that would be a very hard
15 thing to turn around, and it would take
16 considerable effort and probably considerable time
17 to get back to that concept internationally.

18 MR. ENGELMAN: Thanks. There is at
19 least one person out here who hasn't had a chance
20 to speak yet, and I would like him to speak. His
21 hand has been up for about 15 minutes. Gene.

22 MR. RAPPOPORT: Thank you. My name is
23 Gene Rappoport, and I am with Winstar
24 Communications, and I would just like to support
25 the views that have been expressed here about the

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1 enablement of secondary markets, and widening that,
2 and enhancing the spectrum efficiency.

3 And we would also deal with the issues
4 where you think that you have bought certain
5 property rights at an auction, and then you fight
6 for years after just trying to protect those from
7 interference.

8 As was suggested here, is that if you
9 would have a spectrum manager for that portion that
10 you bought, and then you could allow the amount of
11 interference based on an economic basis, it would
12 prevent that ongoing continuing, discussion about
13 how much interference is acceptable, and what you
14 need to accept, and what property rights did I
15 actually buy when I bought that license at auction.

16 I would also like to support Mike
17 Fitch's view that in the international community in
18 recent years, the United States seems to be
19 following more what the international community is
20 doing, rather than trying to lead where it thinks
21 the international community should go.

22 So I would like to support that view
23 that perhaps we should look towards taking more of
24 a leadership role again as we have in the past.
25 Thank you.

1 MR. ENGELMAN: Okay. One last comment,
2 and then we will close. Carl.

3 MR. STEVENSON: Thank you. I would
4 like to address a couple of the comments that were
5 made. First of all, the comment made by the young
6 man in the back, talking about granting rights for
7 40 years. Forty years is in perpetuity, in terms
8 of the pace of technology.

9 I think that is far too long of a term
10 to grant anything resembling some sort of an
11 exclusive property right. And the idea of that we
12 are going to take everything and put it into an
13 auction, where licenses that were given away
14 decades ago to people like the broadcasters that
15 have made billions and billions of dollars on it, I
16 personally think -- and this is my personal view, I
17 personally find it at least borderline obscene to
18 contemplate the idea that they could turn around
19 and reap billions of dollars selling that spectrum
20 that was given to them for free in the first place.

21 I think a take it back approach is
22 maybe more difficult, but I think it is more fair
23 to the public, and I would like to echo what Mike
24 said and what Gene said about harmonization and the
25 U.S. following rather than leading.

1 We have been trying to get globally
2 harmonized spectrum at 5 gigahertz for wireless
3 access systems and wireless LANS. And we are
4 having trouble in the United States with that. The
5 Europeans have already done it. It is already a
6 done deal over there under an NERC decision.

7 I have spoken with most of the
8 delegations from the Latin American countries at
9 the CETO meeting about a month ago, inquiring as to
10 what their views were, and there seems to be a lot
11 of support there.

12 It seems like the whole world is
13 looking at harmonization here, and the U.S. is
14 lagging behind. And I think U.S. industry can end
15 up suffering from that in the long run. We need
16 some sort of harmonization to generate economies of
17 scale.

18 That will benefit the public, as well
19 as the industry, and those were the things that I
20 just felt like I really had to comment on, and I
21 thank everybody for their patience with my saying
22 so much today. Thank you.

23 MR. MARSHALL: I want to thank everyone
24 for coming to this. This has really been
25 interesting, and issues about policy and

1 regulations would be uninteresting and
2 uncontentious, but I am glad that wasn't true.
3 And thanks very much.

4 MR. ENGELMAN: And a thank you to all
5 of our panelists, and also don't forget that on
6 Friday there will be another hearing on rights and
7 responsibilities. Thank you.

8 (Whereupon, the workshop was concluded
9 at 3:05 p.m.)

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