UNITED STATES FEDERAL TRADE COMMISSION

and

UNITED STATES DEPARTMENT OF JUSTICE

SHERMAN ACT SECTION 2 JOINT HEARINGS

UNDERSTANDING SINGLE-FIRM BEHAVIOR: REMEDIES

THURSDAY, MARCH 29, 2007

HELD AT:

UNITED STATES FEDERAL TRADE COMMISSION

6TH & PENNSYLVANIA AVENUE, N.W.

WASHINGTON, D.C.

A P P E A R A N C E S

REMEDY IN THE FACE OF TECHNOLOGICAL CHANGE

MODERATORS:

Douglas Hilleboe, Federal Trade Commission

Ed Eliasberg, U.S. Department of Justice

PANELISTS:

Michael Cunningham, Red Hat, Inc.

Renata B. Hesse, Wilson Sonsini

Marina Lao, Seton Hall Law School

William H. Page, University of Florida

Howard A. Shelanski, UC Berkeley

P R O C E E D I N G S

- - - - -

MR. HILLEBOE: Good morning, everyone, thank you for coming. I'm Doug Hilleboe, attorney with the Federal Trade Commission, Office of the General Counsel, I'm going to be one of the moderators here today for this third session on remedies. My co-moderator is Ed Eliasberg, he's an attorney with the U.S. Department of Justice, Legal Policy Section of the Antitrust Division.

Before we start, I need to go over a few housekeeping matters. As a courtesy to our speakers, please turn off your cell phones, Blackberries and other devices that make a noise, and I'll ask the speakers to do the same, they actually interfere with the microphones and we had a little problem with that.

Second, the restrooms are located down the hall, through the double doors that you came through. Third, in the unlikely event that the building alarms go off, please proceed calmly and quickly, as instructed. If we must leave the building, take the stairway which is to the right, on Pennsylvania -- on the Pennsylvania side, and after leaving the building, follow the stream of FTC people and meet at the sculpture garden, which is across from the intersection of Constitution Avenue and 7th Street.

Also, we must enforce our rule that there's no questions or comments that come from the audience during the session. Thank you.

We're honored today to have assembled a distinguished group of panelists that have agreed to offer their testimony in connection with this hearing on remedies in the face of technology change.

Howard Shelanski is an associate dean and professor of law at the University of California, Berkeley, and the director of the Berkeley Center For Law and Technology.

Renata Hesse is a partner at Wilson Sonsini Goodrich and Rosati, and formerly was a chief of the Networks and Technology Enforcement Section At the Antitrust Division.

Michael Cunningham is general counsel at Red Hat, Inc.

William Page is a Marshall M. Criser eminent scholar at the University of Florida's Levin College of Law.

And Marina Lao is a professor of law at Seton Hall Law School.

We plan to hear from each of the speakers for about 15 minutes each and then take a ten-minute break and then we'll hear from the remaining speakers. We

will then have the speakers comment upon what they've heard, and then have a moderated discussion among the speakers with Ed and I leading the discussion.

Before starting, I would just like to state by way of introduction that many of the product markets in which the United States enjoys a comparative advantage, vis-a-vis the rest of the world, are fast-changing dynamic markets, including high technology markets. Some critics of the antitrust laws have claimed that the laws, including Section 2, are not nimble enough for effective use in these types of markets. Others disagree. We will explore this issue and others in this session.

Some commentators have suggested that the potential for error in antitrust enforcement may be greater in these dynamic markets; however, other commentators have suggested that due to network effects and other possible factors, these markets may tend towards monopolization to a greater agree and therefore perhaps deserve particular antitrust scrutiny.

We are interested to learn what these panelists believe about these and other issues, and their implications for antitrust enforcement in Section 2 cases.

Before beginning with the speakers, my

co-moderator, Ed Eliasberg has some words about the hearing.

MR. ELIASBERG: Thank you, Doug. I very briefly on behalf of the Antitrust Division plan to welcome our panelists, thank you for coming and we look -- we're very much looking forward to hearing what you have to say.

So, with that, Ed, let me turn back to you.

MR. HILLEBOE: Thank you, Doug. Howard Shelanski is the Associate Dean and Professor of Law, Boalt Hall, University of California, Berkeley and the Director of the Berkeley Center for Law and Technology. From 1999 to 2000, he served as chief economist of the Federal Trade Commission -- Federal Communications Commission, excuse me, and from 1998 to 1999, he served as senior economist for the President's Council of Economic Advisors At the White House.

Howard?

MR. SHELANSKI: Thanks, Doug, and I appreciate the promotion. Well, I have a few main points that I want to make and the points that I am going to make I hope connect to what my co-panelists are going to say.

We had a call a week ago and I just want to set up a few ideas here about the implications of the implementation of remedies for monopolization in a

high-tech or technologically dynamic markets. And I think my main point, my overall point would be this: Remedies are hard in the best of circumstances, and I think they become more complicated in technologically dynamic settings, but I also think that innovation and the presence of ongoing innovation in a market may affect remedies in somewhat unpredictable ways, and may create opportunities along with the challenges.

In particular, I think while innovation makes structural remedies more difficult, it may in some cases make conduct remedies particularly valuable. So, I think while innovative markets are cause for agencies and courts to be more cautious about remedies, I think innovation is not cause for systematic retreat from enforcement or from behavioral injunctions.

So, let me explain a little bit why I think this is the case. You'll hear, and I think one often hears that structural remedies are preferable to conduct remedies or behavioral remedies in monopolization cases. But, there are some caveats to this. First I would say that structural remedies are not always available. Where a firm is so integrated that there are not obvious divisions, it's very hard to know how to implement a structural remedy. Just as a classic example, the District Court's second opinion in the United Shoe

machinery case would be an example.

The second caveat I would have is that structural remedies are not always easier than conduct or behavioral remedies, and in fact must often include some supporting behavioral remedies, and as an example, I would talk about the AT&T vertical divestiture that had to be implemented by open access regulations enforced by the FCC and overseen by the District Court.

And then, finally, I would say as a general caveat, the effectiveness of structural remedies in Section 2 cases is not assured and there's certainly quite a bit of debate of effectiveness historically over structural remedies. I'll give you a couple of examples. One early quotation, "In administering the antitrust acts, a number of great and powerful defenses against them have been dissolved. So far as is possible to judge the consuming public has not yet greatly profited by their dissolution." That's Judge Rose in United States against American Can in 1916.

Okay, now, we haven't had a lot of experience in enforcing Section 2 by 1916, so maybe things have changed, at least some people disagree. Bob Crandell in 2003 writes, divestitures are "costly exercises in futility," but I would point you to the excellent work of John Baker and Greg Werden in 2003 providing some

counter arguments. Just a way of saying effective remedies structurally offer no guarantee of success.

Now, I think the structural remedies may actually be even harder in technologically dynamic markets, and let me offer a couple of reasons. First, where a firm or industry is driven by R&D, it may do no good to divest a given division or to leave a company in two without sending the R&D operations with the divested portions of the entity, but R&D operations are often, perhaps even likely, to be more integrated and inter-dependent within the firm and not susceptible to clean lines of separation.

The second reason why I think the presence of ongoing technological change may make structural remedies difficult is that even if divestiture is possible, high-tech firms may require more monitoring of conduct during after the divestiture, because key assets in such divestiture are likely to be intellectual property, IP that in some cases may provide joint uses, uses across the lines of the new or divested entities, disputes are likely to be offered over what items to transfer and whether all IP has been disclosed to the new entity.

Moreover, because of the cooperative nature of research and development, and in production, in markets

where product life cycles are short, some post divestiture monitoring of relationships between newly distinct entities may be needed because there may be a natural incentive to favor each other as business partners, and that was something that came up in the wake of the AT&T divestiture, for example.

The third reason I think that fast technological change renders structural remedies more challenging is that firm and market structure may be less of an issue, in some technologically dynamic markets. To the extent that the so-called Schumpeterian School is correct, that dynamic markets often display competition that occurs sequentially, through periodic waves of creative destruction, rather than concurrently, through simultaneous production, divestitures may be less effective or necessary such markets, although this is probably more true for horizontal than for vertical divestitures.

Okay, and my final reason that structural remedies are tough in technologically dynamic markets, is that where network effects are at issue, structural issues might harm consumers by dissipating positive network externalities. The fact that it might have been better not to have monopoly in the first place does not always mean it is better to break up the monopoly later,

and if such divestitures are to preserve network externalities, they may have to be accompanied by conduct remedies related to interconnection and interoperability, doing away with those clean properties of structural remedies.

Okay, let me turn now to conduct remedies, talk a little bit about how they might work in high-tech markets. As a general matter, we often hear that conduct remedies are difficult, but there are some caveats here as well. Not all conduct remedies are created equal, and as many people have pointed out, negative prohibitions, thou shalt not have exclusive deals, for example, are probably easier to implement than affirmative obligations, thou shall deal with your rivals. In part because the negative prohibitions entail less involvement of courts or agencies in regulating terms of trade.

The second caveat that I would add is that conduct remedies can have beneficial prospective impact, even if they cannot roll back illegally accumulated or prolonged market power. Some people say, look, conduct remedies are closing the barn doors after the cows are out, but if there are still some cows inside the barn, it's not a bad idea to shut the door.

Third, even if a conduct remedy is ineffective

or weak in a given case, I think conduct remedies can have important deterrent effects on others contemplating the illegal behavior, and it's -- in a point that's often made, some people say, if you can't be sure that your conduct remedy is going to be effective, why bring the case? Another reason to bring the case beyond deterrence is I think as we get more experience with different kinds of conduct, it can become clearer what is good and what is bad, and it enables agencies to move more quickly in subsequent cases, and perhaps get a remedy implemented while the harm is still able to be -- to be nipped in the bud, so I would not let lack of a clearly successful conduct remedy -- I think one needs to be clearly articulable at the start of a case, but if you can't be sure it will be implemented in time or it will be successful in remedying the market power, there may be some reasons to go ahead with the case anyway in terms of establishing precedent and creating deterrence effects.

And finally, just an observation, I think that the effectiveness of conduct remedies are likely to -- the effectiveness is likely to be tied to the precision with which one can define the cause of anticompetitive harm, and in some cases, this can be done quite clearly, and in those cases, I think behavioral injunctions can

be quite effective.

So, the overall lesson about conduct remedies, I think that it is right to be weary of behavioral remedies, particularly those in which the enjoined conduct has ambiguous welfare effects, or in which courts or agencies will have to become involved that were doing terms of trade, but in the right context, conduct remedies can work and can send valuable deterrent signals.

I would just say that inability to articulate a structural remedy therefore should not be decisive in whether or not to prosecute an argument that is sometimes heard.

Okay. Well, I think that technologically dynamic markets create both challenges and opportunities for implementing conduct remedies. The first challenge is this: If one accepts that remedies may deter marginal innovation, and I'll assume for the moment that all innovation is good, because private returns are less than social returns to innovation. Let's just take that as a working assumption, it need not be true in all cases, but if one accepts that, and one accepts that remedies can marginally deter innovation, then the deterrence risk and the costs of such deterrence may be much greater in dynamic markets. It needn't be the

case, but I think innovation deterrence becomes a more salient issue and a more salient concern in technologically dynamic markets.

The second challenge is that in fast-changing markets, it is more likely than it is in more static settings that the conduct at issue in the case will be moot by the time antitrust liability is established. And in such cases, neither conduct nor structural remedies are likely to be effective, and perhaps something else like disgorgement might be called for if such a remedy can be created.

But there are also opportunities in high technology settings, I think, for conduct remedies to be particularly effective. In some cases, technological dynamics can render conduct remedies effective where they would not be in more static markets.

In some cases, monopoly once obtain may not be easily eroded, even if exclusionary or predatory conduct that contributed to that monopoly is stopped. Whether because of brand recognition, economies of scale, or customer switching costs, new entrants will be slow to appear or succeed, even when other barriers to entry, such as the exclusionary or predatory conduct at issue in the case, even when those barriers are eliminated, you might not see competition arising.

But I think where competition is more innovation based and where product life cycles are short, an injunction against the behavior that led to the establishment or maintenance of monopoly power may prove very effective, as it is the latter set of barriers, rather than any brand or economic advantage, that might have kept the incumbent dominant.

As new waves of innovation come forward, how did they stop someone else from being the innovator who came in with the new product? Well, through the exclusionary or predatory conduct, and branded here and switching costs, other things like that, may be very, very different in the high-tech environment. So, merely eliminating the harmful conduct may open the door for new entry and the conduct or remedy, particularly negative injunctions, I think, can be very successful and very helpful.

I would like to just raise an additional point about the overall question of whether or not the cycles of innovation move so quickly and the innovation process moves in such different a way from the standard competitive process that we should step back generally from antitrust enforcement, and this is an argument that one hears quite often.

I think when one looks at the kinds of behavior

that limit innovation, and that stop people -- that stop competitors from innovating, it's very unclear to me whether or not monopoly has anything particular to recognize it, nor is it clear to me that new waves of innovation are always going to be sufficiently powerful to overcome artificial barriers to entry like exclusionary -- exclusionary kinds of behavior like exclusive deals when it is a monopolist that has that exclusive deal, contractual terms that bar competitors' products from ever being used, tying that prevents consumers from ever having access to products.

It's unclear to me no innovation will always be so great that it can overcome those barriers, those barriers can lead to slower product life cycles, and greatly harm consumers, and I think that there's a lot of evidence of benefits from antitrust enforcement in high-tech areas. And when one looks at the studies that have said there are no benefits to Section 2 enforcement, or in a more nuance way, no benefits to Section 2 enforcement in technologically dynamic markets, there's a counterfactual, all of these papers acknowledge the counterfactual, and we can't tell what would have happened absent the antitrust enforcement, we can't tell what would have happened in other markets had there been antitrust enforcement, and then those

arguments are sort of dismissed, tucked under the carpet.

I wouldn't dismiss them so easily. And, so, my overall argument would be, be very cautious, be very case-by-case in the application of Section 2 remedies in high-tech markets, I think structural remedies are likely to be harder to implement, but there may be good opportunities for conduct remedies to be very effective. Thanks.

(Applause.)

MR. HILLEBOE: Thank you very much, Howard. Our next speaker, excuse me, is Renata Hesse, who is a partner at Wilson Sonsini Goodrich and Rosati. Prior to joining Wilson Sonsini, Renata served as the chief of the Networks and Technology Enforcement Section at the Antitrust Division and oversaw much of the division's technology litigation, including the Oracle/Peoplesoft and First Data/Concord matters. In addition, Renata worked extensively on both the American Airlines and the Microsoft case.

Renata?

MS. HESSE: Getting myself around is a little harder these days.

So, Howard covered a lot of ground which I think fundamentally I agree with almost everything he said.

In fact, I think I probably agree with everything he said, but wanted to pick up where he was leaving off, which was I think in talking about the notion that you shouldn't back away from Section 2 enforcement in high technology markets, and the main reason why I think that's true is that despite all of the innovation and the fast pace of change in those markets, there is an opportunity for durable market power to exist in them, and you do want to make sure that you're not overlooking that possibility and potentially addressing it.

So, I wanted to start with just a few basic points about Section 2 remedies that I think are important, and some of these overlap with some of the things that Howard said and I'm sure that will happen as we go along down the line of speakers, but the first thing that I wanted to talk about is the importance of focusing on remedy early, and the main reason -- there are several reasons for that, but the biggest reason is that it helps you try to figure out what your goal is. What's the violation that you're really thinking about, what do you think has really happened that's harmful, and how can you address it? That isn't to say that if you can't come up with a perfect solution to the problem that you shouldn't go ahead and try and do something about it.

I think Howard is right that there's a good deterrent effect in enforcing the law, even if you're not 100 percent sure that the way that you think you can fix it will be successful, but I do think it will -- it helps you focus your investigation, and here again, I'm speaking as if I were a government lawyer, but focus your investigation and theories so that you can really figure out whether or not you've got a case that is worth allocating resources to, and pursuing.

And I just think it gives you a much better sense of the definition of the harm that you're trying to alleviate.

The second point is that I think when you start with thinking about remedy, or at least you think about remedy relatively early in the process, you can get a better sense for whether or not you actually can come up with a remedy that is really going to leave the marketplace in a better place than it was when you started.

And I would sort of call this the first do no harm rule, and it is one of these things which you always need to bear in mind, which is that you don't always want to make things worse, you don't want to deter innovation or take an action in the marketplace which stifles productivity, and I think in technology

markets, that's something that you really need to keep in mind.

But if you were stepping back and thinking about that early, you can think about whether or not there are ways to achieve the goal that you want to achieve without having at least a large countervailing harmful effect.

The third point is related to the resource allocation point that I made. I think fundamentally it's just a basic responsibility that particularly government enforcers have to think about how you're going to fix the problem, and whether or not the problem is subject to a fix that's worth the investment of resources in not only the investigation and prosecution of the matter, but also the compliance and enforcement activities that will happen post judgment, and those are, I think, much more complicated when you're talking about conduct remedies and structural remedies, but, again, Howard correctly notes that when you do a structural remedy in these markets, very often there are going to be conduct remedies associated with it in any event.

But I think you really do want to have in your mind whether or not the consumption of the resource is likely to result in some improvement to the competitive

conditions in the marketplace.

And then there's a fourth point which is that sort of the question of if you have a good idea of what you think the remedy that you want to put into place is, then I think you'll have a better idea of whether or not the -- again, the pursuit of the investigation or prosecution is worth while, and by that I mean that there are some kinds of Section 2 violations that are easier to remedy than others.

So, one example might be you can think of exclusive dealing or vertical foreclosure, for example, where you have fairly easily identifiable concrete types of conduct that you can undo. I think monopoly maintenance, to a certain degree, monopoly acquisition cases are much harder.

So, if you're in the situation where you're balancing these things out, and you've got a choice between two matters that you want to devote your resources to and one of them has a reasonably good likelihood of being able to be fixed, and the other is a little tougher, then you've got to figure out how to allocate your resources, then you might want to think about going towards the one that actually has a solution that you can identify and that you think will be likely to result in an improvement in the competitive

conditions.

And this just goes back to something that I think people often think about in the context of -- of the -- when you're trying to come up with a remedy, what is it that you're trying to achieve, are you looking at a monopoly that you believe has been illegally created and are you trying to undo that, or are you looking at conduct that has maintained a monopoly and are you trying to restore the conditions of the competitive marketplace to the pre-exclusionary conduct state? And depending on which of those two things you're looking at, you're going to have a pretty different, I think, idea about what's the right way to go about recommending the harm.

The second thing I wanted to talk about was just the point that Howard started with, which is structural remedies and the general point that generally I think structural remedies should be preferred. I think it's clearly true that they are not always possible, and that's certainly more true in Section 2 cases than in other kinds of cases, but I wouldn't advise sort of ignoring them as possible ways of recommending harm, because I think they do have a number of benefits.

One of the benefits is that developing a functional set of conduct restrictions that are likely

to have a beneficial effect, without having this sort of countervailing, potentially negative effect on the marketplace is an extremely complicated and resource intensive process. It took a really long time to come up with the conduct restrictions that we developed in the Microsoft case, and I think, you know, you can -- it's open for debate whether or not those were worked well or not well, but it took a long time to figure them out, and to just evaluate all the different possibilities and try to develop language that's concrete enough and understandable enough in a legal document for people to actually then be able to implement it and understand it and understand what the rules of the road are. It's just an inherently difficult process to do, and I think that isn't just Microsoft, that's any time when you're trying to come up with a set of conduct restrictions where you're dealing with complex technology.

It's also hard to judge their success, I think, and that's also true in structural remedies, in some situations, but it's very hard to know when conduct restrictions have succeeded. I think you can know when they've failed, but I don't think you can know as easily when they've succeeded. How do you measure success with conduct restrictions?

I think structural remedies generally eliminate, although not entirely, the need for ongoing enforcement in compliance activity, which also can be an extremely time consuming and resource intensive process. It can require, and this is something else I can talk about a little bit later, but it can require a lot of assistance from people who know more about technology and business and licensing and all these things that come up in technology markets work, and structural remedies tend to need a lot less of that.

I think structural remedies are generally less easy to evade. It's pretty clear what you're supposed to do, and you've either done it or you haven't done it. You've either divested the plant or the asset or whatever it is, or you haven't. You know, there are issues associated with those kinds of things, whether or not you found an adequate buyer and all of those other sorts of issues, but at least there's a very clear line about what you are supposed to have done.

I think they have a potentially greater deterrent effect, because they have the capability at least of really restructuring a business in a way that most businesses don't want to have happen. So, that can discourage people from engaging in conduct that folks think violates Section 2.

And I think generally, again with some of the caveats that Howard laid out, they're more likely to work. The lines are clearer, and if you've actually proven a violation where you can support imposition of a structural remedy, I think the likelihood of that structural remedy having an effect is probably higher.

So, those are some kind of basic points. A few points that are more directly connected, just to sort of the technology markets, and the first is, you know, everybody always talks about technology markets are fast changing and innovation changes everything, and as Howard said, sometimes people say, maybe you don't need to worry about them because they're just going to be self correcting. I tend not to agree with that latter viewpoint, for the reason that I started with, which is that it's clear that there's a possibility for the existence of durable market power in these markets, so I think just leaving them alone and hoping that the exclusionary conduct somehow magically stops and things correct themselves is not likely to lead to a lot of success.

I do think that the fact that they can sometimes be slow and that the antitrust enforcement process can sometimes be slow is a down side in these markets, a greater down side in these markets than in other

markets, because sometimes you feel like you get to the end and you're addressing the problem when it's actually a little bit too late.

As a consequence, I think you need, when you're thinking about conduct remedies in technology markets, to be a little bit more flexible about how you think about them. And to address categories or types of conduct relating to types or categories of products or services as opposed to saying, well, this -- you did this particular thing with this particular kind of product, and you should do that -- you shouldn't do that anymore. This is the negative prohibition point versus an affirmative obligation point.

If the conduct remedy is too narrowly focused, it runs the risk of being ineffective, and I think in most cases is likely to be ineffective, particularly, again, if you're talking about undoing some sort of harm that has occurred.

You know, Microsoft is a simple example of this, the consent decree doesn't just talk about browsers, which was the primary focus of the case, but it talks about other products which were potential platform threats and has some construct restrictions in it that are designed to try to go after those particular -- or not go after them, but to try and make sure that the

conduct relating to those other kind of potential platform threats were restrained.

There's a possibility in technology markets that they should be of shorter duration. Again, Microsoft is another example, it was a five-year consent decree, it's now been extended in some pieces for longer than that, but I think there's a reasonable basis for at least looking at the question of whether or not you really need something to last ten, 20, some decrees in the past have lasted for hundreds of years, some of them very perpetual, and whether or not that makes sense particularly in the context of technology markets is I think something that people -- it's worth looking at.

I also think if you're going to think about decrees of shorter durations, or remedies of shorter durations, that including some mechanism for revisiting that question before the term of the decree expires is a good idea. I think it's just these markets are inherently unpredictable, and given the complication of structuring conduct provisions in them, that giving yourself an opportunity to take a second look and having a standard for how you would be able to convince a court that you need to extend a decree in these kinds of markets is something that should be given some consideration.

And the final point on this area is that I think conduct remedies in Section 2, Section 2 remedies in technology markets may need to be more forward looking, and this is a little slightly basically the same thing with a slightly different pitch on it, but you do have to think about what it is that you can predict about the marketplace and changes in the marketplace going forward and whether or not what you've devised in the context of the conduct remedy is adequate to address the changing technology in the marketplace.

The last piece about technology markets that I think makes them different is that they're hard, and it's hard to understand them, and they're particularly hard for people who are not educated in technology. And, so, compliance monitoring enforcement can be a difficult thing to do.

As a consequence, I think if you're looking at these markets and you're looking at behavioral restrictions, particularly ones that relate to licensing of intellectual property or access to technology or just, you know, you're requiring a company to stop doing a particular activity with a particular type of technology, that you really need to anticipate getting some technical help, and when I think of technical help in this context, I don't think just of software

engineers or hardware engineers, but I also think of licensing expertise, business expertise, you know, trying to figure out whether a royalty ran is a difficult problem, and it's not a problem that most antitrust lawyers deal with on a day-to-day basis.

And having the ability to have access to people who actually do that kind of work for a living, who know what particular types of technologies, what kinds of royalties particular types of technologies command is, I think, critical to the ability to actually do an adequate job of monitoring and enforcing compliance.

Again, I started with sort of a more broad definition of technical assistance, but a narrow definition of technical assistance, which is just actually having somebody who knows how software code is written, and what to look for and how to evaluate whether or not something has been done in the code is very important. I think one of the really unusual and innovative things that was in the Microsoft decree was the technical committee provision, which allowed the Department of Justice and the states to have access to basically a full-time group of technical consultants who were hired to work for those people and the cost of which was borne and continues to be borne by Microsoft.

I think it was an unusual idea, but it really

has become, I think, a key component to the United States enforcement and monitoring, compliance monitoring efforts of the Microsoft decree, and it was essentially copied by the European Commission in the work that they're doing in Microsoft as well.

And it had not been done before. There were lots of times where in complicated markets people had used monitoring trustees, I shouldn't say there were lots of times, but there were examples of monitoring trustees being used, usually they were in things like prison condition litigation, where there was some pretty complicated oversight that was needed, but hiring technical experts to help out was an innovative thing to do and I think has proven to be a pretty successful component of the Microsoft decree.

Now, you also may need technical assistance when you're trying to figure out whether or not somebody has violated the decree and you actually want to go after them for contempt. I think the Microsoft model doesn't quite fit so well in that context, because it's a little hard to see how you can justify the party who you're going to be pursuing in contempt actually paying for the expert that you're going to be using, to go after them in contempt, but it's something that people -- you want to think about, and at least have the resources and

capability to get that kind of help on board.

So, I have probably 30 seconds at this point left. The last thing I would say is that licensing remedies are incredibly common in technology markets. They can be useful, and I think can work well, but I think they work particularly well in the context where you know or have a very good idea of what the intellectual property is or what the asset is that needs to be licensed, are there particular patents who needs them, and again, if you go back at the very beginning, to those are things that you can think about early on and figure out and they'll help you determine whether or not a licensing remedy is likely to be successful.

And of course when you're doing that, you need to think about the policy issues that are associated with compulsory licensing of intellectual property, which is a hot topic these days.

(Applause.)

MR. HILLEBOE: Thank you so much, Renata, for those comments.

Michael Cunningham is general counsel at Red Hat, Inc. Prior to joining Red Hat, he served as associate general counsel at IBM, where he had legal advisory responsibilities for the Business Consulting Services Division for Europe, the Middle East and

Africa. He was also a partner and associate general counsel at PricewaterhouseCoopers.

Michael?

MR. CUNNINGHAM: Thank you, and good morning. I'm pleased to have the opportunity to participate in this important consideration of Section 2 remedies, to do so before distinguished representatives of the government, as well as with this particularly knowledgeable panel.

I'm the general counsel of Red Hat. I'm going to make a little disclaimer, I'm a technology lawyer, I'm not principally an antitrust lawyer. I hope that I can offer some comments, however, as an executive of a technology company that are relevant to these inquiries.

With your indulgence, I would like to describe a bit about our business that I think is relevant innovation, given the debate about antitrust remedies stifling innovation, I think it's particularly appropriate this morning.

The software solutions that Red Hat offers, and for which we provide services, are developed by very broad horizontal communities that are without geographic, organizational or political boundaries. The community of innovators that unleash the value of open source are not contained within Red Hat. Some of its

contributors are, but it's not.

The contributors include the customers and vendors of hardware and software. It includes academics, it includes many, many motivated individuals that we call hackers, it includes persons from every continent and from multiple political subdivisions.

The development environment is also not controlled by any single individual company or political entity, it is instead a free, meritocratic marketplace of ideas. Individuals take these ideas and they place these ideas with their individual name and reputation into the marketplace in a particular software development project to which their idea is relevant.

There are literally thousands of these projects out there. In one of our offerings, Red Hat Enterprise Linux, hundreds of projects are represented. These ideas are then reviewed by that development community, for that project, and only those ideas that can handle the open scrutiny of this open source community are then adopted.

In this way, the best ideas and the bets bits of ideas bubble up. Moreover, if there happen to be a serendipitous discovery that is made in one of those projects that's relevant to another project or might be an entirely new approach, the contributor or any other

person is free to contribute it to that project or indeed to go out and start a new project to take the technology in a new direction.

This model has produced and continues to produce copious innovation. It also accelerates and multiplies innovation, I would argue, by providing tools of innovation, such as information ideas to a broader and more diverse community than development within any one firm is possible could provide.

The open exchange of information and ideas is an innovation force multiplier. For example, sophisticated business and other users of software frequently take the modular pieces of well crafted software that's developed in the open source community, cobble bits and pieces of it together, modify it, append to it and create solutions for problems that heretofore were not solved, or new problems that arise in their business.

Similarly, the creative juices of the lone teenager in North Dakota in some remote location can contribute to that process, so can a Cal Tech physicist who is wondering why there hasn't been a software development that would help in his or her research. And so are many, many others unleashed in the creative process through this open development and collaboration model.

The modular and open nature of open source software has fueled much innovation, but it is by no means limited to software. It is not a software-only phenomena. No, I would submit to you that the relative ubiquity and low cost of the Internet, and collaboration tools like email and dedicated web sites portends for joint collaboration that is unleashing all sorts of innovation across the world.

If you've read the best selling book by Tom Friedman, The World is Flat, you will get a very good sense of some of these trends, I think. I would also be happy to comment on some other areas where that innovation is being unleashed in the questioning, if that's helpful.

With that bit of an introduction, maybe I should turn my attention now more directly to remedies. First, I believe that in the software space at least, the relevance of the antitrust law hangs on the issue of remedies. I can think of no way as a practitioner and an executive in a company in the industry to more starkly illustrate that point than to disclose my actual advice to my client in pursuing whether to participate in or pursue any monopoly-related case, whether that be in a government-related case or in private litigation.

I would tell my client, it's too expensive for

you to fully embrace and do that. You cannot do it. You don't have enough money to pursue it, it's certainly over $10 million, it will be a long time, and it is likely, I would submit to you, at least this would be my advice, it is likely and substantially likely that the remedy that will result will be of limited utility. So, therefore, those sorts of expenditures would not be justified.

And guess what? Those that the government representatives seek to regulate know this, and they know it well. By way of illustration, a high-ranking representative, indeed a very high-ranking representative of a party found to have market power by multiple international competitive authorities has aggressively and indeed smugly advised Red Hat that there is no competition authority in the world that this firm will not outspend, outlast, and seek to thwart.

In short, the system seems broken in terms of speed, cost, and effectiveness of remedies, at least from my little corner of the world. You know, why is this the case? Well, as others have said, technological change is very rapid and litigation is not. The rate of change at least in information technology is in very short cycles, three to five years, maybe six to eight years, certainly not longer than that in many, many

areas of information technology.

Remedies that only address a particular market complained of, and established at great expense, will often be too late to provide meaningful relief. A remedy focused on future conduct would address some of those limitations and in many instances I think is necessary.

I also am intrigued by the idea of smaller simpler cases with speedier trial times that would focus on future contact to make the law more relevant. Clearly cost and delay undermine the perceived and actual effectiveness of the antitrust laws in our competitive zone.

In that way, some of Professor's Lao's writing on the role of the intent in finding liability seem a fruitful avenue for further inquiry to me.

Second, technology can be manipulated. The speed with which information technology moves and can be molded provides real opportunity for conscious manipulation by the monopolist away from the market complained of. The government enforcement actions against Microsoft are an example of the timing challenges, I'm thinking now about the European Union, even the most aggressive threats by the EC are mired in delay, seemingly extended without limit.

According to the most recent statistics we've seen, Microsoft continues to gain in the operating system worker group server market, meanwhile the market continues its very rapid evolution, probably reducing the relevance of any remedy that may eventually be enforced and/or issued.

I guess I should also point out that private enforcement actions have not solved the problem either, this won't be a surprise from my earlier comment. The antitrust law, like the Ritz Carlton, is open to the rich and poor alike. The most entrepreneurial and the most innovative firms, the small fledgling ones are without means to mount private antitrust cases.

Let me turn my attention for a few moments to innovation. Protecting competition does not mean stifling innovation, I don't believe. While there is an inevitable tension between the intellectual property law and the antitrust law, competition law cannot achieve its purpose if regulators and courts are preoccupied with a concern that remedies affecting some intellectual property rights will necessarily stifle innovation.

That focus on IP, that is intellectual property, a legal concept, is misguided. The focus should be on true innovation, not patents and copyrights, public grants of a monopoly.

Why is that the case? Well, first I think equating innovation to the accumulation of intellectual property is suspect, at least in the software world. The software patent approach in the United States is being broadly questioned, and that's the case for at least two or three different reasons.

First of all, the software industry in particular survived for almost 20 years with very limited forms of software patents, not the broad range that we now see following State Street and other court decisions.

Second, I would submit to you the relationship of software patents to innovation is suspect. I regularly review the academic literature in this area and I am aware of no convincing argument that software patents have unleashed -- and no empirical study -- that they have unleashed and spurred additional innovation.

Third, the news is regularly filled with stories of highly suspect software patents, patents that are not new and innovative, ones that are anticipated by prior art and ones that common sense tell us lack sufficient novelty to warrant 20 years of protection.

Of course that shouldn't be surprising, there are well publicized challenges in the Patent & Trademark

Office, there's no effective and searchable database on prior art for software. There's also serious challenges in retracting and retaining the kinds of experts that Renata talked about to actually evaluate what is seeking to be patented.

I say that just to suggest that the innovation reflected in software patents is questionable at times. Therefore, giving, you know, complete deference to intellectual property in that context seems misguided.

Even more important to this debate, as my opening remarks sought to illustrate, there are broad communities of collaboration that are massively innovative. Please note that their style of collaboration is not readily or naturally susceptible to patent protection, given the open and collaborative nature of their exchanges.

Thus, innovation of the firm is not the only or even the most effective form of innovation to be considered or protected when facing the market disruptive effects of monopolists. Powerful new innovation paradigms are upon us now and they're growing and they need to be considered and measured in balance.

But even if we were to assume that the firm is the epicenter of innovation, the smallest and perhaps most innovative are without the means to challenge the

innovation of the monopolist that is purported to be reflected in intellectual property. The combination of suspect software patent quality and the disparity of the cost to acquire a patent versus the cost to defend against it skew IP protection in favor of larger enterprises with market power.

Cost of acquiring a patent, let's say, is $25,000 to $35,000. It absolutely pales in contrast to the cost of a proper infringement defense. That is variously $3 to $5 to $7 million, and by all accounts is growing at present.

Moreover, the monopolist can disrupt the business of smaller competitors merely by suggesting to consumers that its IP is infringed, without any proof whatsoever. If you consider Steven Bommer's recent statements that the users of Linux have an undisclosed off balance sheet liability to Microsoft, which were offered without any substantiation whatsoever. And the SCO litigation that is ongoing I think offers some interesting and vicarious variance on the same theme, which I would also be happy to comment on in the question and answer period.

Keeping on the intellectual property theme, an effective remedy needs to prevent the extension of market power. A company who has acquired market power

through anticompetitive conduct shall not be permitted to be able to hide behind intellectual property protection to reinforce and extend its market power. I think there is an interesting lesson in history on this that deals with data formats.

In particular, I would like to contrast how Microsoft came to compete in word processing, versus how it now competes. The background is as follows: Software products manipulate and ultimately store customer data after that manipulation. To the extent this data is then placed into storage formats, that are claimed as either proprietary or protected by intellectual property of the software vendor, then the ability of a competing product to make effective use of the stored customer data and break into and compete in that market, which is likely reinforced by very strong network effects, can be precluded.

Take, for example, Microsoft's word processor competition against the then-important market position of the WordPerfect product in the 1980s. Because the data format's inability to represent the data with substantial fidelity was possible, Microsoft could compete at the enterprise level by saying, give me a try in parallel with WordPerfect. If I do better, then incur the cost of switching out your old technology and

taking on our technology.

In contrast today, I would submit to you the formats of Microsoft alphus data have been and are increasingly being obscured by Microsoft and cannot be presented, that is the data cannot be presented with true fidelity by any competitor, like OpenOffice, which thereby extends the time of their dominant position and permits extension of power into adjacent markets.

It is the case that Red Hat cannot effectively compete with open source personal productivity applications, like word processors and other things, at the enterprise level against Microsoft, it can't get its foot in the door. If a client wants to give someone a try and you can't render their existing data in a meaningful fashion, that prevents anyone from entering into that market, I would submit to you, or doing so easily, anyway.

Microsoft controls, I would submit to you, a facility of competition through the extension of IP and proprietary formats that is needed to meaningfully render and manipulate customer data. I have no doubt that's why you're seeing states like Massachusetts aggressively consider the open document format, a truly open standard in format in its procurement processes.

The mono type litigation of Red Hat is another

example that illustrates that that I would be happy to comment on later.

In summary, I guess I would say that innovation does not equate to intellectual property, and therefore greater focus on preserving and promoting true innovation in the marketplace is warranted. Further, there are numerous ways in which the use and assertion of intellectual property rights can be a pretext that chills competition and extends monopoly power.

Thank you.

(Applause.)

MR. HILLEBOE: Thank you very much, Michael, for that, and I think we will take about a ten-minute break now.

(Whereupon, there was a recess in the proceedings.)

MR. HILLEBOE: Thank you, everyone. William Page is a Marshall M. Criser eminent scholar at the University of Florida Levin College of Law and he is also an alumnus of the Antitrust Division, where he served as a trial attorney in the 1970s.

Bill?

MR. PAGE: Thank you. Rather than speak in generalities about Section 2 remedies in high-tech markets, I want to zero in on one highly technical and

seemingly obscure provision in the final judgments in the government's Microsoft case that has turned out to be the most difficult and the most problematic in its enforcement.

The provision requires Microsoft to license to software developers communications protocols that Microsoft uses in its Windows Client operating systems to interoperate with Microsoft server operating systems, either in corporate networks or over the Internet. Communications protocols are the rules for transmitting information between different devices.

So, in a computer network, the protocols allow a user of a client computer, for example, to store information on a network drive or send an email or display a web page, among many other things.

This sort of interoperation is relatively easy when the client computer's operating system and the server operating system share a common base in code. It's like they speak the same language, so they can interoperate easily.

Where the client computer, usually a Windows client, has to interoperate with servers from other vendors, then the problem with interoperability becomes much more difficult, but there are ways of solving them. There are recognized ways of solving them. Some involve

installing a client on Windows that would allow interoperation with the non-Windows server and applications running on it.

There are also standard protocols that are available and supported in Windows. This provision requires another way of assuring interoperation, that is requires Microsoft to disclose its proprietary protocols, to license them to software developers so that they can interoperate. The near-term goal would be for them to be able to write programs that will interoperate as well with Windows clients as applications running on Microsoft servers.

The long-term goal is to allow -- is to preserve in this network context the so-called middleware threat that was the focus of the government case. The middleware applications running on servers, the concern is, may eventually evolve into platforms that could rival the Windows desktop and thereby erode the application's barrier to entry. Essentially the theory of the government case.

In spite of its apparent obscurity, this provision has been given an unusual amount of importance by the District Court enforcing the Microsoft judgment. She's referred to it as the most forward looking provision in the final judgments and as necessary to

assure that the other provisions don't become prematurely obsolete. It's now being implemented by the two sets of plaintiffs in the Microsoft litigation, the Antitrust Division and the nine settling states, and also by the group of non-settling plaintiffs who were awarded essentially the same relief, but there are different enforcement mechanisms.

There's the technical committee that Renata referred to in the Antitrust Divisions's consent decree and there's a technical consultant to the non-settling states under their decree, but they're coordinating their enforcement efforts. Both of these judgments went into effect in 2002.

And the plaintiffs in both cases and Microsoft has been filing status reports every two months about the enforcement of both of the judgments, and I have studied these reports with the help of a research assistant, who was also a software developer and a management consultant, and so he has been sort of my technical consultant. He provided all of the technical expertise in this study, because I certainly claim none.

The enforcement of this provision, this one provision in these judgments has dominated these reports, particularly in recent years. It by far occupies most of the reports and certainly most of the

time of the technical committee. And I'll argue that this provision has not accomplished its purpose, and that we can draw some lessons from that experience.

So, I want to first describe what I take to be the principles of Section 2 remedies, I'll then suggest that most of the provisions in the Microsoft judgments adhere to these principles, but that this provision, the protocol licensing provision, departs from the principles and that is part of the reason why it has not been successful.

I'll describe briefly how it has been implemented and then in the end I'll try to draw some lessons. And incidentally, this is a very brief summary of a much longer article which I hope to post on SSRN shortly.

The goals of Section 2 remedies should be to restore competitive conditions that would have existed but for the illegal conduct. They should not be to try to restore or to create some sort of ideal competitive condition or to supervise market outcomes. I take the primary antitrust remedy to be deterrence, through fines and covered damages. If deterrence can be effective, if an optimal penalty can be imposed, that's always going to be preferable to having an administrative structure imposing remedies. It's simply the direct costs of

imposing those remedies will be -- will impose a greater cost than effective deterrence.

Assuming that some sort of injunctive relief is required, I would suggest that injunctions should be limited to preventing reoccurrence of proven anticompetitive behavior. The Sherman Act, unlike sector-specific regulation, I believe reflects the assumption that if specific impediments to competition are removed, then private contracting within the market will lead to the efficient outcome. And if that would not be the case, then that would argue that the market should be regulated.

Beyond that, I would suggest that injunctions are problematic. First, divestiture, at least in the case of a unitary company, should be a last resort, primarily appropriate to dissolve recent combinations. Regulatory decrees also, as many have observed, should be avoided. As the Supreme Court said in Trinko, they require antitrust courts to act as central planners, identify improper price policy and other terms of dealing in roles for which they are well suited.

Most of the Microsoft final judgment provisions reflect these principles. They do not require any form of divestiture, and most provisions respond more or less directly to the liability holdings in the case that were

affirmed by the D.C. Circuit in 2001, prohibiting retaliation against computer manufacturers for promoting rival software, requiring uniform licensing terms, giving computer manufacturers the flexibility to remove the visible means of access to Microsoft middleware products and so forth.

The protocol licensing provision does not respond directly to any illegal conduct. Server-based applications were mentioned in the findings of fact, only to exclude them from the market.

Interoperability in networks was not an issue in the case, and in fact developing and refusing to license incompatible proprietary software was not held illegal, in fact, it was specifically held to be legal, if nothing more than that were shown.

So, where did this come from? The idea for this provision actually arose, according to Ken Alletta's book on the Microsoft litigation, after the findings of fact had been issued. In other words, after the record was closed in the case. The feeling was that Microsoft essentially was not going to continue the conduct that was actually the subject of the litigation, the browser wars were over, Microsoft had already stopped the discriminatory pricing, it had gotten rid of the exclusive terms in its contracts, so we needed to be

more forward looking and what was forward was this network environment.

The fear was that in this -- you've got to, you know, as the computer market moved toward networks, both local corporate networks and the Internet, it was necessary to assure that Microsoft would not discriminate in allowing rivals to interoperate with the dominant Windows client.

And, so, various proposals for various interfaces by Microsoft were made. After the original judgment was reversed, of course the Antitrust Division reached an agreement with Microsoft on the consent decree and it included a version of this. The protocol licensing provision, which essentially we now have, in both that consent decree and in this -- the states' judgment.

Judge Kollar-Kotelly approved this provision, even though she recognized that the government was not strictly entitled to it, because it was not responsive to proven illegality, and she also recognized that there were these other ways in networks of achieving interoperability besides requiring Microsoft to license its proprietary protocols.

Nevertheless, she found that -- and here's the key language, it's closely connected to the theory of

liability in this case, and furthers efforts to prevent future monopolization.

So, under this program, Microsoft has developed the Microsoft communications protocol program, which is an extension of its Microsoft developers network, and under this program, it offers a license to these protocols, and technical documentation. In the initial response in August 2002, actually before the consent decree was approved, but nine months after it was originally agreed to by the parties, Microsoft produced 5,000 pages of technical information, documentation, on the protocols, which it reported with a product of the work of five technical writers working essentially full-time for nine months.

By July 2003, however, eight months after the entry of the final judgments, only four developers had licensed these protocols. And Judge Kollar-Kotelly told the parties in a status conference, this is reported in the report, that she was very, very concerned that nobody was taking these licenses. And both Microsoft and the government responded to this by various efforts to promote them. Microsoft took out ads, they evangelized these protocols, but with very little success. And finally the government conducted a survey of developers asking them why aren't you licensing this

material, and they gave a list of reasons, some of which focused on the license itself, said it was way too complicated, it was pages of technical terms, and they were too expensive, the technical documentation was insufficient, the royalty was too high, whatever. But some said, we just don't need them for our development efforts.

All of these, except that last one, were addressed over the next three years. The license term has been extended, the limitations in it have been relaxed, and simplified, the royalties have been reduced, many of the open standard protocols that Microsoft supports have been made available under the royalty free license. Microsoft has made its source code available to licensees.

Now, to become a licensee, you need to show you have a legitimate purpose. So, you can't go and ask to see the source code, but if you are a licensee and you can show that you have need for it, under the license, then they'll show it to you and they'll actually provide support to show you how to use it. It's also provided 500 hours of free premier technical support, it's provided a dedicated account manager, it's provided three-day, what they call plug fests, where you can bring your product and test it and Microsoft engineers

will work with you to try to make sure it interoperates well with Windows. It's created an interoperability lab, and I should mention, when we had the first plug fest, only two licensees signed up for it, no one has so far signed up for the interoperability lab.

So, over the years, what's most dramatic about these status reports is the accounts of how Microsoft and the technical committee have tried to improve the technical documentation of the protocols.

In July 2004, the technical committee and Microsoft agreed on a 40-page specification that the documentation was supposed to meet. And the technical committee undertook to develop what it calls prototype implementations of each protocol. There are about 100 and 120 protocols, and in order to assure that the documentation of them was sufficient, the technical committee has undertaken to try to actually write a little application using the protocol.

And, so, if they could do that, then that would show that the documentation, it could actually be put into effect by the developer. Where they run into problems, if they ran into problems, they treated that as an issue, and they reported that to Microsoft as a bug to be addressed, and depending on its importance, they gave them seven days or, you know, longer time

limits to respond to it.

And this was the approach for about a year, but by early 2006, the technical committee had reported to Microsoft about a thousand of these issues, and only about 300 of them -- 300 of them had been resolved, and in May, this is about a year ago, the plaintiffs reported to the judge that the project had reached what it called a watershed, and at that point, someone who I take to be a strong personality, Robert Muglia, who is the senior vice president of Microsoft and formerly was the head of server division, reviewed this program and said that this process of trying to respond to bugs one by one, as they're reported by the technical committee, was just not working, and that we would need to start from scratch and rewrite all of the technical documentation.

And, so, last summer, incidentally, it was at this point that the technical committee made contact with the European Commission's monitoring trustee, which is also administering an order to Microsoft to disclose protocols, and in connection with those communications had with Microsoft, agreed on a new overarching specification. This is now the third standard that will be used to judge the documentation.

And Microsoft was given a new set of milestones,

time tables, to complete the project. At this point, it was clear that the decrees were due to expire in the fall, and it was pretty clear that that was not going to be enough time to do all of this, and so that's when the parties agreed to extend the term of the judgment for up to five years.

Meanwhile, Microsoft has suspended royalty payments entirely for its licensees, until the documentation is deemed to be sufficient, and the technical committee has continued to develop these protocol implementations, and interestingly, Microsoft has also undertaken to do something similar, developing what they call test suites, which it's one of the practices of software developers when they're working on an application, they come up with suites of testing applications to see if they work, and Microsoft has undertaken sort of a parallel or duplicate testing mechanism.

And in this most recent status report, which was issued earlier this month, the plaintiffs reported that although they've had some questions about Microsoft -- apparently Microsoft discovered some new protocols that they hadn't identified before, they said that this new documentation is looking better, although significant additional work needed to be done.

So, Microsoft now has been -- remember the first project, it had a few technical writers working for a certain number of months to produce these 5,000 pages. They now have 313 employees working on this project. And the technical committee also has increased its staff to 40 engineers, and they now have offices both in Redmond, Washington and in Silicon Valley.

The bottom line, as of this month's status report, of the thousands of developers writing applications for servers, for server operators, to run on server operating systems, only 27 firms have taken the royalty-based license, and all but four of these, but for very specific purposes, like media streaming or data storage or security, the proxy firewall segment. So, and of those 27, only 14 are producing any products. And none of these products seems likely to have any potential as a platform.

So, what are the lessons from this experience? The original rationale for this project was to preserve the middleware threat to the Microsoft monopoly in the network environment. If so, at least so far, the project has not succeeded, because it's attracted very few licensees, despite these enormous efforts, and I think quite admirable, and impressive efforts on both sides.

What this suggests to me is that the primary reason why we're not seeing more licensees is that licensing Microsoft's proprietary protocols is generally not necessary for these firms to develop software applications to run on non-Microsoft servers. They can use the standard protocols that Microsoft supports in Windows, or they can develop their own windows client which then could run on the Windows client and communicate directly through Microsoft's application programming interfaces.

So, to boil it down, what I would say is that what this remedy does is to treat the Microsoft protocols as if they were an essential facility, except that they're not essential. There are other ways of accomplishing the same thing.

So, what I would take to be the two primary lessons are first, injunctive relief, particularly in high technology markets, should be limited to responding to a proven need, and the most important proven need is to -- is to interdict and remove anticompetitive practices, proven anticompetitive practices.

So, if Microsoft is proven to have engaged in practices that violate the antitrust laws, those should be enjoined. But as we've seen, the protocol licensing provision did not respond to a proven violation, and did

not even address technology -- and it addressed technologies that were not even the focus of the liability phase.

During the remedial proceedings, there was a record developed on network computing and there was evidence introduced of various so-called bad acts, as Judge Kollar-Kotelly characterized them, but she treated them as being essentially irrelevant, because they had not been shown to be anticompetitive, or at least if they were anticompetitive, they may have had pro-competitive justifications that had not been considered.

The second, under this heading of only responding to a proven need, I don't want to rule out the possibility that forward-looking or fencing in kinds of provisions may be necessary, but if they are, then I think there should be -- there should be a record built to support the need for them. And I think in this case, for example, we know that the government at one point actually surveyed software developers to see what their needs were in this area.

I'm not sure what was done during the negotiation of the consent decree, but perhaps more in that direction could have been done to find out precisely what was needed to ensure adequate

interoperation.

And also I would just add that the Court of Appeals in the 2001 decision cautioned that remedies should be proportional to the strength of the proof that Microsoft's illegal actions actually reduced competition, and that was why the Court of Appeals said that divestiture was probably not going to be an appropriate remedy, because as they put it, the harm to competition for Microsoft's actions, in other words, whether they had actually prevented Netscape's browser or Java from evolving into a rival platform, that was established by only -- as they put it -- by inference, in other words, there was no evidence that that actually would have happened. And where you have that relatively weak evidence of likely anticompetitive effect, then you need more evidence to support more Draconian remedies.

And divestiture is certainly that, but I also think regulatory relief is also a Draconian remedy, and that brings me to my second lesson, and that is to avoid regulatory decrees, especially in high technology markets. And this was recognized, Judge Kolar-Kotelly rejected one principle during the remedial proceedings, on the grounds that it would result in too regulatory of a decree.

Well, the protocol licensing has become highly

regulatory and direct government supervision of price and other terms of dealing and especially quality. Direct government supervision of quality that's being produced. And the device of the technical committee certainly has provided a high level of expertise, but in effect, what its created is a regulatory body, and I'm not sure that the structure of the technical committee and its relationship to the plaintiffs and the court establishes an effective regulatory agency.

So, just to conclude, if in the future cases have these characteristics, those should be treated as warning signs, and addressed in the -- in the relief. And with that I'll sit down.

(Applause.)

MR. HILLEBOE: Thank you, Bill. Marina Lao is a professor of law at Seton Hall Law School. She currently serves on the executive board of the section on antitrust law of the American Association of Law Schools, and she's an alumna of the Antitrust Division, where she was a trial attorney. She has published numerous articles on antitrust law and trade regulation, and somewhat surprisingly on this high-tech panel, she is the only speaker with slides.

Marina?

MS. LAO: I guess it's even more surprising

given that I am usually the least high-tech person on the panel. Thank you very much for inviting me and I'm happy to have the opportunity to participate in this hearing.

I agree with a number of the speakers who have gone before me who have said that remedies are often treated as an after thought. Unfortunately, that's not a very good idea, because success in proving liability often does not translate into success in remedying the anticompetitive situation, and so it's often best to work your vision of remedy into the case development much earlier on.

What I'm going to do, since I'm bringing up the rear, is to try not to overlap too much with what has been said; I'm going to focus on three main points in my comments and I will be skipping over some of the slides.

First, where network effects are substantial in the industry that's affected by Section 2 violation, I probably differ from Bill, in that I think that there's a need for broader rather than narrower remedies for some of the reasons that I'll talk about later.

Second, again, I guess on this issue I differ a bit from Bill as well. I'm going to talk about the importance of forward-looking remedies. I would call them affirmative remedies that reduce rivals' costs and

some of the problems in crafting them. I do agree that tayloring these remedies to the problem is a bit difficult.

And lastly, I'm going to discuss whether there's any value in bringing Section 2 enforcement action if there is no effective judicial remedy. My conclusion is that there is deterrent value to bringing an enforcement action, even if it is irremediable, so to speak.

Let me start with a few words about the ongoing debate among antitrust commentators on the application of antitrust in the dynamic high technology markets. The question that is often raised is: Do we need more rigorous antitrust enforcement or do we need a more hands-off approach? Those who say that less intervention is necessary generally argue that because there is rapid innovation, product cycles are short, and so dominance is fleeting. And there are continuous opportunities for fringe firms to overtake the incumbent. The Microsofts of the world will have to constantly innovate or they're going to be left in the dust.

And so for that reason, there's really not that much of a need for antitrust intervention in order for markets to remain robust. In fact, too much antitrust intervention could stifle innovation and competition.

While there's obviously some truth to that argument, I think the Microsoft case itself tells us that rapid technological change can cut the other way, especially when you have substantial network effects which tend to operate as significant barriers to entry. If these are substantial network barriers to entry, a clearly dominant firm can much more easily exclude even superior technologies, up to only a certain point, of course, if it can ensure that the rival technologies remain incompatible.

And, the dominant firm can also control research avenues, up to a certain point. What's more, even without any antitrust violations, there are natural benefits, that flow from network effects of those natural benefits, I think dominant firms can more easily use tying and other exclusionary strategies to preserve their dominance and to exclude competitors anticompetitively.

So, my conclusion is that antitrust intervention is not only not redundant, but there is perhaps an even stronger need for it when you have markets with strong network effects.

With respect to remedies, there's a similar ongoing debate among commentators. There are those who say that with fast moving technologies, you need milder

remedies, remedies that are less severe, because of several reasons. First, there is the self correcting market rationale, which postulates that the market is going to correct itself much faster than antitrust intervention can correct it. Second, advocates of mild remedies warn of the possibility of unintended consequences, that is where market conditions in the future are uncertain, one may not know what to prohibit and what not to prohibit, and so the remedies adopted today may not be sensible a few years hence.

And, so, they argue it is probably safer to adopt milder forms of remedy in order to lessen the risk of chilling innovation and competition from the dominant firm.

First of all, I happen to think that high-tech markets do not that easily, at least self correct, not if network externalities exist, because by definition, a self correcting market, requires innovation and new entry, but network effects raise entry barriers and reduce access to the network.

Obviously easy entry markets are not going to easily self correct.

As to the argument that uncertainty about future market conditions means that we should perhaps take a more hands-off approach and apply the mildest remedy

possible, I also do not completely agree with that. I think that if market conditions are uncertain, we have to exercise more care in defining the future boundaries of the relevant market, and in identifying the participants in this future market, and in crafting the remedy.

But we should not overlook the danger of doing too little too late, which carries its own risk as well. Another possible solution to the uncertain market condition problem is to have a continuing jurisdiction clause in the remedial order, which I know is not a common practice. With a continuing jurisdiction clause either party can go back to the court for modification if it turns out that the remedies agreed upon do not work because of changing market conditions.

As to the "potential chilling effects" argument, it's often said by advocates of milder remedies that compulsory licenses of IP rights and other affirmative remedies tend to chill innovation on the part of the dominant firm, that's basically one of the points Justice Scalia made in Trinko.

What is often lost in this discussion, though, is that competition and innovation from fringe firms are also very important, and if remedies for an antitrust violation are insufficient, innovation and competition

from fringe firms could be chilled. The AT&T divestiture experience is very instructive. Few would disagree that the structural remedy in the AT&T case unleashed innovation from smaller telecommunications firms on an unprecedented scale, which enhanced consumer welfare.

Another point that we should not lose sight of is that with high technology markets, it's extremely difficult to resuscitate a competitor, after the competitor has been crushed. The convergence of factors that produced a competitive challenge before it was anticompetitively excluded, may never re-appear, not in the same fashion, anyway.

The factors together call for a solution that is less hands-off.

They also lead me to conclude that narrowly focusing the remedy on the specific conduct found to be unlawful, will not return competition to the status quo; thus drafting or crafting forward-looking remedies is quite important.

Of course I do realize that forward-looking remedies have to be carefully tailored.

The problem one faces in crafting forward-looking remedies is that you have to understand the market. You've got to analyze the likely evolution

of the market, predict which way the market is headed, the innovations will likely emerge, what will be the next generation of innovations, and how these innovations might change the path of the market.

Unless you have a pretty good grip on these issues, it's very difficult to predict what remedial actions would work to break down entry barriers and facilitate competition, and what would not.

If we do not know what is going to work, then we risk adopting an injunction that constrains conduct that no longer needs to be constrained, but does not constrain conduct that needs to be constrained. Perhaps the prime example of this is the first Microsoft consent decree, which prohibited Microsoft from "per processor" licensing which it had engaged in. But by the time of the decree, Microsoft no longer needed to engage in that strategy, because its competitors in the operating systems market were already defunct and the prohibition accomplished nothing.

Another problem, I think, that is rather peculiar to high-tech markets is having to anticipate how dominant firms might circumvent the judicial constraints imposed and still achieve their anticompetitive ends, and then block these alternative paths in the in the decree as well. Fast-changing

markets tend to be pretty malleable, thus giving the dominant firm myriad ways to achieve its anticompetitive objective.

To understand how Microsoft or any dominant firm might sidestep an injunction and still achieve its end, we need to know what the possible alternative strategies are. But dominant firms generally have an information asymmetries advantage over the government that's quite natural.

That is, the government knows much less than the dominant firm about what the potential new innovations and the possible alternative strategies to achieving the anticompetitive objective are. So how can the government overcome the information asymmetries problem? I think the simplest solution is to just enlist the assistance of the dominant firm's competitors or potential competitors, who probably are in a much better position than any outsider, including government enforcers, to know about the industry, to know what remedies might work and what might not work, and what is the innovation trend, et cetera.

Oftentimes, when this is mentioned as a possible solution, you hear the argument that, well, then, the department or agency might be subject to capture. I think that simply relying on competitors to educate

government enforcers on the market is not equivalent to capture, and is also entirely consistent with the principle that we should protect competition and not competitors.

Let me turn, briefly, to the importance of implementing creative affirmative obligations. The problem with conduct remedies and I'm not discussing structural remedies at all, because it's been discussed in detail already is that generally speaking, if the dominant firm has already successfully excluded its competitor and potential competitors, simply stopping the conduct and preventing its recurrence is not going to be enough to restore competition. That is because stopping the exclusionary conduct will not unravel the dominant firm's accumulated market power.

Instead, what would be helpful would be to impose affirmative duties on the dominant firm. I call it lowering rivals' cost as opposed to raising rivals' cost. The Post-Chicago school has said that dominant firms can exclude competition anticompetitively by engaging in strategies that raise rivals' costs. For remedy purposes, we need to go a little bit beyond prohibiting acts that raise rivals' costs; we need to impose some obligation on the part of the dominant firm to reduce rivals' costs.

Some affirmative duties are pretty well established in antitrust jurisprudence, and are not very controversial.

One is compulsory licensing of IP rights, with or without royalty fees. The case that springs to mind involving forced licensing is the Xerox case brought by the FTC in 1975. The FTC in that case imposed a compulsory licensing obligation on Xerox. In Microsoft, as Bill just mentioned, there was also a compulsory disclosure of information component in the decree as well Microsoft was required to disclose its APIs and also its communications protocol.

Another typical affirmative duty is the obligation to sell to all customers on a non-discriminatory basis, and that was part of the order in the Ninth Circuit Kodak case.

The third example that I have listed on the slide is also not terribly controversial, and that is unbundling. For example, in United Shoe, the defendant was required to unbundle its machinery and its repair service.

The fourth category is probably the most controversial, and that is requiring the defendant to create products to comply with industry standards and not just with its own proprietary standard. This is the

remedy that the State of Massachusetts asked the court to impose in Microsoft, in the case that Massachusetts continued to pursue after Microsoft settled with the DOJ. Incidentally, the District Court did not grant that request.

I was going to talk about the Korean Microsoft case, which I found very interesting, but I don't think I will have time for that, so let me just end with two points. I have alluded to the first point earlier, and that is the usefulness of a continuing jurisdiction clause in a remedial order. Perhaps those of you who are still in government can enlighten me as to why the government does not seem to want to include these jurisdiction clauses in their remedies anymore, back in the 1950s and 1960s.

Having a continuing jurisdiction clause is helpful in a dynamic high technology market because it allows the court to assess the success of the remedy, and to assess future development. The purpose of assessment is not so much to ensure that strict compliance with the decree itself is occurring, although that is very important too, but to ensure that there's movement toward the ultimate objective set by the court. I think Professor Hovenkamp in one of his articles suggested that perhaps a continuing jurisdiction clause

would be very, very helpful, because it would allow the court to look at whether the decree has been successful or not. I think of success as not simply whether the defendant has complied with the specific terms of the decree, although that is obviously a part of it, but whether the decree is doing anything at all to make the market more competitive.

One final note, and that is I think there is value to Section 2 enforcement even if no effective judicially-imposed remedy is available, on two conditions: if there is really an egregious violation of the antitrust laws, and if there is substantial harm to consumer welfare. The reason enforcement is important even if the violation is judicially irremediable is that I think the defendants would moderate their behavior somewhat, simply because litigation has been brought. And they may even voluntarily discontinue some of the challenged practices.

I think it is commonly acknowledged and commonly known that Microsoft relaxed enforcement of its exclusive dealing contracts with the OEMs during the process of the litigation. And, as far as I can tell, Microsoft does not seem to be using against the type of tactics that it had engaged in against Netscape and

Java.

I am not a very tech savvy person, but it would seem to me that there must be strategies similar to the kinds that Microsoft had employed against Netscape and Java, and yet they have not engaged in them against Google. Of course we will never know how much of their reticence is the result of the deterrent effect of the government's enforcement action.

Finally, for public policy reasons the government should not just step back and say, well, there is no effective remedy, so what's the point of bringing a lawsuit? If consumer harm is substantial, and if the act is egregious, I think it is bad policy to take no action because it sends a wrong signal. Taking enforcement action can deter the Microsofts of the world. Who knows, it might deter Google at some point.

With that, I hope I haven't repeated too much of what has been said.

(Applause.)

MR. HILLEBOE: Thanks, Marina. This is the portion of the hearing where we allow each of the speakers to comment with what they've heard before, and I'll start with Howard, please.

MR. SHELANSKI: Well, I thought a number of the presentations raised provocative, extremely provocative

issues.

Let me start with Michael Cunningham's comments about the problems that companies like Red Hat still face, even in the wake of the decree.

I found his comments extremely interesting, because they suggested both at the same time a need to be very aggressive against anticompetitive behavior, because it has lasting effects, but also to raise real questions about what can be done about those effects, and if one were to translate that into a recommendation about remedies, it would be hard to know -- it would be hard to know exactly what the result is.

On one hand, it might be taken to suggest that we need very aggressive kinds of remedies of the kinds that Professor Lao just suggested, with continuing supervision, and more creative solutions to lowering rivals' costs.

On the other hand, I think that Bill Page raised very good reservations that I share about pursuing that kind of aggressive oversight.

So, where I come out from Michael's comments is to say that we do need to pursue these cases. We need to pursue these cases to understand what kind of conduct is likely to lead down the road to problems that are very hard to uproot. And in concert, I think, with what

Professor Lao just suggested, even if we're not sure that the remedy will work, pursue the case so that next time around, we can uproot the conduct earlier and have a remedy that will be effective, but I think, Michael, you pointed to some really very difficult challenges.

With regard to Renata Hesse's comments, I think I shared very, very much your point of view. I think you were a little bit more cautious about the likelihood of success of injunctive remedies, I thought you raised some very good points there, but I continue to think that particularly in the high-tech sector, injunctive remedies will take the form of a negative prohibition of thou shalt not are likely to be the most fruitful remedial avenue overall.

Professor Page, I found that story fascinating, but I think the detail was extremely instructive, and very helpful. And I guess on one hand, I might be inclined to say, well, does that mean we shouldn't go deep into these kinds of continuing remedies; on the other hand, I might say, well, maybe this is very costly to Microsoft, with little benefit to competitors, but maybe costly to Microsoft in and of itself, isn't so bad.

But maybe costly to Microsoft in and of itself isn't so bad. Maybe it's a very back-handed form of

disgorgement remedy through the front door.

I say that partly tongue in cheek, because I don't know that they really notice that kind of spare change over there.

(Laughter.)

MR. SHELANSKI: No, but it does raise some very serious questions about how even the most carefully wrought and technologically sophisticated attempt at an affirmative remedy can be very difficult, and that's a lesson that I take very much to heart. So, I've learned a lot from all of you. Thanks, very interesting.

MR. HILLEBOE: Thank you very much, Howard.

Renata?

MS. HESSE: Sure. I think -- I don't think the mic' is on. I think the thing that I took away from everyone's comments was very similar to what Howard just said, was that there seems to be a sort of inherent conflict between these two views of both the difficulty and in some cases I think impossibility of imposing remedies in technology markets, and yet at the same time the view that we really need to keep trying, even though we're not likely to be successful.

And I haven't come up with a good way of bringing those two points of view together, other than to say that I think, you know, courts, and not in the

antitrust context, but in lots of other contexts, have over the years dealt with a lot of very difficult issues, which people, I think, over time, have thought, well, you know, how could a court ever figure out how to -- I'll use, you know, prison conditions litigation, which I think I talked about before, you know, school desegregation is another one.

Difficult problems that are not within the core competency of either courts or lawyers, and everybody, I think, has thought that a social benefit derives from intervention in those areas, and at least an attempt to try to solve them in some way.

And I don't really see technology markets as being different in any -- I mean, they're obviously different in terms of the substance that they deal with, but not different in terms of the importance of the issues that you're dealing with, in terms of the importance of markets to both not just America's economy, but the world economy, and to the every day consumer. I mean, these products and services are things that we all use on a daily basis, and spending time thinking about, A, whether or not the law is being violated in those areas, and B, if it is being violated, how can you do the very best job you can to try and solve the problem seems to me to be a worth while

expenditure of not only government time, but also in some cases in private litigation time, too.

Keep at it, I guess, is my final conclusion.

MR. HILLEBOE: Michael, and also I would ask you to address your points of the speed and cost of antitrust litigation are duly noted. If you have any profound suggestions with respect to those or practical suggestions or any other type of suggestions.

MR. ELIASBERG: Or those quick and speedy cases, I was very interested in that.

MR. CUNNINGHAM: Right, profound thoughts probably won't be forthcoming, but I will try and offer a couple. I take a pretty simple approach as a business person. I have a difficult problem, I keep working on it and keep attacking it until I come up with a solution.

I think, you know, serious examination of the effects of the Microsoft remedies is worth while, but there is assuredly deterrent value. One part of the advice that I tell my client, which I didn't mention before, is that I believe it assuredly moderates behavior for us to have any participation and then for the case to be brought at all.

Indeed, in the area of some of the protocols that have been licensed that Bill referred to, I deeply

wonder whether Microsoft would have reached out to Red Hat and requested our assistance and consultation in producing a very, very simple protocol license that's one page, we'll never know the cause/effect of both the EU action and the U.S. action, but there's reason to think that some of that may moderate behavior.

I think in the case of Bill's examination, also, I would just comment that continuing to look at those facts are important. For example, Bill pointed out that there are other ways to interoperate. Other ways to interoperate that are fundamentally disadvantaged is not interoperation. It doesn't work.

The IT community, you know, competes on the speed, efficiency, and look and feel of interoperation. So, simply concluding that there may be other protocols out there that may have issued since the decree, at least some of them, may not be complete examination. I should point out, Bill was kind enough to provide me a draft of his entire paper, which I didn't have a chance to look at before, so if it's addressed in the paper, my apologies.

I think that, you know, these are terribly hard problems to work on, and I just don't see where, without learning and gaining experience in how to better address conduct remedies, we're able to make effective inroads

into some of these fast-moving markets.

MR. HILLEBOE: Bill?

MR. PAGE: I just have a few kind of stray comments. I was struck by Renata's point about focusing on a remedy early, and I agree that that is really critical, and I would suggest that particularly in a case that ends in a consent decree, before litigation, it's absolutely essential.

What I -- part of the problem I saw in the Microsoft remedial issue was that the case lasted so long that it was a moving target to think about the remedy, you know, that at -- that by the time the case was over, the remedy that people wanted was different from the one they would have predicted early in the litigation.

So, you know, particularly for cases that last longer than just a couple of years, it's particularly difficult to be sure the remedy from the outset and be building a factual basis for it.

I think the point about avoiding mandatory kinds of remedies as opposed to prohibitory remedies is a valid one. I would just caution, though, that in the Microsoft case, there was another mandatory remedy to reveal the APIs that Microsoft uses to interact with its middleware, between the Windows operating system and its

middleware, and that one seems not to have caused that many problems. And I suspect that the reason for that is that Microsoft's whole business is marketing APIs, and documenting APIs. If they couldn't do that, they wouldn't be in business.

So, that was a much more straightforward problem than marketing protocols, their own proprietary protocols, and I think that's, you know, perhaps that explains some of the difficulties that have been found in documenting that.

So, not all mandatory types of relief will necessarily be as problematic as this one. On the issue of the technical committee, I want to combine this with the idea that the courts should retain jurisdiction, and periodically review the experience in enforcement. The technical committee I think is one institutional concern that I have about the technical committee, certainly they are quite expert. I know nothing about them individually, but certainly no one would challenge their technical capacity, but they were given a single task, and that was to assure that the documentation is first rate, flawless. And, you know, as Howard pointed out, who cares how much Microsoft pays, to do that, and so it's a very expensive process to meet that kind of standard.

On the other hand, I think at some point, the court should come back and ask the question, is this accomplishing as much as we could accomplish in other ways? In other words, the economic question is always compared to what? And particularly if we can preemptively think about these issues before they come up, but also, if we can think about them down the road, perhaps as an opportunity for mid-course corrections that could reduce costs and perhaps benefit the market better.

Just finally, on the issue of whether high technology markets require or it's more appropriate to use remedies in them because of network effects, I would only caution that the literature on network effects doesn't exactly say that competition doesn't work in these markets. It doesn't necessarily say that network effects are bad, I mean, when you think about it, network effects are simply economies of scale on the demand side. In other words, they benefit consumers, and so the concern that they are simply a barrier to entry I think somewhat overstates the case.

Markets converge on a single standard for reasons that are actually beneficial to consumers. It doesn't necessarily follow, then, that government intervention is necessary, and I would add to that the

issue of compatibility is also not so simple, because markets characterized by network effects can sometimes compete very effectively with totally incompatible systems, as we observed in the video game console market where, you know, it's a constant leapfrog competition of totally incompatible systems of hardware and software. And that is a very effective model for competition.

So, it doesn't necessarily follow that we should be promoting interoperability in all circumstances.

MR. HILLEBOE: Marina?

MS. LAO: I actually only have a few comments. I think the presentations today highlight the difficulties involved. For instance, Bill's presentation focused on the problems that I had tried to shy away from, and that is there are major difficulties in using and implementing forward-looking remedies.

And Michael's points, I think, drive home the need, for more active government intervention, because I think private Section 2 cases are extremely difficult to prove, especially since proving anticompetitive effects now often requires economic proof. When the violation involves technology that hasn't fully emerged yet, it's very difficult to show that there is actual anticompetitive effect. I pretty much agree with most of what Renata and Howard said.

MR. HILLEBOE: Okay, thank you.

Bill, just as a point of clarification, I think you had indicated that Microsoft was licensing its source code. Just to clarify that, I think you probably mean it's licensing portions of its source code that are associated with interoperability issues. Is that correct?

MR. PAGE: It's allowing licensees of the protocols access to the source code in order to help them use the protocols.

MR. HILLEBOE: Right, but not the crown jewels, so to speak?

MR. PAGE: No, they're not saying here's our source code, you can use it, you know, for whatever purpose, it's purely to assure -- there were some of the licensees, or prospective licensee who said that they really needed access to the source code, more than they needed the specification of the protocols. And I'm not enough of a geek to know why that would be, but this is in response to that.

And interestingly, that is an important concession, I would say, on Microsoft's part, because that was one of the proposed remedial provisions that the non-settling states wanted to have added to the final judgment was to require Microsoft to disclose its

source code for these purposes, and the court refused to order that.

And, so, in this limited sort of disclosure, I think is an important concession.

MR. HILLEBOE: And several folks have talked about technical committees, and I wanted to direct a question to Renata about that, since she's had a lot of experience with that. I was wondering, Renata, if you can offer us some insights with respect to setting up the technical committees, given that in a conduct remedy, when you're talking about high-tech markets, and given the lack of expertise of lawyers and the fact that we're not engineers, and it seems almost inevitable that you're going to have a technical committee, were there things that you may have changed from the way you did it? Also, are there any differences in the European monitoring trustee? Is that a different situation? And also your thoughts about having all the parties involved in terms of determining who the trustee or the committee should be, including the defendant?

MS. HESSE: I'm looking back at Patty Brink, who spent a lot of time with me trying to figure out how to construct the technical committee, and truthfully, it was in terms of the formation of the company, it was like starting a new business. So, we had to work

through all sorts of issues that you wouldn't ever anticipate, and we certainly didn't anticipate when we thought about the provision, including how do you set up a company so that it doesn't have tax liability, how do you hire employees, how are they paid, all of these things that none of us really knew how to do, and we spent a lot of time consulting with various people to figure that out.

The more important pieces of it, though, I think really had to do with the selection of the technical committee members, and if you look at the comments and the response to the comments to the consent decree, there were a number of people who said, whoa, you know, Microsoft gets to pick and gets a role in picking at least one, so the DOJ and the states picked one, Microsoft picked one, and those two people picked the third, and, you know, that's just, you know, they're going to put one of their own people on there, and what good is that really going to do.

And I think the interesting thing that happened was that we really did find three people who were not just technical experts, but also had been business people, so people who had started technical companies, and who really knew how to -- not only run the business that they had to run, but also what the business reality

of the various technical issues that they were advising on.

And as it turned out, they really formed a whole, and they worked a lot with Craig Hunt, who is the nonsettling states group, who is sitting out in the audience, also. And they have, you know, coalesced as an entity unto themselves and the Microsoft appointee plays no different role in -- the Microsoft selected person plays no different role than any of the other members. And I think that has been really a tremendous success.

I think the things that one would go back and look at again are the provisions in section 4 of the final judgment, which is the technical committee one, that relate to what the technical committee can say publicly and do publicly. And this is always -- and that's a big difference between the monitor trustee in Europe, and the technical committee in the U.S.

In the U.S., the technical committee is not allowed to make public statements without prior approval of anybody, and their work product can't go directly to the court. In terms of a compliance or enforcement effort. And I think there were good, reasonable reasons to do that, and I think in the end that's probably the right way to do it, but in Europe, that's not how

they've done it. And so their monitoring trustee actually will testify at hearings about whether or not Microsoft is in compliance with the final judgment.

And those are two very different roles, and I think it's important to think about when you're constructing something like this, which of those two roles you want the person to play. I think having them play both roles is pretty dicy.

MR. HILLEBOE: And I know Bill from his comments expressed some skepticism about having a technical committee and having another regulatory body. I was wondering what the other speakers thought about having a technical committee, and if they don't like that idea, if they have some suggested alternatives to that.

Howard, do you have any thoughts about that?

MR. SHELANSKI: I mean, I think technical committees for the reasons that Bill outlined are likely to be extremely tricky, and so the only thing I have to add is probably what others have said.

I think a technical committee should be reserved for circumstances in which we have a pretty clear idea of what needs to be accomplished, a pretty clear idea of the market demand for that outcome.

MR. HILLEBOE: Michael, do you have some thoughts about that?

MR. CUNNINGHAM: Yeah, I personally think that at least if there's going to be a conduct remedy, not having a technical committee would be a fatal flaw. The technology is simply too complex, too subtle and too fast moving to not have, you know, that advice.

But turning back to some of Bill's observations, the fact that the technical committee had a thousand comments when they sought to implement the protocols, might suggest a massive failure to comply. And, you know, the fact that the technical committee ran into difficulties, maybe because it's difficult, which is partly true, may be difficult because people were not trying to comply in good faith. I don't know.

MR. HILLEBOE: And Bill, did you have some alternatives to having this regulatory body?

MR. PAGE: Just on this one last point, before I answer that, most of the status reports do indicate that the technical committee, or the plaintiffs, were not really questioning Microsoft's effort. I mean, there are occasionally comments where they're disturbed by this or they're disturbed by that, but in general, the tone is one of this is a huge job, and we're having problems accomplishing it and we're both trying in good faith to do it. That's in general what I thought from these reports.

And I should just say that the reports are pitched at a certain level so that there's only so much understanding you can get from them. And maybe if they were any more technical, I wouldn't understand them at all, but I'm a little bit like a denizen of Plato's caves seeing the reflections of reality on the wall and the reality is really outside of the cave and I can't really tell for sure everything that's going on.

But to some degree, that is the position of the court, and as Renata said, the technical committee is sealed off from the court, which means that its observations need to be mediated by the lawyers, who I suspect probably don't understand the technical issues much better than I do, and I think that's a problem.

I mean, we have this technical body that does understand the issues from a technical point of view, but their antitrust significance has to be mediated by people who essentially don't. And I think that's a -- that's a difficulty that perhaps wouldn't be the case if we had a more conventional administrative agency where expertise were, you know, the problems of addressing expertise and using it in decision-making were more formally, you know, implemented.

MR. HILLEBOE: Marina, do you have any thoughts on this?

(No response.)

MR. HILLEBOE: Okay. You know, one of the outstanding features of these types of markets that we look for are the presence of network effects, and some people have discussed this, but I think it's important to cover this. Is there a consensus with respect to in markets where you have network effects, are those markets that tend toward monopoly or toward a winner-take-all or winner-take-most equilibrium, or some people have suggested that, or is that overly simplistic or is that a capricious argument. What are your thoughts on that, Howard?

MR. SHELANSKI: Well, first let me say that I think that the markets that are truly likely to tip to monopoly are few. I think it's a fairly circumstance where a network market will precipitously tip to monopoly, but it can happen.

Not all cases where network market tips to monopoly yield bad outcomes. First of all, those monopolies can be unstable. There's a fair amount of research that actually shows that network markets flip-flop more frequently under some conditions than is good for consumers. Because they're stuck with legacy technologies that don't migrate forward to the product of new innovator.

So, I think that just because something is a network market doesn't mean that we need to worry about some kind of tragedy of tipping. But it -- it can happen. And then where it does happen, I think that the remedial problem is really a challenging one. The structural remedy can break up network effects, interoperability remedies can lead to the need for behavioral oversight, but also, we want to be careful, I think one of the commentators, it might have been Bill, pointed out, we don't necessarily want to mandate interoperability, even when recommending a network market, because new standards come into the market that could improve things for people and you don't want to eliminate the incentive to try to create the new network standard.

So, I think network monopolies can arise, one should not presume that they are too easily going to tip to monopoly, even though their demand side of positive externalities. We've seen cases where multiple systems exist, and where they do exist, I think the remedy needs to be thought about very carefully. Structural remedies can be risky, interoperability is not always worth mandating.

So, in those markets, it would seem the simplest and baseline remedy would be if there is some kind of

conduct that is clearly putting impediments in the paths of an innovator, enjoin that conduct, whether you go farther and engage in structural relief or mandate to interoperability should be undertaken with extreme caution.

MR. HILLEBOE: Renata, did you want to comment?

MS. HESSE: I guess I think that the presence of network effects in a market does at least open up the door for the suggestion that the market may be more susceptible to a monopoly -- to monopoly power being exercised, or existing. I also think that network effects can benefit consumers in many ways. So, there's a hard balance there, because you don't -- you honestly don't want to do something that will then take away the benefit of the network effect that the consumer derives. But I think they tend to raise barriers to entry, whether or not those are long-standing and durable barriers is I think the really big question, and if they are, how you fix them.

MR. HILLEBOE: And Michael is somebody who is out in those markets every day. What's your view?

MR. CUNNINGHAM: I'm not sure I can provide a broad across the industry, certainly the network effects in the markets we participate in is a very, very profound -- has very profound effects on competition.

So, I also can recognize that there are consumer benefits to it and I agree with Howard's comments that it probably presents some special challenges in structuring a remedy and that certainly structural remedies could present some real issues.

MR. HILLEBOE: And Michael, precisely how do you think they affect competition if they present a barrier to entry? Is that essentially what you said?

MR. CUNNINGHAM: Yeah, they present a barrier to entry. I think they also, because they present a barrier to entry, they permit, you know, migration into adjacent markets.

MR. HILLEBOE: And Bill?

MR. PAGE: One of the observations that was made fairly early in the effort to integrate antitrust and network effects, and I think it was Mark Rome who stated it, one of the observations that had been made was that when you're in this period of standards competition, in between two incompatible standards and it's not entirely clear which is going to become the dominant standard, there's a huge incentive for firms to engage in practices that don't look rationale. Penetration pricing, giving stuff away for free, and so forth, and part of the difficulty is that if you look down that list of things that they have the incentive to do, a lot

of them look like antitrust violations. You know, it's just rational to engage in practices that can look like antitrust violations, and what they are is standards competition, they're exactly what the literature would predict as standards competition.

So, that is a serious dilemma for applying the antitrust laws in these markets. On the other hand, you know, one of the -- one of the supposed paradoxes in the Microsoft case was, you know, who cares who the Microsoft or Java, for example, wins, or Netscape/Java, or Netscape alone, because all you'll have is just the new monster. And who cares? You know, you'll just wind up with one firm dominating the market and you'll have a monopoly and so what.

And I think there's a very good answer to that, that actually came up in the oral argument in the Microsoft case, and that I take that the Court of Appeals accepted, because they didn't even discuss it in their opinion, and that is that you don't want a biased choice. In other words, it does matter who wins. You're going to have a monopolist, it does matter which is the monopolist, and the network effects, the literature would suggest, that in some circumstances, network effects can exclude even a product that's better setting aside the network advantage.

So, you know, I'm not sure exactly where to come down on it. Mark had a few suggestions, in his article that was in Connecticut, and I don't remember the name of it, but he had a few suggestions on how to, for example, distinguish conventional with the sort of the predicted penetration pricing from genuine predatory pricing and how that might be adapted to network markets.

MR. HILLEBOE: Marina, do you have any thoughts on that?

MS. LAO: I think it's true that network effects can be very efficient, and the example that I'm thinking of is not a high-tech one, but is real estate multi-listing. No one would say that the network effects there are not efficient, and agree that in remedies where network effects are efficient, we have to be very sure -- we have to be very careful not to take away the efficiencies.

So, for instance, in the real estate multi-listing situation, perhaps you could force the network to open itself up to competitors, but not try to introduce a competing network.

MR. HILLEBOE: And moving on to sort of --

MR. CUNNINGHAM: Just one final thought.

MR. HILLEBOE: Sure.

MR. CUNNINGHAM: Just on the idea of preserving innovation through standards competition, perhaps apropos my principal comments, innovation also occurs through open collaboration about open standards and there's ample evidence about that. So, I think it's a factor, but I don't think it's the only factor that needs to be considered in that circumstance.

MR. HILLEBOE: Moving on to kind of a nuts and bolts issue, Renata suggested that given the speed of change in these markets, that perhaps a shorter consent decree might be appropriate. Is that something that as an antitrust enforcement agency we should be thinking about?

Howard?

MR. SHELANSKI: Maybe I'm too optimistic about the ability to advise consent decrees, I should know better, I think I litigated waiver number 917 on the NIT decree, but I'm not sure that I would shorten the decree for the following reason, and I mean, I defer to you who implement these daily to know better, but it would seem to me that if it was easier to repeal and modify a decree than to re-authorize one or to negotiate a new one, I might put one in place for a longer period of time and back off if it becomes moot and then go in the other direction. That's an enforcement question I'm not

qualified to answer.

MR. ELIASBERG: If I could follow up on that one with Howard. Howard, there were allusions to some sort of a review process, in which the court or somehow or another would open up the decree, not to see to necessarily compliance with the decree, but with the effectiveness of the decree. How would you factor that into this whole question of term of decree?

MR. SHELANSKI: Well, I think it's a great idea, and I would favor a review provisions, or, you know, eventual sunset provisions in the absence of review. But review, you know, review is very difficult. You know, I'm not sure the second and third triennial reviews under the AT&T decree ever occurred, and so -- and then the question of, well, what gives cause, what gives cause to open them up, but having them there in a decree so that someone can go get a mandamus and seek relief.

MR. HILLEBOE: Do any other speakers have any thoughts about that?

Yes, Bill?

MR. PAGE: I think in principle, I like short decrees. On the other hand, it's a bit of a catch-22 when you're talking about the compulsory licensing provisions, because how do you market to firms the idea

of building on, say, Microsoft's proprietary base, if the license is going to expire in a few years? I mean, how -- that seems to be like a contradictory -- I mean, not that firms would ever necessarily want to be building on Microsoft's proprietary protocols, in many instances, they might choose not to do that even if they were thought to be perpetual licenses, but I would be concerned that at some point, the government is going to leave the picture and Microsoft is going to yank my protocols under the basis of my whole business.

So, you know, I guess it depends -- to my way of thinking, it would depend on the nature of the remedy. If it's a prohibitory remedy to remove specific impediments, that would make sense for that to just be a short-term one. But if there is a legitimate need for a forward-looking remedy, then I think, you know, five years is probably not enough, and certainly it hasn't been enough in the protocol licensing provision.

MR. SHELANSKI: Can I just follow up really quickly on that?

MR. HILLEBOE: Of course.

MR. SHELANSKI: I think Bill makes a good point, I think the nature of the conduct really in some sense has to derive what the length of the decree is. For example, suppose somebody gets a network monopoly by

penetration pricing, and now they get zero, and then they undertake some type of conduct later once they have their monopoly that prevents subsequent innovators by doing the same thing, by exclusive dealing or something else like that. I'm not sure that you want a short decree there, because it's quite clear that the conduct will always be harmful, and so I think tying it to the conduct, there might not be a systematic answer.

MR. ELIASBERG: Actually, if I can follow up with Renata, I think Renata you initially raised this point. What are your thoughts on how to determine if a shorter decree is appropriate, and also just how long that shorter decree ought to be.

MS. HESSE: That's asking me impossible questions. I actually agree with both Bill and Howard that what kind of conduct it is that you're talking about is going to be an important input into that determination. It's clear that the five years was not enough, for the section of the consent decree, or that at least both Microsoft and all the plaintiffs came to the conclusion that they needed more time.

So, and then there was a lot of work done, which I think if you, you know, scour the status reports, you'll see they're done to make sure that this problem that Bill talked about, which was why would I invest in

this to begin with if it's going to get yanked out from under me in the end, to see that the terms of the licenses were flexible enough so that hopefully people felt comfortable with that.

I think that the kinds of things to think about when you're trying to decide whether or not a shorter or longer decree makes sense have to do with both the way in which the market changes, how quickly you think the market is going to change, whether or not that matters for the ultimate success of the remedy, whether or not you think that there's a sort of simple one-shot solution to the problem, and that if somebody can -- if the particular conduct, if stopped for a period of time will result in new entry, or in a lowering of a barrier to entry that will be sufficient in a short period of time to overcome the prospect of the network effect.

I think in most technology markets, despite the fact that they move fast, this issue that Bill raised about there being an underpinning in the monopolist's technology that may be an important part of alleviating the anticompetitive or the harm from the anticompetitive conduct, would tend to suggest that shorter decrees actually are not warranted in most cases.

On the other hand, you know, I think both of the agencies have gone away from the idea of doing perpetual

decrees, ten years is generally the standard. So, you're talking about the difference between five and ten years, and it's hard to know precisely in what cases it makes sense to do one or the other I guess.

MR. HILLEBOE: I thought Howard made an interesting point, and it's something that we touched on yesterday, but we kind of had a truncated discussion on it, and that is I think there's a recognition frequently in a case you see perceived liability, but you recognize that it's going to be very difficult to come up with a remedy. And the question what is the value of proceeding and prosecuting that type of a case, and the possible goals might be for deterrence, as Howard suggested, or for establishing a precedent, or for making it easier to bring a subsequent case.

I know Howard's view on that, but what do the other speakers think about that? Renata, do you have any thoughts about that? Or do you want to punt that one?

MS. HESSE: How about this, why don't we start down there, so Marina can go first.

MR. HILLEBOE: Marina?

MS. LAO: I believe that we should proceed if the violation is egregious and if the consumer harm is substantial, but where it is not substantial, and where

the act is borderline, then if we don't have a clear remedy that is workable, then perhaps we should back off.

MR. HILLEBOE: So, sort of a sliding scale in your analysis?

MS. LAO: Sliding scale.

MR. HILLEBOE: Bill?

MR. PAGE: I would suggest that one remedy is collateral estoppel, and that, you know, there are plaintiffs who will not bring a case for the reasons that we've just heard, that because it's simply impossible to go up against the monopolist in litigation, for practical terms. Just because an injunctive remedy is not issued, does not necessarily mean that there is not a remedial benefit, because there can be follow-on litigation. I mean, the most recent estimate I saw of the damages or the settlement amounts in the Microsoft litigation was approaching nine billion dollars. Even for Microsoft, nine billion, that will get your attention.

So, I suspect that even establish -- and if the case were brought with an eye for collateral estoppel, I think there's every reason to bring a case.

MR. HILLEBOE: Michael?

MR. CUNNINGHAM: It's certainly consistent with

my visceral reaction and my advice to clients, to my client, that it has a deterrent effect for typically even more egregious behavior. I do think there are some potential evidences that the deterrent effect is real. I think in addition to the complaints that Howard laid out when dealing with complicated problems the experience of competition authorities in learning how to deal with them and getting more sophisticated in dealing with them is not a value that should be discarded value.

MS. HESSE: Actually, I think I said this earlier, I actually agree with the notion of the deterrent effect of taking action, even if you're not 100 percent sure that you can figure out a way to solve the problem perfectly, or even reasonably well, and I think there are a lot of people who would say, even people who will say both, that the Microsoft decree has been a failure, and has done nothing, and at the same time say that it was a case that was worth bringing.

So, and I tend to -- I'm not taking a position on whether it was a failure or not, but I agree that even if you assume it was a failure, that the case itself, both demonstrated that these were markets that the government was capable of dealing with, that they were capable of litigating against a huge company and winning, and that, you know, nobody was, you know, above

the law. And that's an important point to make.

MR. HILLEBOE: Bill, I just have a question for you. We talked yesterday about various goals in terms of antitrust remedies, and you spent a great deal of time talking about Microsoft. How would you characterize, what's your opinion of what the goal was for the government at the time they entered into that remedy based upon reading from Charles James articles or whatever, and do you think the goal was achieved?

MR. PAGE: You mean the consent decree?

MR. HILLEBOE: The 2002 consent.

MR. PAGE: Well, they're in a position where the Court of Appeals had really given them not too much choice. The thought of pursuing any type of structural relief was impossible at that stage. So, at that point, some sort of -- some sort of conduct was all that you were going to get, and I suspect that -- well, perhaps I'm not the best one to -- I'm certainly not going to sort of assume what the goals were, but as I said earlier, I think that by and large, the terms of the consent decree and the parallel relief in the states' remedy are closely tied to the theory of liability in the government case.

Now, certainly the grandest standard by which we would judge that would be does it restore the platform

threat? You know, does it create some sort of rival platform that would threaten Microsoft, and by that standard, you would have to say that it hasn't done that. On the other hand, I think there are other ways of evaluating the decree. I mean, one of the provisions of the decree is to make sure -- there's an internal -- there are two, actual, internal Microsoft compliance officers, and, you know, if you go back and listen to -- if you go back and read Judge Jackson's comments about Microsoft, it's almost he said they were like, you know, young punks or organized crime or, you know, defiant organization, criminal enterprise, whatever, and I don't think anyone -- well, I'm not sure that anyone would necessarily say that that's the case now.

I think at least, you know, there is a huge -- in fact, there is one of the status reports describes the Microsoft compliance program, I think they said something like -- well, they've conducted these antitrust compliance seminars worldwide, 15,000 employees have taken them, you know, all the executives are schooled in the requirements of the consent decree and the antitrust laws, it may all be window dressing, but I suspect that there is a difference in attitude at Microsoft because of this case.

MR. HILLEBOE: Any of the other speakers want to

comment on that?

MR. ELIASBERG: Yeah, a question I wanted to touch base, actually, and start with you, Renata, you indicated or suggested that there could be some disruption to structural relief, indeed, sometimes it can be cleaner and so forth. But we seem to have some language from the Court of Appeals suggesting that we should be extremely reluctant about thinking about structural relief and indeed it should be the last resort.

What thoughts do you have about just how advisable is it for us to be thinking about structural relief right out of the box with respect to such a matter?

MS. HESSE: I think I read the Court of Appeals' decision to be -- and this actually was something Bill was talking about, also, to be focusing on the question of causation and the importance of establishing causation if you're then going to go and impose a structural remedy. And that -- I think that is a very important question.

I think the Court of Appeals' attitude toward structural relief probably supports some of the things that I said, which is that imposing it occasionally in a Section 2 case or demonstrating that you're capable of

doing that may have a greater deterrent effect, and that people perceive that remedy, rightly or wrongly, to be a more Draconian one than a behavioral remedy.

But the question of causation, I think, is really an interesting one, because it does get to this question of how do you know what the competitive conditions of the marketplace would look like without the bad exclusionary conduct? And nobody knows, really. Nobody knows whether another platform effect would have emerged. And so I think it's hard to say looking at at least in the Microsoft context, looking at the marketplace today, whether or not the decree has been a booming success or, you know, an abject failure, if -- because you really don't know what would have happened. And I think the record was -- had some information about it, but I don't think anybody really knew whether Netscape, in fact, was really a viable platform threat. We knew that Microsoft was worried about it and thought that it was.

So, I think I certainly wouldn't out of the box say, it's not worth even spending your time thinking about, because I think these cases are -- they're not only hard to put together and then try, but they're very difficult, and you should leave open all of your options in terms of thinking about how to resolve, how to remedy

a problem that you've seen and I think that, you know, a structural remedy would certainly be appropriate in the right cases.

MR. ELIASBERG: Howard, did you have something you wanted to add?

MR. SHELANSKI: Well, my tongue-in-cheek remark earlier about the cost to Microsoft aside, I don't believe any of us believe that the government should be in the business of just creating costs for firms. So, we need to be darn sure of the curative potential for -- I think for any remedy, and I think with a structural remedy, I read the Court of Appeals, too, of being as insisting on a tight causal link, and I would rephrase that slightly as a strong curative likelihood of success for the competitive harms.

And I think you want to be darn sure of that in a structural setting, because especially in a high-tech industry, I think the unintended consequences of structural relief could be many.

MR. ELIASBERG: Something I also wanted to just cover with the panelists, just to be sure we canvassed all the views, Marina floated the notion of I'll describe it as lowering rivals' costs as a strategy with respect to shaping -- creating -- formulating relief. I was curious if any other panelists had a reaction one

way or the other about the advisability or not of such imposition. You can either volunteer or I'll just go ahead and call on you.

MR. PAGE: Well, I would say that it's appropriate if it's in response to actions that anticompetitively raised rivals' costs. I don't know that because a violation has been found that all methods, and I don't want to characterize you saying this, but all methods of lowering rivals' costs have been appropriate.

So, again, lowering rivals' costs is certainly a legitimate goal, if the causal link to the anticompetitive conduct is established.

MS. LAO: I really see that as a conduit to promoting consumer welfare, and not to benefit competitors for the sake of benefitting the competitors.

MR. SHELANSKI: As a veteran of the unbundling wars in Telecom, I twitch a little bit when I hear lowering rivals' costs, and I think the one thing that would give me pause is I would say maybe, if the cost you're lowering is one that the defendant is being asked to lower through the remedy is a cost that the defendant created, and I think that that would be a tie that even before thinking about it I would want to see there, because otherwise, I think there's really great danger

for the agency to become an ongoing regulatory authority as opposed to someone recommending particular anticompetitive conduct.

MR. ELIASBERG: One more question.

MR. HILLEBOE: Sure.

MR. ELIASBERG: Actually, this one, Michael, is to you. In your presentation, you made a comment about situations where steps may be taken by an incumbent to change structure of its product so that it could not be transferability or used by a subsequent -- front by a rival or something of that nature. In a case like that, assuming for the moment that there was liability found, found for that alteration or change in the product design, what would be the type of relief you would think would be -- what would be the remedy that you would think would be the appropriate remedy in a situation like that?

MR. CUNNINGHAM: In our industry, I guess with a strong network effects, some interoperability remedy would seem to be the one that you would need. Yeah.

MR. ELIASBERG: Nothing else comes to mind?

MR. CUNNINGHAM: No.

MR. ELIASBERG: Anyone else have a rationale for that?

(No response.)

MR. HILLEBOE: Well, I note that it's close to 12:30. So, I just want to say on behalf of the FTC, and my colleagues at DOJ, I wanted to say thank you very much to these speakers, an excellent presentation, and I want to remind and thank everyone for coming and remind everyone that we have a final wrap-up in the coming weeks. Thank you.

(Applause.)

(Whereupon, at 12:28 p.m., the hearing was adjourned.)

C E R T I F I C A T I O N O F R E P O R T E R

DOCKET/FILE NUMBER: P062106
CASE TITLE: SECTION 2 HEARINGS
DATE: March 29, 2007

I HEREBY CERTIFY that the transcript contained herein is a full and accurate transcript of the notes taken by me at the hearing on the above cause before the FEDERAL TRADE COMMISSION to the best of my knowledge and belief.

DATED: 4/3/07

SALLY JO BOWLING

C E R T I F I C A T I O N O F P R O O F R E A D E R

I HEREBY CERTIFY that I proofread the transcript for accuracy in spelling, hyphenation, punctuation and format.

SARA J. VANCE