FEDERAL TRADE COMMISSION

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In the Public Hearing on;)
COMPETITION AND INTELLECTUAL)
PROPERTY LAW AND POLICY IN)
THE KNOWLEDGE-BASED ECONOMY.)
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Federal Trade Commission
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The above-entitled matter came on for hearing, pursuant to notice, at 9:42 a.m.

P R O C E E D I N G S

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MR. BARNETT: Good morning. My name is Michael Barnett. I'm a staff attorney here at the Federal Trade Commission. I would like to welcome you to this morning's hearings, "Business Perspectives on Patents, Hardware and Semiconductors."

This hearing represents the second of our business-related hearings dedicated to various high-tech hardware and semiconductor industries, as opposed to other industries more adequately described as software and Internet or biotech and pharma.

Joining me today are my colleagues from various government agencies and I would like to introduce Susan DeSanti, to my left, Deputy General Counsel for Policy Studies at the Federal Trade Commission.

Sue Majewski, an economist at the United States Department of Justice, is to my right. And then two down to my left is Robert Bahr, Senior Patent Attorney at the United States Patent and Trademark Office.

Gathered with us are representatives from various companies as well as academia to provide us with their insight and experience into patents, competition and innovation within their business or field and, hopefully, in turn, their industries in general.

In my opinion I think this is an impressive group of individuals who are distinguished in their fields and I'm anxious to hear their thoughts. With that, I think we should begin.

We will start by briefly introducing each panelist and following their introduction, they will provide a brief explanation of what their companies do, or their area of expertise, to provide us with some perspective into their industry.

Following these introductions, five of our participants have graciously offered to provide a brief presentation to introduce us to ideas and issues that they find particularly relevant and important to the issues at hand.

We will begin with three of these presentations followed by some discussion and a brief break. Following the break we will continue with two presentations followed by continued discussion.

To my far right is George Brunt. George Brunt is Senior Vice President, General Counsel and Secretary of Alcatel USA and is responsible for legal, business development, government relations, and intellectual property for North and South America.

George has also served as Vice President, General Counsel, and Secretary of DSC Communications Corporation,

before it was acquired by Alcatel. George.

MR. BRUNT: Thank you, Mike. It's a privilege to be here and to discuss patents and the convergence of intellectual property and competition.

Mike asked me to give just a little explanation of who Alcatel is. We are a global telecommunications company. We're headquartered in Paris, France with an Americas headquarters in Dallas, Texas.

We make all of the equipment that sits behind the jack in the wall where your telephone plugs in: the switchers, the routers, the cables, the fiber optics, all sorts of telecommunications equipment.

And I'll go into a little bit more detail about what Alcatel does and the commitment we have to innovation during the presentation.

MR. BARNETT: Great. Thank you, George. Next we have Dan McCurdy. Daniel McCurdy is the President and CEO of ThinkFire, a new company that we understand aims to help its clients obtain returns on their technology investments through intellectual property licensing.

Mr. McCurdy is the former President of Lucent Technologies' intellectual property business and he has worked for IBM and Siena Corporation as well.

At IBM, Mr. McCurdy was Vice President in charge of the company's market entry into the life sciences

information technology market. Dan.

MR. McCURDY: Thanks, Mike. I, too, am very pleased to be here today. It's a subject that I have spent probably the last 15 or 20 years in and about in the various companies that I have worked with.

I will make a couple of comments a little bit later with respect to some of the views on the subjects that this panel is addressing. I look forward to the interaction with the panel.

ThinkFire -- you put it about as succinctly as I can -- does exactly what you have said. We formed this company last summer to help leading innovative companies in the world in the licensing of their patents and know-how.

MR. BARNETT: Thanks, Dan. Next we have Harry Wolin. Harry Wolin is Vice President of Intellectual Property for Advanced Micro Devices, Incorporated.

Prior to joining AMD, Mr. Wolin was with Motorola for 12 years where he held a number of positions within its legal organization, primarily involving intellectual property law and culminating with his being Vice President and Director of Legal Affairs for Motorola's semiconductor product sector. Harry.

MR. WOLIN: Thank you for the introduction, Mike, as well as allowing me to participate in these hearings.

Of course the subject matter of these hearings are very interesting, especially being affiliated with AMD.

AMD is about a 33-year-old company and we participate in three businesses. We have got a flash memory business. We have a new business we're just trying to get off the ground, which is really embedded microprocessors for wireless-type devices. And then our flagship business is participating in X86 microprocessors for the personal computer and server markets as well as other chips that are needed for those types of platforms.

We are a company that had $4.6 billion in revenue in 2000 and $3.9 billion in revenue in 2001. Our big claim to fame there is we only shrunk at half the rate of the rest of the industry. I look forward to discussing these issues. Thank you.

MR. BARNETT: Very good. Thanks, Harry. Next, to my far left, is Rosemarie Ziedonis. Rosemarie Ziedonis is an Assistant Professor of Management at the Wharton School of the University of Pennsylvania.

Her research interests are in the area of intellectual property rights and corporate strategy in high-technology industries and she's currently working on assessing the impact of stronger intellectual property rights on firm strategy in the U.S. semiconductor industry and other research projects.

MS. ZIEDONIS: Thank you for letting me join the panel and I look forward to sharing some insights of some large scale empirical studies that I have been doing both on my own and also in collaboration with Bronwyn Hall out at Berkeley whom you heard from on the previous panel. So thank you for the opportunity.

MR. BARNETT: Thank you. Next we have Gary Zanfagna. Gary is the Associate General Counsel for antitrust at Honeywell International. Before joining Honeywell, Mr. Zanfagna was Assistant Director for Policy Planning here at the Federal Trade Commission in Washington, D.C.

At the Commission he was one of the principal authors of the FTC and DOJ "Antitrust Guidelines for Collaborations Among Competitors" and was instrumental in writing the FTC staff report titled, "Anticipating the 21st Century: Competition Policy in the New High-Tech Global Marketplace." Gary.

MR. ZANFAGNA: Thanks, Mike. I'd just like to thank you and thank Susan for the opportunity to be back. It's a pleasure to be here today, and I appreciate the opportunity to participate in the hearings on behalf of Honeywell.

I am Associate General Counsel for Antitrust at Honeywell. Honeywell is maybe a little broader than most

companies here. It's a $24 billion diversified corporation, a technology and manufacturing company. We serve customers worldwide.

We're involved in home building controls. We're involved in automotive products, specialty chemicals, fibers, plastics and electronic materials.

We do also participate in the semiconductor industry in certain discrete or specialized areas. In addition, I look forward to talking more about what we do and our view on competition and intellectual property. Thank you.

MR. BARNETT: Very good. Thanks, Gary. Finally, we have Richard Thurston. Dick Thurston is the Vice President and General Counsel of Taiwan Semiconductor Manufacturing Company Limited.

Before coming to TSMC he pursued an international intellectual property-oriented practice at Haynes and Boone in Dallas, Texas and at Texas Instruments. Richard.

MR. THURSTON: Thanks, Mike, for the introduction and especially for the invitation to come all the way from Taiwan to participate in this morning's hearing. It is a great honor and pleasure to be here because this topic is extremely important to me.

I have spent about 25 years working in this area

but also it's especially important for our company which takes great pride in being a major technology leader. I think it builds products for, I think, all the companies here at this table in one way or another.

And we are also here because the U.S. law and U.S. market is extremely important to us. Over 60 percent of our customer base are U.S. companies, largely a combination of fabless companies.

Over 175 fabless companies have been our customers as well as the IDMs, integrated device manufacturers, which we'll talk more about later. We also had a great year in 2000, about $6 billion in revenue.

It dropped of a little bit last year although we were fortunate to turn a profit every quarter. This year is looking to be a strong one for us and hopefully, if we don't get into too much litigation over patent issues, we'll turn a profit again. Thanks.

MR. BARNETT: Thanks, Dick. Now, we'll begin with a few presentations from our panelists, and we're going to start with Rosemarie Ziedonis, who's going to give us an idea of what she's found with her research on various industries.

MS. ZIEDONIS: As I said, it is a pleasure to have the opportunity to present some work today. Mike

was kind enough to call me and ask me to kick off this panel by perhaps setting the stage with establishing some general trends that have been going on in patenting. We hear a lot about the explosion in patenting. Well, how does that compare with R&D trends over the past two decades that a lot of us have been scratching our heads about?

Why is semiconductors different? And I'd like to spend a bit of time, after laying out these general trends, focusing on the interesting and also different roles of patents even within one industry like semiconductors.

And building on a comment that was previously made, the role of patents for manufacturing firms versus fabless firms, as I'll call them, these specialized design firms, can be quite different. And I think that it's important to keep that in mind. So I want us to think about that as we continue through my presentation.

Now, the insights from two recent studies include, as I said, work in collaboration with Bronwyn Hall that was published in the *Rand Journal* last year so I'm going to be summarizing some of the main findings from that study and also recent work that I thank the National Academies and the Step Board for commissioning me to really trace, for about a 30-year period, patterns

of patent litigation in semiconductors.

And here I'm mainly talking about dedicated U.S. semiconductor firms but obviously companies like TSMC and the like are on receiving or giving ends of that particular sample. So semiconductors is an interesting setting to think about this role of patents and what purpose does it serve in either stimulating innovation or not?

I want to point out two things. One is that the Yale survey, the Carnegie Mellon survey, has consistently pointed out that if you interview or survey R&D lab managers across industries, representatives from the semiconductor industry report that patents are among the least effective mechanisms to appropriate returns from R&D.

Instead, we're talking about lead time, secrecy, complex manufacturing capabilities. We have other ways of profiting from R&D and we don't rely solely or largely on patents.

This is a consistent finding from these surveys. The first one that was administered in the 1982-83 time period and the second one that was administered in 1994 after many of the pro-patent policies, as many of us call it, have taken place.

And despite that, you see that over a period of

the 1970s through -- and this drops off in '93 -- an explosion of patenting relative to R&D spending in the semiconductor industry.

So one of the main things that we should learn from this particular slide, what we've done here -- this is from the paper with Bronwyn -- is we tried to weight this explosion, this growth in patenting, by industrial R&D spending.

So the red line that you see that's a fairly flat line, slight decline from 1979 through -- the best way to end this is '93. Forget the drop-off. It's because of data issues.

But you see that overall, with U.S. manufacturing, that the patent growth hasn't been disproportionate relative to R&D spending. Part of that is because of an explosion and an increase in R&D spending in pharmaceuticals and the like that has certainly outpaced any growth in patenting during this period.

So the red line is really -- well, overall for U.S. manufacturers, patenting has grown but so has R&D spending. Now, if you look at the blue line, these are dedicated U.S. semiconductor firms and you'll see that around the mid-1980s we have a sharp increase in patenting per R&D dollar.

So if you think about any million dollars spent in R&D, more effort is generated, more resources, more time filing -- and these are applications that have been granted -- and obtaining U.S. patents. The black line, you'll notice, is computers. It follows a similar time trend but not at as high a level as what we see in semiconductors.

Now, our study ended around the 1995 period, and in case you think that this kind of aggressive patenting by semiconductor firms has gone away -- well, I can tell you, just for our sample of about 130-some U.S. semiconductor firms, including companies like AMD, excluding more diversified companies like a Honeywell or an IBM or Motorola -- just looking at the dedicated firms you'll see that from '95 to 2000 the number of U.S. patents awarded to these companies has continued to escalate. We do not have a slowing down of what has been an upward trend.

So what's driving this surge? That was the main question of a complicated study that I refer you to. Here I just want to highlight a few main points.

In the study with Bronwyn we focused on what might be the first obvious things you would look at. Well, maybe we've just gotten better at managing R&D labs so that we are just more productive for any dollar that

we're spending in R&D. We found little evidence that that was the case. We know that semiconductors has been an area where it has been fueled by technological opportunities and wireless communications and the Internet wave and a lot of other opportunities along the way.

We saw little evidence that that explanation was what was driving the surge and our main conclusion from the study was that these broader changes in the patent landscape in the United States have fundamentally affected the patent strategies in this industry.

There are two kinds of related and interrelated aspects that are complicated to tease apart. One is what we have referred to as this pro-patent strengthening of patent rights -- translated, this means higher probability of receiving large fines if you are found guilty of infringement, the shift in the evidentiary standards of invalidating patents, and a series of other reforms and policies set in place by the Federal Circuit Court.

The second one that I bulleted here is that perhaps that alone wouldn't have fueled all of this intensive patenting, but we also have something else going on, which is that it's fairly easy to get patents coming out of the patent office, at least this is my

understanding. This is not my area of practice.

But consistently in the interviews with folks in the industry I was like, "Well, you know, if we had to change one thing let's just make it a little bit harder to get all of these very trivial inventions coming out from the patent office." So those two things, I think, are going on.

There are very different strategic implications, however, for firms within the industry. Remember, I said at the beginning, two very different types of firms within, as we call it, the U.S. semiconductor industry. One, think of those that are operating $2.5 billion, $3 billion manufacturing facilities that integrate very complex technologies. Those are manufacturers. And then we'll think a few minutes about the different implications for design firms separately.

So these manufacturers, the ones that own these complex expensive facilities, their main reaction according to our results was that, "Boy, if you're strengthening the rights of patent owners, we're now concerned about being held up by those patent owners."

So we want to basically preempt litigation, preempt the use of external rights against us. We're going to patent so that we exclude others before being excluded ourselves -- a very defensive tone to the use of

patents. We're going to value owning these patents because we need them to trade, either in cross-license agreements or license agreements. And as someone trained more on the economic side, I started out this being a little suspicious and asking why would quantity matter?

I mean, surely the quality of the portfolios -- it's well, quality matters, but quantity matters too. So there is this notion of the quantity of the portfolio, size of the portfolio actually being of some economic value in these license exchanges.

And then finally, we see this showing up in improved internal management. This was not unusual in some fields, more unusual for the tier of companies that we were talking about in semiconductors. A lot more attention paid to how do we generate, harvest, patentable inventions internally. So is it the establishment of these advocacy committees, more attention to really identifying discovered inventions that would qualify for patents, and then, finally, supplementing that with annual goals and awards?

A very contrasting view, if we think about the perspective of specialized firms that lack manufacturing capabilities of their own, that contract out those with companies such as TSMC and rely critically on patents to raise capital, especially in the start-up phase.

Here, the reaction to this stronger patent regime was, that is fantastic. We rely on bulletproof -- we're not going to play the kind of get-as-many-patents-as-we-can game.

We want very strong, solid patent protection to raise venture capital, to stake out these proprietary rights -- not necessarily against incumbent firms but against other niche market rivals, and Ethernet cards, and input/output devices and the like -- and then an intentional strategy towards enforcing these rights. One of what, I thought, was a surprising finding in my work for the National Academies was that these specialized firms are enforcing their rights at a rate that looks remarkably like the specialized biotech firms.

So four out of every hundred patents that they own end up in court. That's actually a very, very high number relative to other industries and within the semiconductor industry.

However, one thing that I had noticed just from field interviews is that there was more attention towards this patenting defensively and beefing up of portfolios as the revenues increased and as the companies grew older. So, in summary, semiconductor firms do not rely solely on patents to capture the returns from knowledge assets. We know that from the surveys that Rick Levin

and others have set forth before us.

However, many companies operating in this area can't afford not to patent, but for very different reasons. For manufacturers these are strategic assets used in cross-licensing, used defensively, which we may want to think about from the policy perspective. For design firms, however, these are critical business assets in a way that, in my opinion, the patent system was really intended to operate.

Emerging issues or at least questions that I would like to pose that I'm still wrestling with and that I would pose to the panel, how long will this upsurge in patenting continue? This is a costly exercise. There is some indication that firms are turning more to defensive publications much like IBM used, the old technical bulletins and the like, but there is also this economic cost perhaps of doing that because of foregoing the leverage in negotiations.

The second point that, I think, is perhaps more closely related to antitrust issues is how exactly are firms navigating these thickets of patents that have been issued? And this gets, obviously, at the interface of innovation and then competition and cooperation on the other hand in terms of patent pools, cross-licensing agreements and the like. And then finally, the question

that is still not clear is whether, on net, the surge in patenting is truly good or bad news for innovation in this industry as we see it being challenged now with research tools and genomics and software which we'll be discussing later on this afternoon. Thank you.

MR. BARNETT: Thank you, Rosemarie. We're going to move on to another presentation. If I could get you to close -- there we go. We run a danger of the laptop crashing if each person doesn't close out their PowerPoint after they're done. I think at this point we're going to hear from George Brunt.

MR. BRUNT: It's a privilege again to be here today and to address these issues. I want to go a little bit more in depth into Alcatel and what Alcatel is. I know that it's not a household name yet in the United States but I think it's rapidly becoming one.

What we do is we do design. We do have some semiconductor activity but largely our activity is in telecommunications, which consists of semiconductors, computers and networks.

And we design, develop, build and market innovative networks and solutions for our telecommunications customers. Our goal is to enable any type of content to be delivered to any type of customer anywhere in the world.

Basically, our strengths are our global presence, complete portfolio of all the telecommunications equipment that you could want, and the ability to integrate this equipment into networks throughout the world.

This is a slide we don't often show the Justice Department but we are the number one service provider in infrastructure worldwide. We're number one in broadband access, number one in global optical transport.

In ATM we're number two worldwide, number one in contact centers worldwide. These are customer contact centers for companies who want to have a customer call-in center. We're number one in DWDM and SDH, worldwide, and a leader in intelligent networks. We're number four worldwide in satellites, and we're a leader in enterprise solutions.

And so we really do have quite a presence in the telecommunications industry worldwide. Our roots come from the same place that AT&T's and Lucent's roots come from. And in telecommunication we're basically what was the old International Telephone and Telegraph, or ITT.

So some facts and figures. Basically, we're around $24- $25 million in annual sales. We invested in the year 2001 11.3 percent of our revenues into research and development. So we're very committed to research and

development and to innovation. We have around 100,000 employees worldwide. We're in 130 countries and we have over 22,000 engineers.

You can see by this chart the different areas that our business is focused in. Carrier networking is 45 percent of our business. Space and components is 12 percent, and e-business is 14 percent, and optics is 29 percent.

Our customers run the gamut of anybody who is trying to establish a communications network whether their carrier is mobile operators, mobile phones, fixed line proprietors, data providers, voice providers -- and we have customers all over the world.

And most of the companies that make up Alcatel have been home grown in their home country. And that's true with the United States, too. The companies that are here, the Alcatel companies that are here, are companies that have grown up here.

Optics I use as an example, some of the innovation that we do and the breadth of what our innovation is addressing. Both network intelligence, which is becoming more and more important, network solutions, terrestrial systems, submarine systems. We also make the fiber cables and the optical components that go into the system.

We believe that this is an evolving system that the eventual answer will be a fully optical switching photonic, era, but there are some steps we have to go through to get there and we serve all of those levels, including ADSL and broadband, that are part of the migration path.

And there's a lot of innovation and there's a lot of development left to be done. One of the main things driving us today are our costs. And so we're trying to address our customers' issues by providing more for less. And these are the research and development centers that we have around the world.

So to get on to the topic that we're addressing here today, innovation is one of the core values of Alcatel. We have 6,000 patent families, 22,000 individual patents worldwide. They're in the various different areas that we have been discussing.

We also concentrate heavily on trade secrets. I think it's a good thing that the Department of Justice and the FTC is taking an interest in this because I think there's a lot of innovation yet to come.

We spend around $3 billion a year in innovation and if it weren't for patent protection and for trade secret protection of the intellectual property rights, we could never get investors to allow us to spend that much

of their hard-earned money on research and development.

Patents have proliferated over the years and I think one of the things that is of interest to this panel is what's causing the increase. And I think it's just because we're in the information age. There is a lot more information. We can more easily identify the problems that need to be addressed and there's more people working on the problems.

I think that this is the greatest stage of innovation and it's in front of us not behind us. Even though we have experienced great innovation in the last few years it will accelerate. And so, it's justified what we're doing here.

The founding fathers knew that great strides would be made in society if innovation and disclosure was encouraged and that's the purpose of the laws. Innovation had been protected by trade secret laws and that's old. We have cases going back to Roman times for inevitable disclosure when they would protect employers from their employees leaving with their ideas.

In order to coax companies to release these ideas and to allow them to be practiced in the public, the Constitution has granted some exclusive rights to inventions and innovations. And I believe it was divinely inspired in our Constitution and that's one of

the great things that has made the United States advance.

Patent uncertainty, we still have problems with it. The process, I think, is too slow. Far too many patents fail for lack of validity. And this is one of the things that's causing the cost of litigation and the waste that goes on in the process. We figured that to maintain a patent worldwide over a period of 20 years it costs about $200,000. Therefore, patents are assets that suck money out of the system unless there's a licensing program that brings the money back in.

And so that's one of the reasons why you see more patenting and more emphasis on licensing and on mining the value of your patent portfolio today. Litigation is also very expensive.

There are some new companies emerging with what I think is a shortsighted patent philosophy. These companies live to exploit innovation from companies that they acquire through marketing schemes and don't rely so much on IP.

But I think it's shortsighted because if innovation isn't protected, they're going to run out of companies with innovations to exploit. And this chart kind of shows you in a way some of what they call the New World companies or .com companies have a different view of IP. But I think that this is shortsighted because it

doesn't result in a reinvestment in research and development.

Trade secrets are also important. Particularly in times when patents can't be counted on to be enforceable companies hold onto their innovations by trade secrets. So common law trade secrets have been enforced throughout time. It's an important property right.

The very adoption of patent law to encourage disclosure recognizes the law of trade secrets. And it's in the laboratory where most innovation takes place.

We've had a hard time at Alcatel in keeping our innovations in our laboratories and patents have not been effective for us to protect those innovations because they walk out the door far before the patent is available to help us.

Patents don't become effective until issued. The patent issuance process takes a lot of time, and if a group of employees working on a specific project leave our lab and go out -- are funded by venture capitalists to start another company that's going to do the same thing that they were doing in our lab -- then we run into some severe problems.

We have to use trade secret laws to protect ourselves and patents are inadequate there. And it's

different in each state, so I would really encourage the adoption of a federal trade secret law because it's the precursor of patent law.

The other aspect that I think is very hard to realize is the value of patents, and the value of innovation to our society. It's hard to think in the billions and trillions. And that's what it costs to innovate and we need the protection that allows us to continue with this innovation.

Basically, I think that it's very important that we resolve the uncertainty in the patent and the trademark system and that we continue to uphold it because I think it's the basis of innovation in our society and responsible for the great advances that have been made in the last 150. Thank you, very much.

MR. BARNETT: Thank you, George. Next we're going to hear from Richard Thurston at TSMC.

MR. THURSTON: Good morning again. It's a real pleasure to be here and it shows what a small world this is. I traveled all the way from Taiwan to follow a fellow Texan, that I live in the same community in which he lives and have had a close working relationship with a lot of his executives over the years, before I moved out to Taiwan.

As you heard, I'm with TSMC, again, also not a

household name although most of the products that are in your household have contained products that were built by our company for our customers.

We are a young company, only 14 years old, having been established back in 1988 in Taiwan as the really first contract manufacturer in the semiconductor industry. We have grown to be the world's largest foundry in this business and take great pride in our technological accomplishments.

Today we are in full scale manufacturing of technologies at the .13 micron level which is a significant factor in the ability to have a lot of technologies at your home which you enjoy, which your kids enjoy, such as Xbox. Invidia is a major customer of ours and has been a major enabler of products such as that.

It's been also an interesting career for me because I had the honor of being at the dawn of creation, so to speak, when I joined TI in 1984 and was actively involved in a lot of the strategy that went into our licensing program, especially as concerns Asia. I was Asia-Pacific regional counsel at that time, lived in Tokyo from '87 through '90, and was actively involved in much of what we were doing out there.

At that point in time, as has probably been well

written and maybe my friend and former colleague, Fred Telecky, talked about it at the last hearing in California, that TI really entered upon the program out of necessity, out of survival.

We were really dying in many ways, lost competitive edge, not just because of the Japanese dumping but because of a lot of factors, but most importantly felt that we were not obtaining a fair return on our investment in the technology market and particularly when you look at the level of research and development that went into semiconductors at that time. And that has only exponentially increased today.

And, in fact, Rosemarie, the average price of building a 12-inch wafer fab, the most advanced, is in excess of $4 billion today. That's how much it costs for us. We're building two of those facilities right now. Intel, IBM are among the last of the generation that are building such facilities that are very important to the survival of the semiconductor industry. Our greatest fear is also what's looming on the horizon across the Taiwan Straits, and for many reasons, cheap manufacturing costs, but also still a lack of consideration given to intellectual property issues.

In fact, we have initiated some significant trade secret cases in Taiwan, and I agree with my colleague

George about the importance of trade secrets. And perhaps in many ways in the future I would encourage FTC and Justice to look more at that. And it may be a way also to eliminate some of the backlog at the patent office.

We are a process manufacturer. We do not do the design work of the semiconductor chips. We leave that to AMD and Honeywell and Alcatel and others. We build the manufacturing processes, and therefore, as in most process-oriented companies, the manufacturing trade secret value is fairly significant.

TSMC today has over 3,000 patent applications that have been filed in the U.S. Nearly 2,000 have been issued. Two thousand five hundred in Taiwan, and then maybe another 500 around the rest of the world -- I'll go into that next as to some of the rationale behind our programs and then hopefully save the rest for discussion.

I would add, Rosemarie, that I concur with most of your comments and would certainly be glad to expand on it from our position as a foundry. Also, we are fortunate to have unique insight into the fabless design companies as well as the IDMs themselves since most of them or many of them are our partners.

As we saw from George's presentation the founding fathers had a very specific view of what the patent

clause should look like. I have prepared a ten-page paper that I have given to Mike that will be published that goes into a little bit more of the founding fathers thoughts. I have done a lot of research in this area as well as a lot of the issues behind TSMC and our perspective on semiconductors and patents and intellectual property.

Needless to say, Jefferson, Madison, Pinckney and others were initially strongly opposed to providing any patent monopolies in the United States because they feared that it would limit innovation.

There is extensive discussion in their papers and also in the Federalist Papers, particularly 43, on the thinking behind finally accepting a patent clause. Looking at the objectives and goals that TSMC has, we have heard a number of those from George, but first and foremost is to manufacture securely and freely, not to be shut down.

We want to sustain competitive advantage. We want to enhance our global image, provide the customers value-added and leveraged access to third parties.

And we do a lot of joint development work which is also relevant to this topic and I can talk about that more in discussion.

Increasingly, and one of the reasons I was hired

is to try to help minimize patent infringement, liability damages cost, particularly that which involves lost management time that you have to face as you prepare for those, certainly, and when you get an infringement claim notice of doing the internal research and review and analysis.

Increasing shareholder value and increasing employee welfare -- much more through innovation, initially; today though, as we've heard, patents are driving for a number of reasons. When we file, we have a number of considerations, certainly patentability, as provided for under law.

We do competitive analyses of what our competitors are up to in this area. And again, this is largely driven from a defensive position rather than any offensive or revenue-generating. We want to know what potential claimants are doing that might come after us for infringement in the process area.

We consider our advance process technology roadmap, particularly as we have gone and we have developed our portfolio, especially focused on 1.18 micron and below. More patents today are going into the .10 micron area.

New manufacturing processes such as copper technology, titanium dioxide, et cetera, are

considerations; portfolio value, design around, as we know, are looked at and we looked at other intellectual property issues, trade secrets particularly; and finally, designing our patents, our claims and the way we prosecute in the patent office with litigation considerations in mind.

Our efforts have been intensifying. Only a 12-year-old company, having had issued nearly 2,000 patents in the United States is not a small accomplishment. We have been filing 400 to 500 a year. Our goal now is to file about 500 patents a year, again, largely for defensive purposes. Globalization also requires us to file more. Primarily, up to now it's been Taiwan and the U.S. However, China, as your heard, is a major factor in consideration; the EU and some in Japan.

Quantity versus quality. Quantity is a very real factor out in the industry for defensive purposes. Sometimes the ability to throw 20, 50 good patents against someone, that takes a tremendous time to research on prior art, invalidity, et cetera, does enable the scales to be a little bit better balanced, especially as you're playing a catch-up game in hard-court quality.

We look at trying to leverage our portfolio in connection with joint development products, research and development. You have probably seen where we announced

two weeks ago a major R&D program with Phillips and ST Microelectronics. Other factors, such as defensive position, litigation resource, et cetera, are taken in full consideration. I must have fallen asleep a little bit on the plane -- patent tolling is important, but here it was supposed to be patent trolling. A major concern we have is with respect to companies that are no longer in the manufacturing business that are coming after companies such as ourselves for significant royalties. And there's no way to defend against that. I spent a fair amount of time in my paper discussing the negative effect that has and the proliferation of litigation in that area.

A couple of individuals' names I won't mention here but everybody knows about in the field have been certainly significant. In one matter right now we entered into a license agreement with the "L" company and we're getting sued again because they didn't like the initial terms of the license agreement. This is a serious problem that we have to look at. I'm concerned about some of the issues that were not the intention of the founding fathers. And, of course, we have the issue of trying to stretch patents beyond the scope of the real invention which is again, in part, what I just referred to. And I also would strongly endorse trying to get more

resources into U.S. PTO although I'm not sure if it really will help in the total big picture.

I remember having a number of discussions with Bruce Lehman when I was at TI concerning the expropriation by Congress of patent filing of fees and so forth and we do not condone that. Thank you. I'll talk with you later.

MR. BARNETT: Thank you, Richard. With these ideas in mind I would like to begin our discussion portion of the hearing. Let me begin with some rules of the game.

If, during the course of the discussion you would like to contribute, just please stand your nameplate on end and then we'll call on you in turn.

I think at this point I would like to give maybe Dan McCurdy a chance to comment on some of the things that he's heard here. I know that he doesn't have an opening presentation prepared, but I'd like to hear from the people that haven't had presentations so far and just hear what their thoughts are on what they have heard so far and then we'll go from there. So why don't we start with Dan?

MR. McCURDY: Mike, it's true I don't have an opening presentation. I do have seven points that I would like to make that will take me about a minute and

30 seconds and then one question, at least for Rosemarie with respect to her presentation.

First, I believe as you have heard from others that the intellectual property system in the United States has served the country exceedingly well since its inception. It has shown amazing resilience to accommodate tremendous progress in science and the useful arts. The evolution of the system has been the key to that. Attempts at dramatic change such as the sui generis Chip Protection Act have proven distracting and unhelpful.

Second, the patent system has encouraged enormous investments in technology and life sciences, two industries with which I am familiar. Without the patent system, substantial investments would not occur -- George also made this point -- and technical progress would slow dramatically.

Third, in high-technology industries, unlike, for example, the pharmaceutical industry, patents can seldom be used successfully to exclude others. I think this is a very key point.

Few innovations are sufficiently fundamental to permit such exclusions. With time and money, most high-tech innovations can be avoided by engineering around them. They are more like speed bumps than

concrete barriers.

Nonetheless, these speed bumps can be expensive to build, so companies that are net innovators rather than net users of others innovations pay a toll in the form of royalties for their use of such innovations. This royalty enhances the ability of those who are significant inventors to continue the cycle of innovation. Our economy is the winner.

Fourth, patents can enhance the standards process, provided essential patents are used and standards are licensed under reasonable and non-discriminatory terms. Inhibiting the licensing of patents used in standards or requiring patents used in standards be licensed royalty-free would diminish investment in precisely the areas where investment should be encouraged.

Fifth, recent practices in patent creation and patent enforcement, such as the so-called submarine patents, damage the legitimacy of the patent system. Actions such as tailoring patent applications through continuations to place a potential licensee's products in direct infringement of the patent when it actually issues do nothing to promote innovation.

Sixth, next to last, arguments that the patent protection of computer software-related inventions has

harmed or is harming innovations in computer software are uncompelling.

The United States has long had the most effective protection for computer programs in the world. Under this regime our country has developed the most effective and impressive computer software industry in the world. Countries with weaker intellectual property systems in this area have failed to make such economic progress.

To date, I have found no empirical evidence, whatsoever, demonstrating damage to software innovation by the protections afforded all software developers. In fact, the evidence of industry leadership points in the opposite direction. Lacking clear and convincing evidence, tinkering with the system that has produced enormous economic benefits to the United States would be ill-advised.

Lastly, the licensing of intellectual property, particularly patents and know-how, is a significant catalyst to competition and that enhanced competition is a further catalyst to innovation.

With that, one question I have for Rosemarie, has the study looked at all at this upward trend of patent applications and patent issuance? Have you also looked at patents that are being dropped by companies at the same time, obviously, that they're being issued? The

burden, of course, being otherwise companies end up with tens or even hundreds of millions of dollars a year of maintenance fees, and what the impact of that has been on a net holding by an individual company of a portfolio?

MS. ZIEDONIS: To answer your question honestly, no. Those numbers are not corrected for applications that have been granted but then the maintenance fees are not paid.

That said, one, it can be done. It just hasn't -- we haven't merged that part with it. The other thing is that a funny empirical fact from studies that Mark Schankerman and Jenny Lanjouw have done some work in this area as well.

When they have looked at renewal rates across industries, semiconductors and electronics are actually renewing on a higher level than pharmaceuticals or other industries, suggesting that maybe some patents are being kept alive for reasons not directly tied to the short product life cycles that characterize the industry.

MR. McCURDY: The reason I asked the question is it is probably important data to know. It's also extremely difficult to get. You can search it out but it isn't something that in our attempts to find the data, and so all we have is anecdotal at best.

I know what we did at IBM. I know what we did at

Lucent, which is you look at IBM as an example for, what, the last eight or nine years it's been the number one producer or grantee of U.S. patents and yet the portfolio overall has not grown all that significantly, because as they granted patents they dropped patents. The idea being that they want to improve the quality of the portfolio not the quantity of it. It's an important correlation of fact. Whether it's pervasive, I don't know.

MS. ZIEDONIS: If I can make one clarifying comment. The trends that I presented, those upward trends, were simply the number of successful applications in a given year. Those were not cumulative numbers.

MR. McCURDY: Right. And so if you look at the overall size of the U.S. patent, of what I call active patents, and do a trend of that, it's also an important piece of empirical data to have, just to see if we know that.

MR. BARNETT: On that note, I think that one thing that we are interested in is the role that patents are playing in a company's fundamental innovation decisions. I might open this question up as to what that role is to the panel. I might start with Gary, just because I know that he mentioned that Honeywell is such a diversified company that that might provide some interesting

perspective on this.

MR. ZANFAGNA: Absolutely. Might it make sense for me to make my two-minute comment now as opposed to waiting?

MR. BARNETT: Sure. By all means. Go ahead.

MR. ZANFAGNA: Why don't I just do that.

MR. BARNETT: Sure.

MR. ZANFAGNA: Thank you, Mike. Again, it's a pleasure to be here. I'm here today as antitrust counsel for Honeywell and that's largely the perspective with which I approach this topic of the intersection between antitrust and intellectual property.

I did not prepare a PowerPoint presentation and as antitrust counsel you will not see any presentation from me stating, "Number one in everything we do." I can assure you that I take that out all the time, out of the presentations that my company puts together. So I'm proud to say that today, and I will keep my comments very brief today as well.

I said before we're a large diversified manufacturing and technology company. It's interesting to me to be here today because we really are in many ways quite different from the organizations that are here today, the companies that are here today. Also, we have some similarities.

As I said before, we do participate in the semiconductor industry. I think you might call them a specialty semiconductor area and I don't think I'm really here to talk about that today. It's a niche market and it really, I don't think, operates in the same way that other industries and other businesses here are going to talk about.

I wanted to spend a couple of minutes today and it might be a good opportunity to change the dialogue slightly to talk a little bit more about antitrust and intellectual property and how Honeywell and I, anyway, see that combination impact innovation.

Let me start with the following. As Honeywell folklore goes, our company was founded and built on a patent. In the late 19th-century, a gentleman by the name of Mr. Butz invented and patented what is no doubt famous to all of you, the flapper damper. It's a wonderful device that mechanically regulated the airflow in a home furnace and that permitted the coal fire to burn all night. And in Minneapolis, which is the headquarters, the former headquarters of Honeywell, it was absolutely critical at that time to keep the fire burning. Honeywell hasn't looked back since then and my point simply being with the endnote that intellectual property is, in fact, in a very real sense a cornerstone

of Honeywell.

Today and throughout the history of Honeywell over the last hundred or so years, Honeywell has innovated in order to vigorously compete in the marketplace and service customers. I very much agree with the comments from the other side of the panel.

Antitrust laws promote innovation through free and fair competition. That's my perspective on the world. Intellectual property rights promote innovation by encouraging private investment in the development of new and improved products and technologies.

Without the protection afforded by intellectual property rights, Honeywell, I will say, would not be able to commit the same level of resources to innovation. Simply put, intellectual property rights encourage innovation by enabling sufficient level of return on our investment in our R&D.

Does the nature of innovation depend on or vary by the industry in which Honeywell competes? The answer is absolutely yes. In chemicals and pharmaceuticals, for example, if I can just broaden the discussion briefly, innovation is more typically what one might call discrete or distinct.

The value of a patent in these industries is often the exclusive right to a particular chemical or a

particular blend or to a next-generation drug. Again, these are industries that Honeywell participates in.

The benefit is quite clear and it can be absolute in those industries. In other industries in which Honeywell competes, such as aerospace, home ability controls, innovation is considered more cumulative or incremental, I think, are terms that one might use. Honeywell will not patent an entire new generation engine. It patents innovation on a new engine and patents improvements on an engine.

Similarly with the thermostat, we don't patent the new thermostat. We patent developments on new improvements on the thermostat. So although the nature of innovation -- and this is the point that I would want to make loudly -- although the nature of innovation varies from industry to industry, the fundamental role of innovation is Honeywell's ability to compete remains constant.

Honeywell maintains and furthers its competitive advantage in the marketplace, in whatever industry we're competing in, all of the ones I have mentioned, through continuously developing new and improved products and technologies.

Innovation is critical to Honeywell's ability to compete in the multitude of marketplaces and cross-market

space that it does. Intellectual property protection is at the core of Honeywell's ability to innovate.

The level of investment, again, as I said before, in innovation is contingent on our ability to earn an expected rate of return on our investment, on the innovation that we make.

Let me just give a brief perspective on this. Honeywell has tens of dozens of engineers across the country and across the world that are dedicated to finding novel solutions for new and improved products, materials, methods, processes.

Annually, Honeywell engineers internally submit around 1,000 patent disclosures. About half of those result in patent applications before the PTO, just to throw numbers out as everybody is today.

About 80 to 85 percent of our patent applications are granted so we're somewhere in the range of between 400 and 500 patents a year that Honeywell is granted.

The point I'm making is saying that in order to compete, we innovate. We invest a lot of money in innovation and we protect that innovation through the development of and the perfection of intellectual property rights. I'll just leave it at that.

I just think that's the starting question for me and that's the perspective on which I'm going to talk in

general. Thank you.

MR. BARNETT: Well, for example, both George and Dick brought up the idea of trade secrets being essential to innovation to some extent. And I think some people would say that those are arguably somewhat inconsistent -- well, maybe not inconsistent, but at the same time they're different doctrines.

And so how does this compare -- I'll throw this out to the panel -- just at what time is trade secret appropriate and what time is patent appropriate when you're considering a role in innovation?

MR. BRUNT: I can address that a little bit, Mike. I think that the trade secret is the more fundamental right. No one should be able to force someone to disclose their innovation. That's why you provide an incentive for it.

But the trade secret definitely limits competition in large degree because if you never disclose the idea, then it isn't coaxed out into the public use and other companies don't develop to exploit the idea and to bring the value into society that can be brought.

So I think that's why the emphasis on patents and why the emphasis on this limited period of time that inventors and authors can have some exclusive rights to recoup their investment.

Now, I think that the trade secrets are essential in the early stages of innovation. And innovation is essential for competition. So they do play a vital role in competition because if you can't protect your trade secrets then you can't afford to invest in innovation.

MR. THURSTON: I think you have to look at the specific industry in question and it varies, again based on the industry. An industry that's oriented toward process technology, in our case, trade secrets can become much more relevant.

The problem with trade secrets are that you can't use them to defend against patent claims by other companies. The problem with patents is when you have a lot of what we call the spice rules, designs internally for a processes, if we go for a patent in some of those, then that's laid open ultimately and you have issues there.

Design circuitry manufacturers, those companies' trade secrets are not as relevant in the design area as they are in the process area. Venture capital is an area where, again, the start-up companies need to get some protection so they're going to be relying a lot on the patent portfolio initially.

MS. DeSANTI: Could I just ask a follow-up question there? In saying that trade secrets are more

important in the process area than in the design area, is that because processes are more easily kept secret, or what explains the different function of trade secret protection for different industries?

MR. THURSTON: I think part of it is processes are more easily kept secret when you're looking at our semiconductor manufacturing processes, as a lot of different processes are involved. I think we have in our technology database several thousand different processes for each technology in a generation.

But when you look at a circuit design then you look at how much copper you put in or how you protect the copper or what have you, that process is important. And it's harder to reverse engineer processes. It's harder to determine infringement, in fact, with the processes as well.

MR. BARNETT: Dan, you had some comments.

MR. McCURDY: Yeah. A couple of thoughts on this. First, the issue is always, like the rest of things in intellectual property, very complicated. So if you think about a fundamental invention that is extremely important to a company, let's say it's a semiconductor etch process that's a fundamental breakthrough that can drive the price, well, a company then has to think through the following problem.

If I keep it as a trade secret then I have obviously the exclusive use of it at least for that period until somebody else discovers it. Now, you have the countervailing problem that if somebody else discovers it and you haven't published it, and you're using it, then suddenly you're blocked from using a process that you, in fact, discovered.

But now you can't because somebody else has actually filed and there is no prior art that exists because it wasn't published. So there's that trade-off particularly in the technology industry.

Second is that even if it's a great intervention I frequently had people in Bell Laboratories who would come to us and say, "Look, I've got this incredible invention. Don't you think it's incredible?" We'd say, "Yes, that's an incredible invention."

And they'd say, "We're going to patent it, right?" And we said no. And they said, "Well, why not? You said it was an incredible invention. It's going to help the company." We said, "Yes, it is. The problem is, it's not discoverable." And they say, "Well, what does that mean?" We say, "Well, here's this great thing that you did, like a semiconductor etch process. It helps save us a lot of money. It gives us competitive advantage. We implement it and we go through the process

of filing this patent application that is going to cost, depending on where we file and how long we can maintain the patents, somewhere between $60,000 and $200,000. It's issued and we can't ever figure out whether anybody's infringing it or not."

So patents, unlike the common belief that if you get a patent, somebody is going to simply stop working in that area, is obviously wrong. There's lots of infringers in the world. Some of them knowingly and some of them not.

So if we can't discover it, we don't patent it because we can't enforce it. That is, we can't enforce the exclusion and we can't license it because we can't prove that they're infringing. So why bother? Important issues like that that help in this distinction between what to keep as a trade secret, what to patent. Those are at least some thoughts.

MR. BARNETT: Harry?

MR. WOLIN: I want to comment on that last point that Dan made. I think whether or not an invention is detectable should play a large part in whether or not to keep it as a trade secret or to go ahead and file for a patent on that.

However, I think there's a lot of other factors that need to come into that. For example, who else is

working in this area and where is innovation in the industry going? I may not be able to reverse engineer a part and tell what etch somebody is using but I'll have a pretty good idea if I look at the outline of the metal and know what the profiles from various etches are, of what people do. So it's not absolutely detectable, but if I can get an idea and I know the industry is moving in that direction, I'm still likely going to file for a patent.

The other thing that trade secrets are really being used for quite a bit these days are to cope with the change in employment. Nobody goes to a company and stays there anymore. Everybody hops around and goes from one place to the next.

So where we see trade secrets coming up most in our industry is in employees jumping from one company to another and being able to protect those things they take with them. Back in '99 and 2000 when the startups were really the thing to do, nobody ever went out from a big company and went into a startup that was something unlike what they were doing at the big company, but they went and they did what they knew. So trade secrets were very important for the big companies because that is how you could protect those secrets and those things that people were taking with them.

MR. BARNETT: I might go to Rosemarie and then we might go to a break after that.

MS. ZIEDONIS: I just wanted to underscore how a lot of these comments bring us back to probably what Wes Cohen presented with the results of the Carnegie Mellon study that he did with Dick Nelson and John Walsh, really emphasizing the importance of trade secrets as a mechanism for protecting innovation.

That said, I just wanted to qualify two things coming out of that. One is that the way that that survey was written and the way that some of this discussion is going, it's not clear whether we're talking about substitutes or complements in the sense that what I hear George saying is that "Well, we really rely on trade secrets early in the process," and then you may be generating patents at that second stage. That's very different from, "We rely on trade secrets instead of patents."

So I just wanted to bring us back to the results of the survey that was across industries and did underscore the importance of secrets. But we shouldn't imply from that that it is a substitute mechanism.

MS. DeSANTI: Although I guess I heard, Dan, that part of what you were saying was in some cases trade secret is a more appropriate way to protect than patents.

MR. McCURDY: Yeah. I think there were two elements. One is in some cases I think that that's true but there are also some risks that you run in making that decision. And so it is always a very complicated decision based on all of those factors.

If I had to come down to a generalization that applies to most of what we have done, I would agree with Rosemarie. I think that it is more that patents and trade secrets are more complementary than they are substitutes for one another.

And the fact that in spite of what the Constitution tells us and the body of law teaches us, the fact is that patents seldom teach enough so that someone can actually go out and actually do the invention without some additional work.

I mean, they are extraordinarily complicated innovations and so frequently what happens in modern licensing practice is that increasingly companies will actually license know-how, that is, trade secret and patents to help spur innovation by the potential or by the licensee. It helps competition because it helps other people enter a space more quickly than they otherwise would.

It helps the licensor because the fact is that no matter how good your company is some significant amount

of the time you're still going to lose. And by licensing and putting the technology into the hands of somebody else with an appropriate reasonable royalty, even when the company or licensor loses, it wins.

MR. BARNETT: I think this would be a good time to go for a break. Why don't we meet back at 11 o'clock -- 11:05.

(Whereupon, a short recess was taken.)

MR. BARNETT: We're going to go ahead and get started. We're going to be messing with the microphones a little bit. We're having some trouble with getting some volume out of the ones at the table, but we're fairly certain that Harry's over at the podium is going to work fine while we're working on it so we're going to go ahead and start with Harry Wolin from AMD. And I think he's ready.

MR. WOLIN: I am ready. Thank you. I really have one goal for this presentation and that's to make sure I don't get handed a note by Susan. I will try to move through this quickly.

I want to change, really, the direction that these hearings have been going and rather than talk about how many patents we have got and what we use them for, other than to say we're as guilty as everybody else and

we've got a lot of them, I want to talk a little bit about standard setting in the context of our business.

And the one thing I really want you to understand is that in the X86 microprocessor, business standards are incredibly important because the X86 is a defined instruction set, a defined technology.

And to participate in that platform you have to be compatible with a number of other players that make up the platform. So, for example, there's not only the microprocessor but there's a chipset. There's a motherboard. There's all the buses that go between all those parts. And they've got to be able to work together.

So really what you're seeing in the industry, frankly, where a number of years ago there were quite a few architectures out there, now there's really only a couple of instruction sets. And the industry is moving more and more toward the standardization of interface specifications.

And typically, standardization occurs in a few different ways: open bodies, that's the IEEE, JEDEC types of standards bodies, everybody's welcome; closed bodies which are basically set up by certain members of an industry group, but not necessarily everybody in the industry gets to participate; and then de facto standards

are set up.

De facto standards are set up in a couple of ways. Those companies with market power are able to set them by making some technology changes. Sometimes he who has the best mousetrap is able to create a de facto standard. So as with all, some good, some bad.

As we all know, there are some significant benefits for the entire industry in creating standards both for developers of the standard and for consumers. We all know where we're going to play at that point. Rather than having things competing in the industry from a technology standpoint, we can compete based on performance and not have to go through the extra steps of trying to get people to buy into the various platforms.

Does that hinder competition? I guess an argument can be made there, but typically there are a lot of benefits and I won't go through each of them. I think this is in some handouts as well as up there for you to read.

In an open standard, like anything else it can be abused, but where I see the most room for abuse, frankly, is in closed standards and in de facto standards just because of a simple point: not everybody gets to play.

So there's a lot or room for abuse and I don't mean to go ahead and say that these types of standards

are bad. I'm just saying there's more room for abuse there. So when we're talking about closed standards, there's a lot of things I'm concerned about that potentially create room for abuse.

There's typically hierarchical membership levels. We have promoters. We have adopters. Not everybody is treated equally, where in an open standard typically what you have is a group that makes the rules, although somebody in the group may have a little more power than somebody else the group, as a whole or a subset of that group, really gets to point out who gets to play what role. So it's not a small group of companies or a single company deciding who gets to do what.

The hierarchical membership levels are especially concerning to me when not only do they tell you who gets to do what, but everybody gets different licensing terms. Frankly, some of the more egregious terms I've seen in some standard setting bodies include a company that is a promoter getting to license their technology on fair and reasonable terms while somebody that is an adopter has to throw theirs into a patent pool, royalty-free. So I think that's something where there's just a lot of room for abuse and something that basically screams for regulation, frankly.

In the closed standard settings, by definition of

it being closed, or by virtue of it being closed, you're always going to have competing standards. So there are a lot of incentives for competing and rival standards.

And also this last bullet really goes through those within the standards body based on the hierarchical membership as well as those outside, and that is timely access to the technology. Not everybody gets the same thing at the same time, and that can potentially be very abusive.

Talking a little bit about de facto standards, I think it's no secret that in the PC and server industries, Intel and Microsoft dominate it.

I can honestly say I have no desire -- I have some desire but I have no ability to put the thing up that says AMD is number one. We're clearly number two in the industries we participate in. We're pushing to get there but we're not quite there yet.

Basically, decisions by any dominant firm can often lead to de facto standards. A firm with market power really gets to go where they want. If Intel in my industry, for example, changes a technology, they've got a pretty good opportunity to take 80 percent of the market with them because they're an 80 percent market player. So that's something that frankly scares me in my position quite a bit.

So again, I want to make the point that change in and of itself is not anticompetitive and is not bad. It's just that change can be effectuated for anticompetitive purposes -- and I think really it's just something we need to watch and it especially needs to be watched -- by those with market power.

When we have a de facto standard because somebody comes out with the best technology, I think I'd have a very rough time telling anybody that that's a bad thing. That furthers technology. It's a good thing. Everybody wants to see it.

And in a perfect world, that's how it works, but let's not kid ourselves. A lot of time standards, de facto standards especially, are driven not because somebody has the best technology but because they have market power to make a change.

A company with market power also has quite a broad range in which they can basically abuse a standard, both with direct competitors and with downstream developers.

For example, in a software case if we're talking about an operating system, it's very easy for the market leader to create a de facto standard and everybody really has to follow along with it because they're in all the computers.

So if somebody has got a competing operating system, it's extremely difficult to match up to the operating system that's in there if they have made a change and that change is not shared.

The potential abuse vis-a-vis downstream developers is a little bit different and that is, who develops things that go with that software? So if there is a discrepancy in who gets what information first, we have quite a bit of potential for abuse there.

If competitor A in the downstream market gets something first they can obviously come to market quicker and get the lead in the market and have their product out first.

If their competitor gets something six months later, a six-month head start in our business is all the time in the world. It's got the real potential of excluding somebody completely from a business for at least a generation.

And so I'm on the summary. I haven't got a note. I'm pretty much there. But I just want to really leave you with two points, and that is in our industries, standardization has got significant benefits. It's a good thing. Open standards are a great thing.

However, I think that manipulation of intellectual property based standards are something that

we need to take a look at, we need to keep an eye on and that they cause a significant regulatory concern. No notes. I made it.

MS. DeSANTI: Congratulations.

MR. BARNETT: Thank you, Harry. I think we've got the mikes working now, at least to some extent. Well, on that note, with the standpoint of standard setting I might throw Harry's comments out to the panel with the idea that we've got some other industry representatives besides the semiconductor industry.

And one thing I'm interested in is the role that patents play in the standard setting process and whether they confrom with the standard setting process or hinder it or how that ends up coming about? Does anyone have any thoughts? Dan?

MR. McCURDY: Maybe I'll look at it backwards and work our way into the standards process. I don't know that companies necessarily innovate with the idea, at the time that they start innovation, of driving a standard. That is, most technologists, what turns them on is the development of technology that they have knowledge and interest in.

And sometimes you get really lucky and you end up with a technology that is particularly important. It's a breakthrough of some sort. It makes a significant

contribution to the evolution of the technology, and it is precisely those kinds of technologies that are useful in standards processes because obviously you want the standards at the highest possible level of technological innovation, not an incremental bottom.

So from my perspective, if that's the objective then what you end up with are practical dilemmas in the standards process. So for the most part I think the observations that Harry made I agree with. I always hate to generalize because it's a very complicated industry. But I think that many of the observations I would certainly agree with.

At the same time you have people who are quite junior inside of a company frequently sitting in standards processes. They are highly unaware of a lot of the other activities that are going on at the company. They may be highly unaware of a lot of the patents that exist or the applications that exist within a company. And so then you get into the practical issues which are the complicated ones, again, that drive this process.

No one disagrees that there shouldn't be nasty behavior in standards processes. You have to avoid those kinds of things. Collusive behaviors are bad; all those sorts of things are bad.

If a company knows about a patent, knows

explicitly about a patent that's in their holding that affects the standard, certainly it ought to be disclosed. But what happens in the practical scenario is where someone doesn't know. Those are the kinds of issues that I think are the tough ones to conquer in this arena, but you can't throw the baby out with the bath water.

The fact is innovations are important to standards. Patents are therefore the result of that innovation and are important to standards. We have just got to find rules that allow these things to be disclosed when they are known to be sure that they are not used against someone in an unfair manner, that they are open to all under fair and reasonable terms. And if we do those things I think we'll end up with a best of all the worlds.

MS. DeSANTI: Well, let me ask a follow-up question because we heard some out in Berkeley about whether there should be a duty to disclose, which is the practical issue that you are raising. Should there be a duty to disclose? Is that a practical way to go from a business perspective?

MR. McCURDY: It's hard.

MR. WOLIN; I think the answer for one who chooses to participate in the standard -- I mean these are voluntary bodies. People don't get dragged into them

unwillingly -- there should be a duty to disclose.

The point that Dan made that I thought was very valid is we've got portfolios of thousands of patents. You don't know every patent you've got that's going to potentially agree on the standard.

But typically in the open standards, the IEEE, JEDEC, you brought on yourself the requirement that you license under fair and reasonable, sometimes nondiscriminatory terms. So I don't know that anybody licenses per patent for standards.

Typically, people will license their portfolio to be used in the standard. I think that takes care of the problem somewhat, but I think, in short, you should be required to disclose those you know about and you probably should be required to license those that you commit to the standard. You should not be able to come back for a second bite.

MR. ZANFAGNA: I would just agree with that. I would just add that with a company the size of Honeywell it is not uncommon that the left hand is not talking to the right hand. And so, I know we participate in a lot of standard setting organizations all across the country, all over the world, some of great significance, some of minor significance.

And it is definitely the case that while I would

agree that it's appropriate and I would suggest I think Honeywell does try and disclose a potential relevant technology it may not always be the case that the person involved is aware of that. That's something that has to be, I think, more vigilantly addressed, quite frankly, if it is a continuing problem.

MR. BARNETT: Taking off of what Rosemarie had to say, just about how patent trends are seemingly on the rise and are increasing, in a lot of industries for that matter, but also in the semiconductor industry, does that simply complicate the process and then at a certain point does it become virtually impossible to be able to detect all your patent portfolios?

MR. THURSTON: I think initially it's probably so. When companies, particularly well established companies, had significant portfolios -- we found the same thing at TI, that we didn't understand.

Today as you look at intellectual capital management to which most sophisticated companies are adopting using IT -- we're doing this at TSMC -- over time you should be able to better understand, forecast, evaluate your portfolio and know what's in there. Certain companies are still not in that position, but we anticipate that over the next three to five years we will be in a much better position to address that issue.

Also, by creating a new CTO office, we have been able to help coordinate this whereas before we did have a fairly unwieldy R&D structure located in different fabs and facilities and different patents were coming out. And oftentimes what was being filed by the U.S. headquarters, Taiwan didn't know. But again, part of that is the process that you can establish to help address that issue.

MR. WOLIN: I think, frankly, I disagree with part of that. I think we can do better in evaluating our portfolio, knowing what's in there and with the IT advances that are being made, we're more able to do that. But even if we know the patent, we're only one attorney away from a different reading of it.

So whether it applies on the standard or not I may say one thing, Dick may say another on the same patent, same claim, in regard to any particular standard.

MR. THURSTON: And I agree with Harry on that.

MR. BARNETT: Sort of shifting gears a little bit, but still on the same theme, from the standpoint that all these patents are out there and we're seeing increasing patent trends, cross-licensing seems to be and licensing seems to be a method of dealing with these problems both in the standard setting context and just in normal business.

Could someone go through the licensing process and how it relates to their business, particularly from the standpoint of dealing with a lot of patents out there?

MR. McCURDY: Well, it is my business so I'll do it from a general perspective so that at least we can see whether there's general agreement on the licensing process.

First of all, at least in technology industries -- and it's very important to distinguish among industries because the licensing practices can be significantly different -- obviously, they are quite different in the case of a pharmaceutical company, as Gary pointed out earlier, who generally is granted a patent and uses that patent to exclude others during the period of that patent. It's quite different than in most what I'll call high-tech, non-life sciences companies: telecommunications, information technology, semiconductors, software and so on.

In those industries the evolution has been a very clear one from the use of patents, up until 15 or 20 years ago, generally to achieve freedom of action -- that is, let's make sure that we all license one another so that we can go do whatever we want to in terms of product or services development and not worry about whether we're

going to get an infringement suit, with very little money changing hands as the primary objective -- to more recent practice which is, let's ensure freedom of action, but when there is a relative imbalance in the portfolio by quality or size in terms of use of the potential licensee -- both directions -- as those patents affect the other licensee, let's make sure we correct for that with a change of money.

So the practice is a fairly straightforward one. You take a portfolio, you dissect the portfolio down to a relatively small number of patents out of a whole portfolio. In general, only one to two percent of an entire portfolio are used in an active patent assertion or patent licensing program.

In the case of Lucent, for example, we had 28,000 worldwide patents, almost 12,000 U.S. patents, and we ran a half a billion dollar a year licensing program by having selected 200 of those patents as those most likely used throughout the industry. We licensed all of them. We just used those 200 as the ones we looked for infringement on.

Once you do that, you figure out who's infringing. It's a very complicated problem. You put together a proof case with respect to that. You approach the individual and say, "We think that we have something

that you might have some interest in." That's the code word for "We think you're infringing." There's a discussion that ensues.

The process takes one-and-a-half to two years on average where you have now given them some patents to look at. The next meeting they will give you some patents to look at. The negotiation goes back and forth. You say in the end, look we think that at "X" royalty rate you owe us $40 million a year. They'll say, well, at an equivalent royalty rate on our patents, that your products are worth $30 million a year.

You have a $10 million differential and you settle for something that's less than that and you try and get a settlement without having to sue each other.

Generally, you settle without having to sue each other. In cases of companies I have been involved with, greater than 99 percent of all patent discussions were resolved without any filing of a lawsuit at all. And in those rare cases where a lawsuit is filed we settled them almost always before they go to trial. Having said that, we are always perfectly prepared if necessary to go to court. We just try and do everything we can to avoid it.

MR. BARNETT: Rosemarie.

MS. ZIEDONIS: I just thought it was important to qualify that I think that the "we" in your sentence was

really coming from your experience at Lucent or AT&T, where a large company's perspective and your ability to settle may be very different.

MR. McCURDY: Yes, it's in my perspective which is IBM and Lucent. IBM is even much rarer than Lucent in terms of the number of cases that have been filed.

MS. ZIEDONIS: The other thing that I just wanted to point out is that even though we have lots more patents, that cross-licensing is by no means new to this industry. I mean, far earlier than the formation of the Federal Circuit Court or a lowering of the nonobviousness standards or whatever it is that's being discussed here, that the widespread licensing of the old Bell Labs patents, Western Electric patents, Fairchild semiconductor, TI, and they were widespread and common practice.

And at least in that study I tried to trace litigation patterns before and after this shift and the strengthening of property rights. And based on the work that I have done thus far, I don't see any difference in kind of established firms versus established firms suing each other. I mean, it's unusual in the early period. It remains unusual in the latter period relative to what they're spending in R&D and other kind of ways of normalizing things.

But two things that, at least, the preliminary numbers suggest, however, is that we do have more firms, more of these high-tech firms that are more in the game, the pharmaceutical or biotech company, in that they need to try to exclude others. Who they're excluding are other niche market rivals. So you have an explosion of small firm lawsuits, the Altera versus Xilinx, these types of cases that have crept up. The second main trend that at least seems to be creeping up thus far is more of these lawsuits brought by the "L" word that I hear by companies that are specializing --

MR. McCURDY: That's a foundation not a company.

MS. ZIEDONIS: Yes. That's true. But since about the mid-1980s I do think that you see more case filings by individuals or by organizations, foundations that are not active in the product markets.

MS. DeSANTI: Have you seen indications of why that's the case and what's the motivation and how does it work?

MS. ZIEDONIS: I'm from a business school, right, so I have learned now the answer to that question quite quickly and that's there are profits on the table. The Lemelson Foundation, I think, has made a very successful business from setting licensing fees so that balancing payment, you set it low enough to where it's below the

cost of actually going to court or the managerial time that it would take to basically fend off the lawsuit. That, to me, is perhaps a concern if you have a lot of these patents that could be falling right below that threshold.

MR. McCURDY: Just to clarify Rosemarie's comment, balancing payment in the industry is generally the word that's used when there is assertion and counterassertion as part of a licensing program. That is, you owe me X; I owe you Y. Let's figure out how to do something and make everybody's life comfortable with respect to attaining that freedom of action.

In the case of that particular "L" that's been mentioned by my colleagues, the issue is there really can't be a balancing payment per se because there is no counterassertion capacity.

And those are the ones when we have clients who ask us how can you help us? In those instances, the only answer is we can help you by ensuring that you're getting a fair return on your own investment so that if and when you get these kind of assertions and, in fact, there's infringement, at least you have something to pay for it with. It's a very difficult problem.

MS. DeSANTI: Are you seeing increasing numbers of this? I'm asking because some of what we heard in

Berkeley was a concern that as some companies have folded there are more patent assets on the table to be acquired and therefore it's easier to find that there are companies who are building a business around patent assertion in that kind of nontrading situation. And so I'm interested in your views on this. Well, this is going to be good.

MR. McCURDY: That's a good question.

MS. DeSANTI: Why don't we just go around the table. We'll start with Rosemarie and work our way around.

MS. ZIEDONIS: I just have a surprising-to-me-at-least fact. When I was doing this work for the National Academies where I had this list of about 136 companies, I was like, "Oh, what lawsuits, what patent lawsuits have they been involved with that have been filed in the United States?" Well, when I actually looked the patents over, I think a third of the lawsuits that have been filed were about intellectual property that had not originated from the company itself -- for example, the old Mostek patents that became acquired by ST Microelectronics that then ST Micro enforces against and uses as basically licensing revenues quite successfully.

Or another example, when a company like Seeq sold off its particular production line with intellectual

property with that to I believe it was Atmel. I could be wrong about that. But then that company uses those assets to enforce those rights against a market rival. And my understanding is that a lot of these acquisitions of the physical assets are far more valuable if you are able to use that to exclude a rival that you didn't have those patents yourself.

So I was just -- on the face of it, two-thirds of those cases were about patents that the companies themselves had generated through internal R&D and a third of those cases, a third of the lawsuits, were about externally generated R&D which I personally found, one, surprising and, two, indicative of this kind of trade for patents that's emerged or become more developed, should I say, in the last ten years.

MR. THURSTON: I agree and I think we have seen, and believe I have before joining TSMC in private practice, a significant increase in this area. We represented in the law firm several companies that were approached by nonoperational companies of that nature that were just trolling for patents.

Currently, we have, I think, eight matters that are pending at TSMC. Four of them are by companies. Now, two of them are Lemelson-related that don't have any business, any operations rather, other than generating

revenue.

So I think it has been on the rise as companies have been demised through economic inefficiencies or what have you, there a number of increasing companies out there buying portfolios. We as a company are looking at it and have several relationships to acquire portfolios from companies that are going under as well as with universities to try to improve our patent position vis-a-vis other companies.

I'd also like to add another point with respect to the licensing picture. Again, based on industry characteristics cross-licensing may not be all that effective and certainly for us as a process manufacturer, cross-license does not give us the ability to take that other company's portfolio and apply it against another company or a dozen companies that come after us.

So what we may be looking at increasingly and what we are looking at increasingly is, again, somewhat related to patent pooling, but joint development, joint research programs where we go in we go in with major IDMs that have patent portfolios.

As we help them to develop, we are the leader in developing those new technologies, then there is this cross sharing of portfolios and the ability for us to take a portfolio and to apply that vis-a-vis some other

company. So its not just the traditional cross-licensing approach, that may, in fact, develop as a trend in certain aspects of industry but not all industries.

MR. WOLIN: I think the answer to your question is an absolute yes. There are more people out there not in the industry trying to assert patents. And it's become sort of a cottage industry by itself.

And not only are people trying to do that on the assertion side, what we're seeing quite a bit is a lot of companies coming to us with portfolios and patents trying to sell them which sometimes is a thinly veiled threat -- "Hey, buy them. This way you won't have to face them later." And sometimes it's, "Look at all the money we can make you if you buy this portfolio." So I think if you go back a number of years in the semiconductor industry, patents were the result of R&D and then licensing became a way of freedom of action and with a little luck some return on your investment. Now, it's almost getting to the point where patents are becoming the industry themselves, separate form the technology part of the game.

MR. BARNETT: George.

MR. BRUNT: I think we'll probably see more. At least during recessionary times like this what happens is the markets move out and so venture capitalists have to

make a decision about whether they're going to keep a company alive for an additional two years while they wait for the market to develop or sell off the patent portfolio and cut their losses and go on.

And you're going to see a lot of that in our current -- like I said, there's a lot of innovation that's out there in small startup venture capital-funded companies that apply for and receive some very good patents. But the only way the VCs are going to be able to recoup their investment is through a patent licensing program, either selling the patents or exploiting them.

MR. McCURDY: I think just one follow up to that. In our company we have had a lot of interest by companies of the ilk, smaller companies, bankrupt companies, and so on, who said, "Gee, we heard about your company. Can you help us?" And the answer in general is no, we can't. Again, sometimes for very practical reasons.

The reason that we are able to help companies extract some value from their portfolio is that they tend to be very significant innovators. If you end up with a portfolio that's two or three or five or ten patents, the licensing discussion is extraordinarily hard because what a licensee wants to get to, ultimately, is they want to feel that they are getting value. And they want to effectively develop a relationship so that this freedom

of action is achieved. And they like the fact that they are dealing with someone who is a significant innovator and will continue to innovate.

So, if you end up with a company that only has a few patents or a bankrupt company, yes, it's true that there will be people in the industry who might pick them up, but I would contend that you're much more likely to see those end up in court, in litigation, than what I call the higher level set of discussions where you have significant and continuing innovators who are spending billions of dollars a year and can establish these kinds of relationships at a business level. So that's going to be the issue.

MR. THURSTON: I was going to make really kind of the same point. I agree with Dan in that comment, and on the VC side we did see, and as I was advising a number of VC firms, a significant increase in the late '90s and the last several years of filing UCC 1s, et cetera, against the patents, intellectual property.

But the problem that those companies had, the VCs, they're not in the business of managing portfolios. There is limited criticality of mass and a lot of times it just costs too much more just to even maintain those portfolios.

So I think they've gotten a little bit away from

that, but there are a number of companies out there that have lined up with some key VC firms that are obtaining those intellectual property rights, the conduit through. So I think it is an issue to address but I think Dan's point is a much better one.

MR. BARNETT: Gary.

MR. ZANFAGNA: I just had a quick comment. We obviously vigorously enforce our intellectual property rights against others we think are infringing. It's an active program.

But the conversation that may be indicative of the different entries that we play in, but I'm not familiar that we are trading in intellectual property rights and in entire patent portfolios.

In fact, I don't believe that we engage, regularly in any case or typically, in the sale of cross-licensing patent portfolios as I think we selectively cross-license where we feel we need to.

I could be wrong, but I don't believe we trade like it might just be an industry issue, that we don't play in these markets where it's becoming a commodity almost, is what you're saying. I just thought I would add that. It seems to be a little bit of a different scenario for Honeywell.

MR. BARNETT: That brings up maybe a follow up

that I might want to ask Harry. Harry mentioned how patents started. He recalled how patents used to be more of a tool for freedom of access and then they shifted almost to a product of themselves. Where do you see the motivation behind the change in the role of the patents in that sense?

MR. WOLIN: I think you have to look at it from two different perspectives. The first perspective is those within the industry. The second perspective is those who are really not industry participants but are basically asserting patents for money. The Lemelson Foundation and a number of others. Frankly, a lot of the change outside started with Lemelson Foundation. I think they came onto the picture in the mid- to late-'80s if I remember right and had this huge portfolio and read it on all sorts of things and were very successful.

When others saw that model, all of a sudden if you went into the patent office things were very different. You had hoards and hoards of people sitting there going through the files looking for patents that some obscure inventor had that they could go buy and it was almost a get rich quick scheme.

In the industry, I think, things changed. If you look back mid-'80s, prior, I think there was a lot of freedom of action and everybody just competed and it was

the same group of players. After that you have seen a lot of growth in the industry and you have seen a lot of new companies come in.

And I think the focus turned more from making a reasonable amount of money and moving forward with your business that was going to be there for 50 years to a new group of CFOs coming in saying, "I'm going to make money off of every asset I have," and patents became one more asset that we had to generate a return from. So, '85, '87, somewhere in there is sort of where I saw the changes go in.

MR. BRUNT: I think in the same time frame there has been a lot of globalization that's occurred, too, and that's increased the cost of maintaining that and so CFOs have also looked at and said, "Wait a minute, are we not deriving revenue from this? This is taking large amounts of revenue. If it's an asset that has value, we need to be recovering some revenue from that asset."

MR. WOLIN: Yeah. I think one quick follow up. The other thing that happened around that same time frame is what Dick mentioned earlier. That is where TI was going underwater and their way to save their company was to license patents.

And other companies out there -- I was at Motorola at the time -- we had always licensed patents

for what today would be relatively cheap rates. And it was good money, but cheap by today's standard. But then we saw the kind of money and TI was getting for theirs and -- albeit we were in a different position. We weren't going to save the company at that time -- it was, "Hey what are we leaving on the table here?"

MR. McCURDY: One of the things that I would encourage some additional work on, and Rosemarie, you may know of people who are looking at this, but while I'm not at all an expert, I've been following this activity requirement in the accounting community to account for intangibles. And I don't know if you've been following this but it's going to be a very interesting issue that emerges because once the intangibles are actually carried on the balance sheet then management and boards of companies now have the burden of figuring out how they are going to actually gain a return on those intangibles which are now carried. If you don't do it, you're perhaps in breach of your fiduciary responsibility.

So I suspect that as a result of these changes, what I call responsible prudent efforts to ensure that companies are getting a return on the significant intellectual property assets is very likely to occur. We might be several years from that by the time these are actually solidified, but I'm pretty confident that that

is going to happen as a result of that activity.

MS. ZIEDONIS: Just to highlight that, the largest body of work that I'm aware of on that very effort is at NYU with Baruch Lev. I know that he's been organizing a series of conferences on that very topic and has been doing a series of studies also in conjunction with the SEC.

The other point that I just wanted to clarify or perhaps contribute to, one, I echo what Harry said about, well, what happened there around '85 or to the '87 time frame. And I think the importance of TI really paving this way that, well, the value of patents can be separated from the product market, and that there is money on the table was an important demonstration for companies in managing intellectual property but also for the same independent inventors like Jerome Lemelson and the like.

So, I think that lesson was learned across patent owners regardless of whether you're a company or a university or an independent inventor.

The other important demonstration event that happened around that same period, however, is, of course, the shutting down of Kodak's facility. Well, not only do we have this potential upside, but now if I'm investing the what I now hear is $4 billion in a facility being

concerned about the threat of holding production for two weeks when that facility is going to last you, what, five years?

MR. THURSTON: If.

MS. ZIEDONIS: That's a large sum in multiple millions of dollars so there's a real cost/benefit analysis that is really driving, perhaps, patenting from both sides.

MS. DeSANTI: Is the implication of what you're saying that there's more defensive patenting as a result of the Kodak-type demonstrations?

MR. WOLIN: I think there's more patenting, period. Offensive, defensive, you name it.

MS. ZIEDONIS: To answer your question, I would agree with that. I mean, the lesson then that I would learn from that was that you can see why there would be an incentive to patent for more defensive reasons, but you can also see why from the business perspective you would also want to pay more attention to patenting from the offensive or the market share or just revenue stream.

It's going to be interesting to see how exactly you're going to be able to disentangle value of intangible assets from potential products that might be coming down the road five, seven years from now where that value's not going to be really revealed in the

product form, and is a highly risky, uncertain thing. But I'll leave that to the accountants.

MR. WOLIN: Being that we're back on quantity I think there's one point I'd like to make. In the semiconductor industry, as much as quantity is picked up I don't think it can all be related to improving your patent portfolio. I think a lot of it has really come in for other reasons.

It became a great incentive for engineers, the number of patents that we issue end up in our marketing materials. I actually went in at one point and said we should file less and I'll give back some of my budget. And I was basically kicked out and they said, "We'll tell you what you spend. You just go get us patents."

It wasn't improving the portfolio. Management understood that these incremental patents weren't improving the portfolio, but at the same time it was great press releases and it was great incentive to hire new engineers and it was great incentive to retain employees. So for that reason it was worth spending the incremental dollars to management.

MS. DeSANTI: Well, we have little time remaining but I would like to throw out a large question and just get some observations on it. We've been talking a lot about patenting in relation to innovation. What about

competition, the role of competition, in relation to innovation in this industry?

And I would just give you, Harry, an opportunity to bring in any points related to your standard-setting issues that you raised that may be implicated when you talk about competition and the reliance, the need for compatibility and standard-setting in order to innovate to the next level, next generation.

MR. WOLIN: Well, as we know, I think, general antitrust concerns and the general patent laws go head to head. So the question is where do we find that happy medium and how do we effectively create no monopoly while keeping in effect the patent monopoly? And I sure wish I had an answer.

MS. DeSANTI: We were expecting one from you.

MR. WOLIN: But I just think you have to have the patent right. You have to be able to innovate and I think a lot of the concern really comes in -- you can't give that right, that patent right when it's -- it doesn't give you the ability to circumvent the antitrust laws.

And I think it really has to be looked at on a case-by-case basis and standards of, certainly, who has the market power comes into it. But I just don't know and I don't think there can be any hard and fast rule on

how we address this. Sorry for all that enlightenment.

MS. DeSANTI: Rosemarie.

MS. ZIEDONIS: This is an equally maybe -- oh my goodness -- "interesting issue, but who knows the answer to it" type of comment. I noticed Hal Wegner in the room and he was kind enough to let me sit in on his international property law class here at GW probably ten years ago and one of the interesting twists in the tone of this debate is that at that time we would have been sitting in this room really being the large portfolios of Japanese firms and how that was going to be a barrier to the small innovative U.S. companies or companies that lacked experience in Japan.

And that's actually how I got in this funny path was doing some work on behalf of a congressional committee on that type of topic. With that kind of background I find it interesting that we really aren't questioning to any real extent, I don't see people being concerned about the role of these portfolios with the large firm versus a small firm.

Like, is the lack of a large portfolio a problem for entry into the industry or for competing with the incumbent firms? And I'll just offer an observation that from what I understand with semiconductors, part of this may have just been fueled because the side effect of

strengthening patent rights has been that we're able to raise venture capital and we're competing in areas that are truly like the input/output devices or even AT cards and then get acquired by an incumbent firm.

The other thing is that we know that the technological opportunities have been continuing at a pretty impressive rate in this industry. It's unclear how this dynamic of competition is going to change if we reach an era where those technological opportunities aren't continuing to expand. And thankfully even with this downturn, I don't think that people are projecting that in the next five to ten years given the impressive accomplishments in the industry.

MR. BARNETT: That brings maybe a different question that I want to ask. It reminds me of your comment on Japanese firms and whatnot. I know that Dick Thurston has quite a bit of experience dealing with foreign countries, and I'm just wondering if the experience is the same in other countries as we're experiencing here as far as increasing proliferation of patents. I wonder if you have any thoughts?

MR. THURSTON: I think it is. And I think that's an area that U.S. companies, all companies, need to be really increasingly concerned about. And I, a number of years ago, had a very interesting discussion with Bruce

Lehman on this point, stressing that need for the PTO to undertake an initiative similar to Justice on the antitrust area for stronger cooperation and relationship in monitoring what these foreign countries are doing in the patent area.

Take Japan today, which as we all know is suffering economically. One of the largest licensing organizations, maybe, next to IBM and so forth, is Hitachi -- 400 strong, constantly analyzing portfolios and going through their list. We did at TI. We had first tier, second tier, third tier and now you're getting down well below that and going after a lot of different companies as they scan the SEC reports all sorts of things we're seeing.

Our biggest concern, even as a "Chinese" company and from Taiwan, is the mainland. It's being ignored. But the efforts that are being undertaken right now -- I've had over a hundred trips to China since '79 -- are substantial in the area of intellectual property design, development.

In the semiconductor area, you go into the research and development houses in Shijiazhuang or in Xi'an and Shanghai -- tremendous efforts and filing of patents there, kind of subtle sort of thing. They have a very sophisticated PTO when it comes to electronics, but

our industry in the United States, a lot of companies are ignoring that potential.

So as you look at potential for litigation and of course manipulation in that country of IP to advantage despite the WTO, that's where I see tremendous concern and we need to be really on our guard. And these issues just magnify and are exponentially increased once you cross the ocean.

MR. ZANFAGNA: Two follow-up points real quick. One to Susan's question, I'll just redirect my point from before. At least as far as Honeywell is concerned it is competition that's driving innovation. We don't hire engineers to hire engineers. We innovate because we feel we need to to stay ahead in our marketplace.

Innovation is driven by competition in all of our markets. That's how we maintain our positions. That's how we maintain our competitiveness. That's how we keep our customers. That's how we please our customers. It's through innovation. It's through new products. It's obviously through service and so forth as well but it is the continuous ability to innovate, to provide new technology and new products that makes us a strong company. It's through competition absolutely. On the international point, I'm not exactly sure what the overall question was but I'll make two observations.

One, our portfolio is very international. We have over 10,000 patents internationally, I think 5,000 domestically and we don't just focus on patenting technology and products in the United States. We proliferate our portfolio globally. We have a global sales presence and it is critical that we are able to propagate to affect our portfolio around the world.

Another observation that I am told is that there is a gigantic increase in foreign ownership or foreign filing in the United States. There's a lot of foreign ownership of U.S. patent rights. That is a whole new evolution that U.S. companies have to be aware of and that affects how the patent system works in our country.

MR. BARNETT: It looks like we're starting to run short on time. We started a little late but I would like to invite anyone to make any closing comments or any remarks that they might have before we finish.

MR. BRUNT: Just a two second summary on that issue. I think that competition drives innovation. Limited exclusivity pays for it.

MR. BARNETT: Very good. Well, maybe on that note we will end this hearing. I'd like to thank our participants very much. So thank you.

AFTERNOON SESSION

(1:37 p.m.)

MS. DeSANTI: Good afternoon. My name is Susan DeSanti and I'm Deputy General Counsel for Policy Studies at the FTC. Thank you so much for coming this afternoon. We particularly thank all of our speakers for coming this afternoon.

Unfortunately, I have to begin with a couple of people who were not able to make it. Dean Alderucci from Walker Digital is sick today, unfortunately, but we will be hearing from Walker Digital later on in the hearings. And also Andrew Steinberg from Travelocity.com is not able to be with us today for business reasons but we're also going to try to get another shot at getting him to come and speak with us on another panel. So we're very glad to have the people we do have.

And what I wanted to just start with is a brief introduction to the topics of the panel. This is "Business Perspectives on Patents: Software and the Internet." It's the second panel to address this topic. The other one was held at Berkeley in February. And as with the morning panel we will be covering a wide range of issues relating to patents and competition and how they spur or discourage innovation. Before we get any further let me introduce the other government

participants today. To my right is Matthew Bye who is a wonderful attorney in my shop who has worked very long and hard in getting in touch with the people for this panel and talking with them about the issues that they were most interested in addressing.

To my far right is Frances Marshall, the amazing person at the antitrust division of the Department of Justice who is organizing and implementing all of these hearings from their perspective. To my left is Bob Bahr from the PTO who we're very grateful to have here. And that sort of rounds out the government participants for today.

I'd like to start by briefly introducing each panelist and then asking each one after that brief introduction to just say a bit either about their company and what their company does so we have a better understanding of how they're approaching these issues or the members of their trade association or their research interests. Let me start with Dan Burk over to my right. Dan is the Julius E. Davis Professor of Law at the University of Minnesota law school where he focuses on intellectual property in the context of cyberspace and biotechnology.

He teaches courses in copyright, patent and biotechnology law and has been closely involved in the

development of the university's new Internet study center. Professor Burk has held appointments at Seton Hall University, Stanford Law School and George Mason University. Dan.

MR. BURK: I'm very pleased to be here and I want to applaud the leadership of the staff, both the FTC and the DOJ, for holding these hearings which is being watched with great interest by all of us in the research community.

My personal interests are innovation policy and how patent law is developed and shapes the nation's policy. I'm very interested to see what's said today and what's said at the other hearings.

MS. DeSANTI: We'll go to Dan's right to Ed Black. Ed has been the President and Chief Executive Officer of the Computer and Communications Industry Association since 1995. Prior to this, Ed served as Vice President and General Counsel at CCIA. He has had responsibility over a wide range of legislative policy and regulatory areas for CCIA and its member companies specializing in international trade, competition policy and intellectual property. And I will note that Ed was with us in our 1995 hearings and we're glad to welcome him back today.

MR. BLACK: Thank you. It's a pleasure to be here. A little bit about CCIA. We have been around for

30 years, represent a cross-section of companies, computer; telecom; Internet; small, medium and large hardware; servers; software. And the goal is to have a senior executive roundtable that tries to pull together very diverse parts of the industry so that when we can come up with some positions on what are constantly turning out to be fairly challenging policy areas that we really do think we have the input from a wide range of players.

Historically, we basically were founded in a very pro-competitive motivation dealing with both IBM and AT&T antitrust cases in the early years and have viewed intellectual property as likewise a critical factor in promoting the innovation and dynamic growth of our industry.

MS. DeSANTI: Thank you. Next, we're going to move to Scott Sander. Scott Sander is the President, CEO and co-founder of SightSound Technologies.

After graduating from the University of Denver in 1982 with a degree in business administration, Scott moved to Silicon Valley where he worked as an investment analyst for a Menlo Park-based real estate investment company. In 1987 Scott returned to his native Pennsylvania to start his first business, Kinetic Workplace, a management consultancy specializing in

workplace innovation. Scott.

MR. SANDER: And I'm very glad to be here because since that time I got together -- I'll tell you a little story about it later when we get into the more formal remarks. But I'm really here to talk not about myself or even our company, SightSound Technologies, but I'm very specifically here on behalf of an inventor named Arthur Hair who also happens to be my best friend. And together we built a company on intellectual property that specializes in the download sale of movies and music via the Internet and other networks.

MS. DeSANTI: Thank you. To Scott's left is Mark Webbink. Mark is the Senior Vice President, General Counsel and Secretary for Red Hat, Inc. Prior to joining Red Hat he practiced intellectual property at Moore and Van Allen. Mark also spent 20 years in corporate finance before entering the practice of law holding senior management positions with several Research Triangle-area companies. Mark.

MR. WEBBINK: I would probably be remiss if I didn't say I was probably bringing a little different perspective to the issue than some folks today given that our company is probably the leading open source software company in the country today. And part of what I'll talk about is the impact of intellectual property protection

on open source.

MS. DeSANTI: Thank you. Finally, at the end of the table we have Lew Gable. Lew is a partner in the New York office of Cowan, Liebowitz and Latman where he specializes in the preparation and prosecution of complex electronic and computer inventions before the PTO. His technical expertise includes Internet-related inventions and methods of doing business. Lew.

MR. GABLE: You've completely taken away my background.

MS. DeSANTI: Could you speak into the mike? I'm sorry you have to move it back and forth a little bit.

MR. GABLE: My practice, as the bio indicates, is the preparation and prosecution of patent applications. And I have worked with the patent office in filing applications for almost 40 years now.

And I have seen the evolution of the patentability of software and software-related products and now methods of doing business. And my perspective, whether it's for my clients or whether it's for the public interest, is really to ensure that patents are well searched and that the most pertinent prior art is found and that the patent office would issue patents whose validity there is a presumption, a strong presumption, of validity on those patents.

MS. DeSANTI: Thank you very much. All right. We'll begin with our presentations now. And the first presentation will be from Mark Webbink.

MR. WEBBINK: I have prepared some written remarks and I got those to Matthew I think late yesterday or early today depending on how late he was here last night. And I'd like not to spend a whole lot of time going into the things that I addressed in the written remarks other than to say that about six months ago I participated in a panel addressing a committee of the National Academy of Sciences on somewhat similar issues. They were principally focused on patent protection in the software industry.

And with some of the issues that I was raising the common response I kept getting was these are antitrust problems not patent problems. And I said, "Well, okay. Then I'll have to go find a proper venue to address them." Red Hat is an open source company. What does that mean? We work with, I think the polite term would be computer scientists or software developers -- we call them hackers -- all over the globe in developing open source software.

Our principal product is an operating system called Linux. Ours is the Red Hat version of Linux. There are other distributions all built on the same Linux

kernel.

While we hold copyrights on our software, which is sort of the old traditional way of protecting software other than trade secrets, we do not hold trade secrets in our software and in fact we make not only the binary code but also the source code available to customers of our software.

Until I arrived at Red Hat the company had a policy of not pursuing patent protection on software as being inconsistent with the open source philosophy. However, business realities have to take a role as well and one of those business realities is our competition. And one of our principal competitors, a rather large company from the Pacific Northwest, also holds probably more software patents than perhaps any other company other than perhaps IBM, and continues to gather a great deal of issued patents either to their control or control through licensing with other companies.

The people who work in the open source community tend to be very careful about what they develop in terms of avoiding software where there are known patents. But given the time frame of patent issuance the fact that under U.S. policy patents are not disclosed publicly at the time that they are filed and their development in the software industry, it may be years beyond the time that a

particular piece of technology has hit the marketplace before it is evident that it, in fact, it is covered by a form of patent protection.

We've got additional concerns around the fact that for years in the industry there was no patent protection for computer software or for that matter, business methods.

A tremendous body of prior art exists but not in a well established database like you have with the other arts to where professionals such as Lewis can go and manage a search that is going to ferret out pre-existing technology that may very well invalidate the patent.

You then put that process of issuing patents that, for arguments sake, I will say are perhaps less valid than what you might find in the other arts out in the marketplace, backed then by big money, and all of a sudden you have got a situation where the smaller entrants into the market, the new entrants into the market, are at a tremendous disadvantage in terms of being able to compete.

And one of the critical questions that I get on a repeated basis from companies that are looking at adopting open source software is where is my warranty against infringement?

Of course, I have now tongue-in-cheek started

pointing them to take a look at their own license to Microsoft Office and invite them to point out to me Microsoft's warranty for noninfringement in their license agreement which, if you haven't looked, you won't find.

But this is a big issue for them. And it's perceived to be a direct and imminent threat to the open source community and the adoption of open source software.

Now, people can look at open source and say, "Well, by its very nature is open source truly innovative? Isn't Linux, for example, nothing but another rehash of UNIX?" And there are a lot of different forms of innovation. Not all of them are technical.

Innovation can also come in the form of reducing the cost of a product and the manner in which it can be used. And what we found is that not only are we able to reduce costs to the consumer but in fact we have been able to produce a technically superior product, one that has performed extraordinarily well in benchmarks against the more established operating systems and have done so without the protection of issued patents. We have done it in a collaborative manner working with people both within our company and outside our company by sharing technology and making the technology freely available.

And so I participate today as perhaps not a voice crying in the wilderness but one saying, let's not forget why our intellectual property laws were established in this country. They were established to protect the people and to protect society at large. Ideas such as fair use are quite critical to the general public in protecting the rights of the general public. And I would invite discussion with the rest of the panel to look at some of those issues.

MS. DeSANTI: Thank you, Mark. I have a number of questions I already feel like asking you but I'll hold off and we'll go to the next presentation -- Scott Sander.

MR. SANDER: Thank you. I said briefly in my opening comments that I was really here to talk to you a little bit my good friend and the inventor that we built our company up on his innovations.

But what I want to do is also give a quick bit of history, not just the history of Sightsound but also as you pointed out there are some issues right now about copyrights as well as patent rights and we're square in the middle of all of that because of the nature of our business in distributing movies and music.

I want to give you a little history and also bring you forward to the very acute situation that we

find ourselves in today with the movie studios and record labels. Let me start by giving you that background and say in the mid-1980s my friend, a young engineer named Arthur Hair, saw the future of movies and music. And Arthur invented a method and system for selling digital audio and video files over networks like the Internet. He was convinced back then that if the record labels and movie studios would embrace his invention that they would be spared a future of rampant piracy powered by computers connected to the Internet.

Arthur's father, an engineer from Pittsburgh, had patented a process for strengthening steel and he gave us a prophetic piece of advice. He said, get a patent to protect yourself so the big companies don't just steal your ideas.

We decided to start a company that would revolutionize the entertainment industry, which is no small feat for a couple of guys from Pittsburgh. And we were going to do it with a distribution method that was better, faster and cheaper than anything they had seen before.

In 1993, based upon Arthur's father's advice, we received our first patent. Now, up to today, let's bring ourselves back to the future, if you will. Last month James Rogan, Director of the U.S. PTO said, in these

hearings, "Understanding the patent system begins with the recognition that patents are a form of property anticipated by the United States Constitution." Well, in our property, Art and I set about to build a company and change an industry. We were able to sell the world's first downloadable music in 1995 and the first feature film in 1999. And since then we have sold download movies into more than 70 countries worldwide.

Before the world went Napster crazy, Arthur and I presented the leaders of the media companies with our patent-protected method and system. We offered them an opportunity to sell their product, preempt piracy and make a new deal with the next generation of consumer. But they were frozen with fear and a commitment to cling to the control that they currently had.

We started to feel a little bit like Filo Farnsworth whose only reward for his invention of the television was personal satisfaction because in reality he lost an epic battle with the Radio Corporation of America and General Sarnoff. Sarnoff spent, as some of you know, many years and millions of dollars to work around Farnsworth's patents. Although Farnsworth will always be remembered as the man who invented television he himself knew only the struggle of lawsuits.

The story of David versus Goliath repeats itself

throughout history, but in our case it is more than just a mismatch in size. It's more than just one on one. We seek to change the business practices of an entire media oligopoly, an oligopoly which is currently under investigation, quite possibly engaged in a civil conspiracy to restrain trade, and like Sarnoff, certainly committed to delaying the future.

And that future, we believe, promises American consumers the benefits of its new and useful process for distributing entertainment. The future has to be based upon a mutual respect for property rights, our patent rights, their copyrights. And I'm here today to testify emphatically that our patent rights are the only thing that has the power to change the business practices of men like Rupert Murdoch, Sumner Redstone, Michael Eisner and the handful of companies that control the production and distribution of all of our recorded movies and music.

Like robber barons of an information age they seek to control all forms of distribution. Consider the following statement by Ted Turner of AOL Time Warner as told to New Yorker magazine in April 2001.

Ted said, "You need to control everything. You need to be like Rockefeller with Standard Oil. He had the oilfields, the filling stations, the pipelines, the trucks and everything to get the gas to the stations.

And they broke him up as a monopoly.

You want to control everything. You want to have a hospital and a funeral home so when they die in the hospital you move them right over to the funeral home next door. When they're born you got them; when they're sick you got them; when they die you got them." He said "The game is over when they break you up, but in the meantime you play to win. And you know you've won when the government stops you."

Fortunately for us, another Ted, Teddy Roosevelt, once said the only way to meet a million dollar corporation is by invoking the protection of a hundred billion dollar government.

Arthur Hair sought that protection and we value it in our patent rights. The fact that these patents ultimately expire fills us with impatience and forces us to continue to innovate. And the ultimate beneficiary of our impatience and our innovation is the American consumer. Thank you.

MS. DeSANTI: Thank you. Next we're going to hear from Dan Burk.

MR. BURK: I've been fascinated to hear the testimony given thus far and look forward to engaging with members of the panel because both of the previous testimony has certainly resonated with me. But I thought

I would start my presentation by sharing with you some of the research that I mentioned in my introduction.

This is some research that's currently ongoing in conjunction with Professor Mark Lemley at the University of California at Berkeley who testified on the West Coast hearings a few weeks ago.

We have been specifically looking at the question as to whether patent law is technology specific. What do we mean by that? Well, we have in the United States a patent system which, for the most part, is directed to all kinds of technologies.

There are a few exceptions to that. There's Section 103 and elsewhere where Congress has specifically legislated rules with regard to a particular technology. But for the most part we have a patent system that covers software, biotechnology, mechanical devices, and all the other sorts of innovations that we talked about in these hearings.

And so that law has to be very flexible, has to be very adaptable, has to be designed to meet the needs of these different industries. But recently we have noticed a trend towards becoming technology specific in the patent law. And the best examples of this are in the area of software patents and also in the area of biotechnology patents which there was some testimony on

yesterday.

Now, what are we seeing specifically when we analyze the cases coming out of the United States Court of Appeals for the Federal Circuit which, as you know, is the court that Congress has vested with authority to deal with patent law.

We find in the area of software patents that we're focusing on here today that two very interesting things are beginning to happen. One of the purposes of the patent system that we haven't heard about so far today is to put information in the hands of the public not only to protect the property rights of the inventor and create that incentive for further innovation that we just heard about but also to disclose that invention so that when the patent expires everyone has that information to build upon.

And in the area of software patents we are finding, as we look at the cases that have been decided, that the Federal Circuit tells us that essentially there is no disclosure requirement for software.

In cases that have come before that court where there has been a question about disclosing code or even a flowchart or some other indications of how software works, the Federal Circuit tells us that's not necessary, that once you decide what you want to do, be it a

split-sheet or a compiler or some other type of software, that writing the code is mere clerical work. Anybody with average skill in the art can write that.

Now, I suspect that some of the folks who do programming, and some of them are here today, will tell you it's a little bit more difficult than that to actually write code that works. And we'll have a chance to talk about that, I hope, during the discussion period.

On the other side we don't give a patent to just anyone who has discovered something. We only want to give patents to significant technology advances so we have a requirement of obviousness. You can't get a patent if your invention would be obvious in light of the prior art.

And the Federal Circuit there has indicated that there is going to be a very high threshold with regard to obviousness, that most software patents for most software inventions they are going to consider to be obvious.

Now, that is connected to this idea of disclosure as I'll mention in a moment but they are simply the flip side of one another. If anybody as a matter of mere clerical work can do some programming, let you know what function you want to have happen, that also suggests that it should be very, very obvious how to do that and so it ought to be very difficult to get a patent on software.

Let me just mention in contrast to that -- we have already heard in these hearings about biotechnology yesterday but the situation has become exactly the opposite in biotechnology.

The Federal Circuit has told us that we have very stringent disclosure requirements in biotech. If you're going to try and patent a biotech molecule, you need to give us the sequence. Simply knowing how to get that sequence is not enough. But there's a very, very low obviousness threshold and essentially anybody who discovers a molecule is going to be able to get the patent on it.

Now, we suspect that as a matter of innovation policy this is exactly backwards, that if you look at the character of the two industries that we're studying, software where development is typically incremental has relatively short development times, relatively low cost development, compared to many other industries.

We suspect that we should actually have a more stringent disclosure requirement and a relatively low obviousness threshold which would lead to more and narrower software patents. I'll come back to that in a moment.

And in biotech by contrast, just to give you a sense of what another industry would look like, we have

long and very expensive development times that we should have less of a disclosure requirement, higher obviousness threshold, leading to fewer and broader biotechnology patents.

Now, some people cringe when we suggest that what may be needed in software is a different standard that would give you more and narrower patents because there are many complaints already that we have too many software patents. Let me note that we're talking here about valid software patents because we suspect that the majority of software patents that are issuing would be invalid under the standards that have been announced.

What are the causes for this? Well, I'll just suggest a couple that we found out. I have already mentioned the legal standard. We suspect that there should be some tinkering with the standard that's used to measure obviousness and measure disclosure in these industries.

More importantly, I think there's an informational problem that as courts are looking at these industries, we are typically looking at old technology, especially the biotech area but certainly the software area where things change very rapidly.

By the time a case gets up to the Federal Circuit we're looking at rather old technology and so they are

developing standards that might have applied 5, 10, 15 or even 20 years ago, but probably don't meet the needs of the industry today.

And so one of the problems here is working from facts that are no longer appropriate to what the industry needs. So with that I will close my presentation and look forward to engaging the other panelists in a discussion of the issues that they raised and the issues raised by this research. Thank you.

MS. DeSANTI: Thank you very much, Dan. We already have a lot out on the table to discuss and now we're going to get even more. Lew Gable.

MR. GABLE: Thank you. My comments this afternoon will reflect really my career in terms of preparing and prosecuting patent applications before the patent office. I can sympathize very greatly with Scott in his problem of enforcing his patent, even valid patents.

If you do not have a patent, you really have no protection and someone can come along and take and steal your idea and you have no recourse to that taking, that stealing of your intellectual property.

Most of my clients are small clients and they use their software patents in order to attract capital. And so it's not like perhaps a large company that has thousands of patents and the life of the large company

does not depend on one or two whether they are issued, whether they're valid or whether they can be enforced. But if you talk with most of my clients the first thing they are interested in is in terms of using their patents in order to get capital so that they can develop and market their invention. Literally, patents are the lifeline of this company that will keep it going until it can either make it or break it really in the marketplace.

One of the things I wanted to talk about, and most of my career has been in dealing with computer and now method of doing business patent, I wanted to go over some of the standards we have in terms of securing patents and to give you my feel on which are the most important which have been settled.

As you are aware there is at least two basic standards, Section 101 of the patent code, and this deals with what kind of inventions may be patentable. We have been operating now for 30 years with security protection for patents.

There has always been at least a basic question, can you patent software? Can you patent methods of doing business? And over this 30 or so years of time there has perhaps been 55 decisions of the Federal Circuit and the Court of Custom and Patent Appeals.

In addition, in I believe it was '96, the patent

office issued its software guidelines on how to prepare computer applications. And it's gone further. It has provided very definite and very meticulously detailed teachings of how to prepare claims that will pass 101 muster.

And so we come down to the point now in 2002 and we have a very well-defined standard. It is the practical application standard. If your invention, whether it's a method of doing business or whether it's software, if it has a practical application in the technological arts, then it is patentable.

State Street said this; AT&T reinforced State Street. The Supreme Court has refused to hear these on cert. And so this aspect of the patent law and the way it looks at software is very well settled, at least in the patent office, at least in the Federal Circuit.

But there are other issues, the issues involved in Sections 102 and 103. And this is the area where we get into in terms of what it takes to be patentable.

How much do you have to be different from the prior art in order to be awarded a patent? And it's in this area that we seem to have more difficulty and, as other people have alluded to, the problem comes up when you don't find the most pertinent reference.

And the patent office has been justifiably

criticized for examining patents and issuing them without the best art, the best technology cited against them.

The down side of this, of course, is that if you miss the most pertinent references you have seriously undermined the presumption of validity of your patent.

How do you do this? Well, how do you find better prior art? It's tough. There are some built-in problems that you have. Probably the first is just the very nature of the technology we're looking at.

I can remember when patents were just starting out a long, long time ago, someone gave me the project of trying to determine whether a certain piece of technology was infringed or not. And what I got was a box of object code and someone said, "Tell me whether this infringes my patent." That's almost a no-brainer. I mean, there's no way you can do it.

I said, "Fine, would you like to spend maybe $10,000- $20,000 going through this object code and telling me what it does?" It's often very difficult to know what processes, what functions, are happening in a piece of software if you only have the source code and much worse if you just have the object code. It's a very difficult task and of course you can't use that as a prior reference in the patent office to reject certain patents because you don't know what really that software

is going to do.

The other problem we've had -- and we've had it in the '80s with software patents and we're having it now with method of doing business patents -- and that is we have had a rush of creativity and patenting. In the early '80s there were no patents on how to program your computers.

There was very little out there that could be used as prior art references so the patent office was put in the position -- "We have no references so we have to issue this."

It's similar now with methods of doing business. Methods of doing business, if you want to have a birth date for these kinds of patents you might take it as December '97. This was the first time that the patent office issued a set of classification, their word. I think there was a handful, maybe 800- 900 patents at that point that were issued. And that's when they started to classify it and put it into a particular class.

Well, since then, since '97 and you go from year to year to year, there has been a 40 percent increase in the number of patents that are issued. But unfortunately in terms of prior art, most of these are not of much value because it's now taking two to four years to successfully examine such patents in technology center

2100, which is the group of examiners that examines business method patents.

Right now in that center the pendency for an application has gone from two or two-and-a-half years to three years in order to get your first examination. So you might be looking at four to five years before you would actually get the patent issued. And when that happens and it's happened with methods of doing business type of technology, you have nothing to recheck them with.

The examiner is sitting there trying to find a reference. And there's no reference because everything is being held in secrecy. It's an application -- the technology is described in a lot of applications but the examiner cannot use them to recheck the new applications that are coming in. So you do have a problem.

But in part, some of these problems are self-correcting. In the '90s, after we have literally a decade of incredible amount of patent and creativity in terms of software, you could go in and you can find prior art without much more difficulty than you can in any other technology.

And we're also seeing now in methods of doing business, we're starting to see the first basic patents issue. And they, of course, being the basic patents, I'm

sure, will be good ammunition for patent examiners to apply against applications that are just now being filed. There's other things that are happening that can affect the problem of whether or not you have the best prior art. Almost a year ago now, the patent office has begun to publish not issued patents but pending applications even before they are allowed.

In a single year, and I just checked this with Robert because I wasn't sure, but somewhere between 50,000 and 55,000 published applications have now been published in the span of one year.

This is going to give a tremendous resource to the examiners and to the patent bar to know not only what inventions are patentable under 102 and 103, but also are there patents out there that are of potential infringement interest?

One of the big things of the lack of technology or lack of patents is that you're trying to advise a client who's coming in and saying, "Can I enter this field and are there third-party patents out there that I will infringe?" If these patents are sitting in the patent office there's no way you can legally look at them. There's no way to find out whether your client will be just walking into an infringement problem.

And the thing that often happens, and it's sort

of tragic for the individual small inventor. They put a lot of money and a lot of effort into this process and two or three years down the line, typically, in the course of the prosecution of their own patent they found out another patent has issued that covers their invention and they're barred from using it. Hopefully, the present publication of references will go a long way to do that.

The patent office is to be applauded in many ways for how they have handled a very difficult situation. The office is criticized for not finding references and certainly that has to improve, but certainly they have done a lot to solidify and explain what the definition of statutory subject matter is.

In terms of what the patent office is now doing with methods of doing business, they have taken special procedures with this kind of invention, particularly in technology center 2100. They're doing a number of things. One of the things they're doing is they're encouraging their examiners to use the Internet.

If you're going to examine an Internet patent, where the best source of information is on the Internet. And so you go; you search and find the Web sites and get a disclosure of what's happening.

The other thing that is happening is that once the application has been allowed, a senior examiner,

typically someone from quality review in the patent office, will come in and before that is actually issued, the notice is set, the experienced examiner will take a look at that and will give it his or her blessing. So you do get a second review of these applications before they come out.

The other thing that is being done is that they want to make sure that each application is thoroughly searched. And so the group directors of 2100 have set up a set of fields of search so that if you have a particular technology, you will have to search a particular set of subclasses, particular databases.

For example, how about if you're patenting a method of encryption of credit card data? There is a particular subclass and there's a related subclass that deal with that technology in Class 703. According to the instructions that are given to those examiners, they have to search all of those subclasses and they have to search through related databases of technology.

And this has helped to ensure that to the extent possible -- you can at least in a particular technology center -- you will have the increased shortness of the examination in the hope that you have really found all the most pertinent technology. But to the extent that the patent office has done that there's other things, I

think, the patent office can do.

And these may just be the pipe dream, but what I would like to see them do is to give the initial examination of each of these patent applications more time. I have been an examiner in the patent office and one of the things that you're really crunched with is the time in order to make the first examination.

In the first examination you have to read the application which may be 30 pages; it may be a hundred pages. You have to search the prior technology and you have to also write a report and the time you're typically given for something that may be not too complex, you might be given eight hours to do it. And that is tough to do. It is very difficult. So it would be good if they could give more time with the initial examination.

And the other suggestion -- these are not anything new with me but certainly I endorse them -- and that is to take steps to keep the experienced examiners. There is a very significantly high turnover in the examiners particularly, I understand, in the biotech area as well as the software, method of doing business area. So at least at one time in the last recent history, 50 percent of the examiners that were in examining software had less than two or three years experience.

And if you're going to be able to examine well,

you not only have to know the patent laws, you have to know the technology. So the worst thing that could happen for someone like myself is to get an examiner who has just been in the office for six months because they don't know the technology and the references they will typically cite to me are not typically pertinent.

But the one thing, and I was just talking with Robert, is that what this means is that you have to have more examiners. You have to increase the number of examiners and yet this is going to be very, very difficult under the present ways in which the patent office is funded and the way in monies are given to the patent office, and particularly in relationship to the fees that are been charged for examination.

It's not the picture I would want and I guess I'm very concerned about this and the resulting inability really to do the examination that is required and to really find the most pertinent references. Thank you.

MS. DeSANTI: Thank you very much. Our final speaker before the break will be Ed Black. Ed?

MR. BLACK: Thank you. It's a pleasure to be here and I want to again congratulate the Commission and DOJ for bringing attention to what is a very important part of our economy and legal structure that needs, I think, a great deal of attention. As I said earlier CCIA has a

long history both in antitrust and intellectual property activity. We have been strong supporters of intellectual property over the years, and with software piracy, but we have also been very concerned that the scope of such things such as copyright protection -- I'll speak a little more broadly than just patents, but IP in general because they're tremendously intertwined in the software-Internet world that the scope of protection is not being properly extended so as to unreasonably impede the development of innovative hardware and software products that interoperate with other products in the marketplace.

We have our core goal to be vigilant in the efforts to maintain the openness of the Internet and the smooth operation of modern telecommunications networks. As a leading industry advocate for the application of legal standards that will effectuate the constitutional mandate to ensure authors "the right to their original expression" while encouraging competitors to build freely upon the ideas and information conveyed by a copyrighted work, a strong yet balanced system, we're convinced, works best for all. At the outset, it's important to emphasize that our antitrust laws are in no way subordinate to intellectual property laws.

This point was made very clearly recently when in June the U.S. Court of Appeals for the District of

Columbia delivered an *en banc* decision unanimously in the U.S. v. Microsoft case and it responded in that case to Microsoft's claim that their intellectual property rights excuse conduct that would otherwise violate antitrust laws.

"Microsoft's primary copyright argument borders on the frivolous. The company claims an absolute and unfettered right to use its intellectual property as it wishes. If the intellectual property rights have been lawfully acquired," it says, "then their subsequent exercise cannot give rise to antitrust liability."

The court continues, "That is no more correct than the proposition that the use of one's personal property such as a baseball bat cannot give rise to tort liability." The court wound up concluding that intellectual property rights do not confer a privilege to violate antitrust laws.

I would suggest this unanimous *en banc* decision should be in the forefront of all of our consideration on development issues in this area as well as focus here on copyright. It generally does use the language of intellectual property in the broadest sense.

It's that wise jurisprudence that we think should guide us and that, while intellectual property rights are absolutely essential to encourage innovation and

creativity, strong safeguards are also necessary to prevent the abuse of those rights.

I'd like to briefly discuss a few points related to one particular area, business method patents, which have obviously been mentioned.

There's little debate that the mechanical process in the offline world can be patented. However, in recent years some patent applications have claimed patent rights for taking a commercial process or business method that has existed in the brick and mortar world and promulgated it online. We believe that these kinds of patent claims do not serve the purpose of the patents laws.

Some examples include Amazon's one-click purchase patent, reverse auctions on the Internet and British Telecom's hyperlinking patent. The experience with these and other patents is illustrative of how the liberal issuance of business method patents can create perverse results.

PTO is clearly overburdened by the huge number of patent applications and has lacked adequate resources and we've had a good description of many of the problems that exist to conduct a kind of thorough prior art review for each application.

But unfortunately, the results therefore have been predictable. In order to remedy the situation,

Congress and the PTO needs to institute some basic changes in procedures, as well as the resources necessary to provide more meaningful opportunity for the affected business community to challenge the validity of a business method patent claim. We obviously have more details in our written submission which lay out some of this much further.

I think it's also hard to talk about software and the Internet without talking about the international Treaty and the DMCA law which has been implemented in connection with that. And you have Section 201 at the DMCA.

The anti-circumvention provisions of the DMCA we are concerned and at the time of passage indicated that we thought there were some fundamental flaws in that construction.

Legitimate efforts to deliver new and innovative products in the market and to consumers have been thwarted or have been challenged as violations of the law as amended by DMCA.

We recently have observed the rise of litigation involving reverse engineering of the encryption protecting digital versatile disks. This litigation exemplifies the undue narrowness of the DMCA reverse engineering process. We support very strongly a

broadening of reverse engineering exception to facilitate interoperability of any storage format with any operating system or software platform.

The other thing I think when we talk about the Internet and software is what it does in the world of information and data flow. And we have seen the issue of database protection has arisen.

And for several years Congress has wisely declined to enact legislation to protect owners of established databases from competition. Claiming to be victims of database privacy or free-riding, large publishing houses, largely foreign, and others now advocate passage of legislation to provide novel legal protection to databases.

Most others in the high technology, science and academic community believe an entirely new regime of intellectual property law is unnecessary, unwise and could have serious negative results on the impact and flow of important information on the Internet and in an open society.

We believe a mere compilation of facts already in the public domain in whatever form does not meet the constitutional standard for intellectual property protection unless there is a regional selection coordination or arrangement in the compilation as

indicated in the Feist decision.

Both this Commission and DOJ has wisely voiced objections to the Coble Bill in the House citing serious Constitutional reservations and concerns about the effect of this legislation. And we urge you to continue to do so when asked or not.

One final issue. We believe that competition issues are very important, as I said, in the development of products for consumer and enterprise software markets. Given the dominant position that Microsoft holds in these markets, it's important to look at the way in which they have attempted to utilize the Copyright Act as a strategic tool to achieve anticompetitive objectives. Restrictive licenses required of computer manufacturers and zealous protection concealment of interface specifications are among the primary tools Microsoft has used to protect and extend its monopoly position and thwart effective competition in related markets.

As a leading supporter of the Justice Department's case against Microsoft, we have recognized that antitrust enforcement alone is not sufficient to restrain an aggressive monopolist. The protection of vital user rights under the Copyright Act is also essential for the preservation of competition and innovation in the computer and software industries.

We felt it was necessary to mention Microsoft because they are the 800-pound gorilla in this world and it would be impossible to have discussion of the intersection of intellectual property and competition policy in the high technology sector without doing so.

The resolution of this antitrust case and the intellectual property and other remedies that are likely to be imposed upon Microsoft will be a primary determinant of the future of the competitive environment of our industry.

In conclusion, I said that this broad area that you are holding these hearings on is an area that is very ripe for debate. We're pleased to be part of it. We recommend that the Commission take a leading role in making sure that our intellectual property laws and competition laws achieve the necessary balance.

The courts on a whole, we think, have been doing a good job in trying to preserve the fundamental balance between protection and competition.

However, I think that, frankly, the other two branches of government have not. During the '90s some dominant companies persuaded Congress and the Executive Branch that stronger intellectual property laws meant more jobs and exports without consideration of the benefits of a balanced system.

The relevant House committee and the PTO within the Commerce Department have, I think, been overly influenced and persuaded by these arguments. Accordingly, intellectual property legislation over the past decade has steadily ratcheted up the level of protection with less concern for public domain, fair use and overall balance.

Where can we find the countervailing forces to the politically influential content industries and other dominant players? The courts can only do so much. They cannot create the exceptions and limitations Congress has explicitly rejected.

It would be unrealistic to expect the PTO to advocate strongly against the expansion of its jurisdiction and against the interests of its customers that fund its operations.

I would submit, however, to the Commission that it and the Department of Justice are logical countervailing forces to the strong dominant industries in this area. Their role is to protect -- your role is to protect the public against monopoly power and various corporate interests that seek to expand their intellectual property monopolies through legislation.

I would urge both institutions to please increase your capability in the intellectual property area and

your commitment to strong competition and to participate vigorously in interagency and inter-branch process on behalf of competition rather than deferring to agencies which may have substantial technical expertise, such as PTO, but lack the ability to put in perspective all of the relevant factors and maintain the proper balance. Thank you very much.

MS. DeSANTI: Thank you, Ed. All right. I think we're just going to take a ten-minute break to digest everything that we have heard and then we'll come back for an hour of discussion. So let's return at quarter of 3:00 please.

(Whereupon, a short recess was taken.)

MS. DeSANTI: I wanted to begin, Dan, by asking you a few questions about your presentation, and also you mentioned that you had some questions on your mind. So I want to let you follow up with those. But one question that occurred to me is -- well, there are two questions. One is was your research indicating that, in fact, in particular cases the way the Federal Circuit has applied the law which on the surface, at least as it is articulated, appears to have a one-size fits all standard that, in fact, in particular cases it was articulated -- it was applied differently or that the articulations were

different? That's one question.

And the second question is why would you ever want to talk about lowering the standard for disclosure? We have heard a lot from people through all of the sessions so far that the fundamental pact involves a period of property exclusivity in return for a disclosure that is in the public interest to foster innovation. So those are two questions to start with.

MR. BURK: Sure. The analysis that we have been doing, in particular these two sets of cases, Federal Circuit cases dealing with software patents and the Federal Circuit cases dealing with biotechnology, as you say indicates that in the abstract we have a one size fits all system. We say, well, we have these legal standards. We apply them to everybody. We apply them to semiconductors. We apply them to biotech. We apply them to software.

But the standard deals with something called the person having ordinary skill in the art. That's the legal standard that tries to match the characteristics of the industry and their needs to the patent law. So we try and evaluate patentability as compared to what's already known in a particular industry.

Now, that should be more flexible -- enough in the law when we look at software to say, "Well, we think

that the person of ordinary skill in the art in regard to software knows a certain amount and that will determine patentability, but the level in biotechnology might be different." For example, the Federal Circuit has told us that a person of ordinary skill in biotechnology is at the Ph.D. level.

That is not necessarily the case in software. It might be the teenage hacker in the garage might be the person with ordinary skill in the art in software. So we try to adapt it to the different industries and as we do that we're discovering that we are essentially evolving sort of subregimes of patentability so that the Federal Circuit has articulated a very, very distinct and unusual standard for biotechnology that says you must disclose a DNA sequence to us in order to get a patent, but once you do you are essentially assured of a patent, whereas in software they say, "Oh, well, just tell us what you want it to do."

And we figure that the person of ordinary skill in the art in software, once you tell what you want to have happen, they can always write the code. Writing the code is no big deal. Now, in reality we suspect writing code is a big deal -- getting the bugs out, getting it developed and actually getting it to function.

So again, the articulation has been one size fits

all, but the outcome is that we have very, very different standards for different industries.

And going to your second question, why would you want to lower the requirement for disclosure? Remember that one of the hurdles you have to get over to get a patent is you have got to disclose something to us. That's the pact that you talked about.

In the area of software there is essentially no hurdle at all. Tell us that it's a compiler; tell us that it's a spreadsheet. We'll assume that you can write the code. You don't need to tell us what the code is. You don't need to give us a flowchart, don't need to give us any indication of how you do it, just tell us its function.

In biotech though, as I said, this standard is very, very stringent. You must have actually found the sequence even if one of ordinary skill would know how to find the sequence. And so that creates quite a barrier to the biotech patent application -- I have already done the work but to have the sequence in hand before I'm entitled to a patent.

And it may be that a lesser standard would be appropriate because part of what we're trying to do as we heard from some of our first panelists is use this patent to get venture capital, use this patent to get the money

to develop something.

And so maybe if I know how to get the sequence, even if I don't have the sequence in hand yet, it may be appropriate to give that person a patent so that they can attract the venture capital to innovate, to actually develop that and turn it into a marketable product.

You asked about some of the questions I had. One of the things that came up several times with the other panelists comments that I found fascinating and really resonated with is the intersection that looked at the measure between copyright of the content industries and patenting of the software or Internet innovations.

And one of the issues that has been on my mind is the question that Mark Webbink had mentioned and Ed mentioned with regard to fair use. Of course, in the software copyright context, fair use has been critical to competition because the courts have told us that reverse engineering someone's software is a form of fair use.

And so fair use essentially gives you the ability to look at somebody else's code, look at somebody else's software and create an interoperable or competing product. Patent law, as we know, doesn't have a fair use doctrine. So as we're starting to patent these things it seems to me that we may be inhibiting innovation, inhibiting competition, because I can't reverse engineer

someone's product, can't do what I can do in the copyright area with patent.

I wonder if the other panelists are seeing this -- that because there's no fair use in patent law, it's harder to create interoperability, harder to create competing products?

MS. DeSANTI: Let me add just one additional part to that question which is a question of when do you choose copyright versus patent protection? When does it make sense to choose copyright protection for software? When does it make sense from a business perspective to choose patent for software? Lew?

MR. GABLE: A lot of it depends on what's commercially at risk. A patent in the software area may cost you $30,000- $40,000 to file and prosecute.

MS. DeSANTI: Could you pull the microphone a little closer? Thank you.

MR. GABLE: It will cost you $30,000 or $40,000 to prepare and file and prosecute a run of the mill, 15-page patent application protecting a particular application program. In order to do that you have to justify that expense.

And at that point if you do have that need to protect that technology because the market is going to be sufficient to support that kind of cost, then you

probably want the added advantage of the patent.

The patent uniquely has the advantage to protect a process. And you take a look at most of your software patents. You take most of your method of doing business patents and they boil down to a simple flow diagram.

Everything that goes into a claim can almost be correlated back to a simple flow chart, so you can get protection at a fairly high level. And, of course, that's our goal, to get as much as we can. And, of course, what limits us is the prior art. And that's why it's so important to know what's the prior art so you can calculate how far you should go with the scope of your claims.

MR. BURK: Surely Ed has something to say about interoperability.

MR. BLACK: Well, I guess I was most intrigued by the question because you felt the need, Susan, to qualify it and say business reasons because the truth is that's what is governing here and that's what's wrong. It's not innovation enhancement rationale.

It really is covering yourself and liability and protecting and making sure you've got instead of somebody else. And somehow we have intellectual property interlocking regimes where the goal is really how to game the system.

And I'm afraid that just in too many different places it has lost its fundamental engine, which is it's supposed to be the dynamo and the legal structure that really promotes innovation.

And I'm just increasingly seeing that that's not its core function, that the core function is business strategy, gaming, squeezing players out, preventing people from wanting to take risks -- some of which are not relevant to innovation. Some are absolutely contrary and counterproductive.

I can say positive things too -- I guess I'm overemphasizing the negatives here, but they do seem to stand out. And I think it's worth pointing out that I haven't researched the year so I could be off, but somewhere in the early '90s was the point at which software patents really exploded.

And until then, I think the number I remember is seven or something existed. And most of the tremendous dynamic growth in the computer software industry occurred before then. So you had vigorous dynamic vital growth, exchange of information, rapid innovation without needing any innovation boost from the patent system for software. So now we've got it.

And everybody's got thousands of patents that are all over the place but it's really hard if you look at

that history to conclude that patenting of software is a really valuable catalytic plus for innovation.

MS. DeSANTI: Let me just stipulate to clarify on the record that when I say for business reasons, I assume that innovating is a business reason. Scott?

MR. SANDER: Yeah. I wanted to say something that Ed might be a little surprised at, but certainly will be interested to hear, and that is that I didn't actually, at first, respond to that question because it seemed to be a question about patenting software or copyrighting software.

And we have patents that have both method and systems claims. We build a system to distribute the movies and music of digital audio and video electronically. We have patent protected many things that we have done around there, but I'm not qualified to answer the question because we, specifically, as a business strategy since Day One never make software because we live in America and patented or copyrighted it doesn't really matter. There, that's my gift to you today, Ed, because there is a reality called Microsoft that puts us in a very different situation as a small company trying to build a business.

So we only leverage the software that Microsoft creates and then patent protect the method and system so

that we don't get Microsofted on our core business. So that's a concession that we do neither because we just bail before we even start because we don't do software. And that's probably another area on the other side of town.

MS. DeSANTI: Yes, exactly. And we're not covering those issues today.

MR. BURK: Those are both very interesting comments to me because I'm reminded of a story about a close friend of mine who was a property attorney who moved from a law firm to an in-house position with a new Internet startup.

And his first day there he went down to see what they were developing, what the engineers had come up with. They showed him their latest product and being, of course, an intellectual property attorney like Lew or myself, said, "Gee, I wonder if we can patent that?" And so they thought about it and they said, "No, it was too obvious." They wouldn't be able to patent it.

And he said, "Well, maybe we can protect with copyright." And they thought about that, the engineers, and they decided no, copyright wasn't really very good protection for that. And my friend said, "Well, what are we going to do? We're going to lose the company." And the engineers looked at him like he was insane. And they

said, "We're going to sell this for six months until our competitors copy it and then we'll move on and sell something else."

And that's what we do in this industry, which tends to anecdotally support Ed's view that maybe when you have a very, very short development time and very, very short life for some of these products, some intellectual property protections, as they now exist, just are not terribly helpful in your business plan.

MS. DeSANTI: Mark, I have to ask you this question. You mentioned that you do have copyrights and I'm wondering as a corollary whether you can help us understand if making money from protecting intellectual property rights is not your business revenue model, what is?

MR. WEBBINK: Well, maybe addressing that issue first would be helpful. While we derive some income in our company from the distribution of open source software most of that income centers around, in terms of if you think of a traditional boxed product, the fact that we are delivering convenience at that point because the same product that is in that box is freely downloadable from our website. But if you are not on a T1 line, if you're trying to download Red Hat Linux software with a 28K home modem, if you don't have about six days of free telephone

time it might take you a while to do that.

And so it's there as a retail product to help consumers be able to get it on a CD, get some technical support, get some credit manuals, that sort of thing. And the software itself is still fundamentally free.

So where do we derive the rest of our income? We derive it from a variety of things. One, we have a very robust training and education program around Linux and other software related to open source software including training on C++ and things like that which provides a good deal of income for us.

We do derive some income from just pure technical support, the kind of, "I need help. I'm trying to get this software installed. I've looked at UNIX my whole life and can you help me walk through this?" developer support which is becoming an increasingly important thing for us. I'll come back to that in just a second. Engineering services, much of that's been focused on embedded systems, but it's also been support of other software vendors who are interested in porting their products to run on Linux and need interfaces developed so that the applications will run.

A growing portion of our business is in just pure IT type consulting. Related to Linux again, you've got large users that are looking to convert their operating

system and they don't have the internal resources to make this migration. They need help. They need a migration path defined for them. They need assistance in making the migration. They may need some high-level software that they use from other vendors ported in advance and so we have consulting services built around that.

And so the vast majority of our income is derived from services and almost nothing from what you would traditionally think of as the sale of software. Going back then to understanding where we are in our industry and in areas of where we do compete and compete effectively in areas where we have, for very rational reasons, not competed against the company that has a 94 or 96 percent market share.

Where we have competed effectively is in the server market, both in web servers and enterprise servers. And there, the biggest gap we had to overcome was not within the web server market but within the enterprise -- large industry looking to adopt an alternative operating system.

And there they needed, again, assistance in convincing major ISVs, and those would include companies like Oracle, IBM itself with its DB2, Lotus Notes and products like that, Veritas. These are companies that are providing software that is critical to large industry

and that software didn't run on Linux.

And so we had to bridge that chasm. We had to get from the early adopters to a point where those ISVs now saw that that's where the market was going and started moving and wanting us to help carry them into that marketplace. And that's where we have gotten to.

So some would say that, in fact, this is before I joined the company I read the comment somewhere, Red Hat was a successful IPO in search of a business plan. And I would say that to some extent that might have been true three years ago. But the company has very much focused itself now.

We are in a business where we don't have the ability to look and say, "Well, what did somebody else in this industry do because there has not been an open source company that's been built on open source technology before." So we have had to take a few steps forward and even once in a while take a step back and say, "Okay, this is an area where it's working and this is an area where it's not working." Where we found that it does work though is built on a subscription model that is fundamentally built around service and customer convenience at very different levels. At the retail level customer convenience was built on simply delivering a CD rom. At the enterprise level customer convenience

is built around a system that we called Red Hat Network which allows system updates and management to take place at a very high level.

We touched earlier on the fact that there are multiple regimes here that touch on software and this is something that I don't think the average person recognizes, that software is touched by virtually every form of intellectual property regime, be it patent, be it copyright, trademark, which is critically important to my business, and also trade secret. They have all touched on it at one point or another.

It's now at a point and I think in some respects while maybe not totally unique, it is probably more unique in that regard than other areas of intellectual property. It's not something you see to the same degree in chemical or mechanical items.

And it's that overlay to where you've got fair use under copyright, but proprietary companies saying, "But you can't reverse engineer my product." And their product now contains patents that they're supposed to have offered disclosures on, but you look at what's available in terms of a disclosure and all you can look at are claims that are extraordinarily broad.

And I recently got a very typical letter in the patent industry from a law firm representing a company

that holds some patents inviting us to consider taking a license in their patents because they've got this broad range of technology covered by their patents that they have acquired.

And I take those and I send them out to our software engineers and in a matter of about 24 hours they have cited prior art to every one of these. And this isn't something that should have been hard to find. It's just this type of technology was well known several years before these applications were ever filed. And yet the patents have now been issued.

Now, this being the typical run of the mill sort of situation I'm probably going to tell these folks what they can probably do with their patents, that we are not likely to take a license. But you take those same patents now and put them in the hands of a very large corporation that's got $40 some billion in cash in the bank and you've got a very different situation.

How do I fight that situation? I can't simply ignore that and I'm not on a level playing field anymore. And that's part of where our concern is with this process. Red Hat is not opposed to intellectual property protection. We are not opposed fundamentally to patents and patenting things, but as a casual discussion was going on during a recess, it's largely about balance.

Where do you strike the balance between what is, for lack of a better term, true innovation, something that is adding value, and something that is simply trying to carve off a block a world and starts off with its first claim is, "We claim all things existing within the solar system operating around -- consisting of nine to ten planets," and that's the first claim. And you go, geez, I think somebody came up with that idea first.

Those are the sorts of things that we feel like the system has gotten out of kilter in, where the area of business methods, software patents is different from other areas.

MS. DeSANTI: Well, let me follow up and ask others, and Dan, you may have information on this, are you seeing in the cases that you have looked at really broad claims and to what extent do people around the table feel that there is a problem with the quality of software patents being issued? I know, Lew, you mentioned a number of initiatives that the PTO has taken to try to deal with this issue but maybe you can have some reflections as well on where they are in those steps.

MR. GABLE: There's a couple of thoughts. It is very difficult when I hear something, especially in the newspaper, that will say a patent covers this huge scope

of technology. And you know as a patent attorney that if you get into the very precise and rigorous infringement determination, that the scope of that claim will turn out to probably be something much narrower, and I think one of the great examples of this is the Amazon.com patent.

I have not looked at it in great depth, but I know enough that the people who did look at the references and after a number of days of making a determination came up with the idea that this was not clearly obvious over the prior art.

There's a question here. The District Court looked at the references, looked at the scope, and said, "I think this is valid." It's apparent from the dicta in the Federal Circuit decision, which reversed the preliminary injunction, that they were not quite so sanguine about the patentability of this. This is close.

And I think most people would paint this, especially in the newspaper, as here you have this way overbroad patent. If it was very, very overbroad one thing that would happen in the patent office, the patent office would start a reexamination process of this on its own initiative.

But I'm fairly certain that the people in the patent office gave the second look at this, and they came up with the conclusion on the second time around, this

was in private, that these claims were nonobvious when they gave this the second look. And so no reexamination process of the Amazon.com patent ever happened. But you see how the Commissioner of patent or the Director, now, of patents works that if there is a patent that is getting severe press, and of course Amazon.com patent, the patent office will consider whether it should on its own initiative or not take a second look at it. And they do.

In a number of situations, they do just without outside party involvement at all, they will take a second look. And in some cases they have significantly narrowed the scope of patents that were issued.

MR. BURK: I think two or three thoughts on that. The first is the one that's inherent in Mark's comments, which is that the problem is not a patent with overbroad claims or a few patents, but sort of a death by a thousand cuts, that there are many, many of these patents, that it's very difficult to determine which of them are valid or not.

Looking at what the Federal Circuit says about the standard, first of all, makes it difficult to determine whether it's invalid because, as Mark indicated, there's rarely disclosure on most of these. So they're claiming a lot with minimal disclosure for you

to evaluate on and the Federal Circuit tells us that the obviousness threshold is going to be very high.

So we would guess that many of these are going eventually be found to be obvious, at least. But that is several years and many thousands of billable hours down the road before you get that determination. And so it's the fear factor when you get this kind of delay the market is talking about.

I think the second point to make in conjunction with that is to ask ourselves what we think patents are doing, because one of the assumptions that we typically make and that we have been making in our discussions so far is that patents exist to be licensed to provide an incentive or payback on investment.

When you do R&D, you then have a piece of intellectual property that you can license and collect royalties on or sometimes infringement damages on.

But we note the vast majority of patents are never litigated, never licensed, in more than 90 percent of patents. Well, what are they doing out there? Why are people spending money to get these things? We've heard some of the things that they're used for, right?

They might be used to attract venture capital and never licensed and never litigated. They might be used in a situation where I'm simply being defensive. Mark

talked about that a little bit. I'm afraid of my competitor who has big portfolio patents. One way to protect myself is to develop big portfolio patents myself, in case they ever decide to sue me, that I have something to countersue with.

They might be used as negotiation chips in various kinds of joint ventures. They might say, "Well, you're bringing something to the table. I can bring this portfolio of patents to the table."

So there are a lot of sort of nontraditional or nonexpected uses of patents. And the question then becomes how much examination, how valid do we want them to be to be used for all kinds of purposes? Clearly, if they're going to be used to ask you to license or ask you not to develop a certain technology without paying a royalty, we would want that to be very stringent and be real sure that that's a good patent.

If they were being used to attract venture capital or signal something about your business plan, it may be less important, but to make sure that they're really on solid legal footing. If they're being used as sort of negotiation chips or for defensive posture, it may be even less important.

So they're being used for different reasons than maybe we had originally anticipated. And it's not clear

how much effort we need to put into those different types of uses for them.

MR. SANDER: I had a comment about the observation that when these things that are actually quite complex end up in the media and it's a very simple sound bite and, especially the Amazon one-click, you just think -- two things immediately come to mind. That must be obvious. And the second is, so what? Just do two-clicks.

So what's the value? That's been a little bit of a problem for us at SightSound Technologies because, to go back and do a little more history, in 1995 we started our company and sold the world's first music download, the same year that Jeff Bezos started his company.

And we thought this guy is so dumb because he's only halfway home. He's taking the order electronically, but he's fulfilling the object physically. Meanwhile, over in Pennsylvania where we were selling from, back then they had a little thing. Every time they would sell a book they would ring this bell and then as business really started to take off and the bell was ringing so much they had to unhitch it, ours wasn't ringing quite as fast.

But we were convinced that it was a superior solution to both take the money electronically and

fulfill the transaction electronically. Well, I just say that to give you the sense that we were both there doing business already, precisely because we had raised venture capital around our patents in 1995 before they even filed for their one-click patent. And we were doing our business based upon a filing from 1988 for a patent that issued in '93.

And our first order of business in '93 was we went around to all the record labels and movie studios and said, "Here we are, a couple of guys, and have this patent, and these are all of the other things that we want to do. And we would like you to invest in our company to get us started."

And they looked at us like a couple of guys that had a patent on an internal combustion engine that ran on seawater and we were at Exxon asking them to put up the money. So we recognized after a while that we would probably have to do a bunch of other innovation before we could get the skeptical record label executives and movie studio guys to come on board.

So we were able to raise and spend $24 million doing a whole bunch of other innovation that became the basis for more patents and enabled us to shift from music to movies and build the systems, do all of the stuff, but we were doing it because we had the money from the

patents.

We went to the skeptical copyright holder. They kept throwing higher and higher and higher burdens. We kept getting over them. And finally, we came back. We were like, "Okay, you want the broomstick of the wicked witch of the west. We delivered it. Can we go to Kansas now?" And they still -- that's a whole different story, but you know they still are withholding the copyright.

So I think we are a case study in the initial patent, which a lot of people piled on after us and tried to get method patents or a particular way of doing business electronically.

We were so many years before that that we were already in the second generation with our patent process, which was solving all of these other problems for them. But the problem is we get all painted with the same brush: one-click, two-click. That's a lot different than years of solving each problem to try and get a skeptical copyright holder to release their movie or their music electronically.

MR. BURK: I have to say that one of the things that concerns me about something like the Amazon patent or the patent on the peanut butter and jelly sandwich or the golf swing patent or the other ones that have gotten into the popular press is that if people like Scott are

using patents for nontraditional uses, or not the traditional, "I'm going to license this and collect royalty," use, if you're using it to convince skeptical business partners or to bring something to the table in a joint venture -- and the public has begun to lose confidence in the patent system because they have heard so much about what looked to them like ridiculous or obvious or what should be unpatentable types of items -- that you begin to get this kind of reaction that Scott experiences where you show up with something that's truly innovative.

You have a patent on it and it no longer has any currency because the public or investors no longer believe that the patent office or the courts have done their job so you have something that's actually valuable to bring to the table in your business transaction.

MS. DeSANTI: That relates to a -- well, go ahead, Mark.

MR. WEBBINK: I was just going to ask, having not been involved in patent litigation directly myself at this point, if one of the other panelists would just speak, just for the record, about the cost of patent litigation generally because I think that needs to be well understood?

MR. GABLE: Ten million bucks.

MR. SANDER: How about many millions? It depends on who you're up against. It depends on what the patent covers and what's at stake. And in our case we just had a very decisive first-round victory in the Markman phase of our trial.

But if I had to venture a guess on Bertelsmann's side, we were admonished by the judge when we were all begging him, could you please issue this ruling because it matters to us in time of -- we don't have time like these big huge companies.

And he admonished everyone in the courtroom on a scheduling hearing and said, "I remind you, Mr. Sander, you have never been here with less than several lawyers. And I remind you, Bertelsmann, that you have never been here with less than an army of lawyers. And there's me -- the judge and his clerk."

And he said, "We are trying as hard as we possibly can. And you will have it." And he did finally get it and it was very, very good for us. But if I had to take a stab I would say it was $9-$12 million if I had to guess their side of it and add it to our side.

MR. BURK: Let me just say that ten years ago for patent law class we used to get 10 or 12 students. Now, on a bad semester I get 40 or 50. On a good semester I get 70 or so. So people know that there are jobs doing

this kind of thing. That market indicator should tell you how much money there is available for attorneys to make which tells you how much the businesses are spending on these kinds of suits.

MR. BLACK: And although I am an attorney, that's not the way we want to build the economy.

MR. BURK: Well, the Japanese have a saying that engineers make the pipe bigger whereas lawyers decide how to divide it up.

MS. DeSANTI: Well, I guess that relates to a question that we wanted to pose about the role of uncertainty with respect to patents or with respect to antitrust rules. Is there a role that uncertainty plays in how the competition evolves in this industry, both with respect to uncertainty about patents, patent quality, patent validity, and other aspects of it?

MR. GABLE: I think the biggest question -- I had a very interesting conversation with Scott -- is after you have gone through and you have done the best job you can in order to secure a valid patent that is patentable over the closest prior art, you always fear, I think, that there will be some new disclosure, some article, some product that has been sold, perhaps just a piece of software that has been sold, that has gotten no disclosure at all that could be an effective reference

against your patent. And there is always that uncertainty and I would like, perhaps, Scott to describe his bounty approach to obtaining references.

MR. SANDER: We were subject to a new idea which is pretty clever called Bounty Quest. And Bounty Quest was -- I think it actually had some money from Jeff Bezos as one of the investors if I'm correct. And they put out a $10,000 reward typically on these things, but for the SightSound, for the Hair patents, the SightSound patents, they put out their highest bounty ever of $40,000. And then it erroneously got into the media that this bounty had been paid for our patents.

MS. DeSANTI: Can you just clarify for the record, this is a bounty for people to come and say we have invalidating prior art or whatever?

MR. SANDER: Yes, yes. So it uses the power of the Internet to search the entire world to look for anything that's allegedly prior art. And so they awarded a $10,000 reward on patents called the Kaplan patents, I believe, or they're called the Intouch patents.

So they gave a reward of $10,000 for somebody that came up with something. That was patents on music sampling. And the problem was that somehow there was something wrong on their website or whatever and they actually - - somebody got confused and thought that they

gave out the award for the Hair patents. They did not. The Hair patents survived the $40,000, not the $10,000 Kaplan challenge, but the $40,000 Hair challenge. And they actually issued a clarifying statement saying that the process of surviving this Bounty Quest -- and we're still on the island. We weren't voted off or whatever -- that it actually served to strengthen the argument that our patents were valid.

And as an aside, the ones that lost -- we should have gone for the ten grand because the patents -- this goes exactly to what we're talking about today. The patents that were at issue and the bounty that was actually paid were filed for the year after we sold the first music, and when we sold that music there were 30-second free samples as part of the download.

So I think our business practice probably back in 1995 existed as that prior art but you couldn't go back and re-create 1995 and nobody cared that we were selling music download back then. And Jeff Bazos wasn't Man of the Year until 1999 and whatever.

So it is problematic when you lump all of these things together. But not to be overly quaint and quote Teddy Roosevelt one more time, but this has less to do with the patent portion of it and probably more with antitrust.

But we lived through an era where that's all we were looking for, what's the deal? We have the patents. We're trying to do the right thing. We're trying to play by the rules. And there were two ways of doing the business, our way where people got paid, and the whole Napster, MP3.com, all of this craziness was going on at the same time.

And Teddy Roosevelt once wrote, he said, "It's absurd and much worse than absurd to treat the deliberate lawbreaker as on exact par with the man eager to obey the law whose only desire is to find out from some competent governmental authority what the law is and then live up to it."

And we thought we were living in this sort of Alice in Wonderland upside-down world where Napster was celebrated and we were crucified because we had patents and they were just stealing all the copyrights. So we really do need hearings like this to get some order back to the discussion and say, "Look, we don't want patents that are issued badly, but they're property." And Michael Eisner sits up there and yells at Bill Gates and says, "You're stealing my property," and then I'm saying to Michael Eisner, "You're stealing my property," which he's not -- he announces an intent to with their Movielink and Movies.com services.

And right now there's all these people just pointing fingers at each other. And the American consumer is, in our business, just stealing the stuff because nobody will lay down their arms long enough to start selling it to them.

So your help is appreciated and even if it's not legislation, which I hope it's not, it's probably just getting the media back on track through hearings like this that there needs to be some rational thought about these things.

MS. DeSANTI: Thank you. Ed.

MR. BLACK: On uncertainty, just, I think, from talking to CEOs in my industry for many years on many subjects, they don't like uncertainty. They want certainty. Uncertainty equals unproductiveness and expensive overhead, frankly, costs that they don't want. Having said that, they might well prefer uncertainty to really bad rules, laws in that regard. So it does not say, "Just make it clear whatever you do," isn't acceptable, but it is important. And in these areas, I think, one of the reasons I think we would like to see some reforms in the patent processes is exactly so when the patent is issued you can say, "Boy, that is really a solid patent." And people can take it to the bank and feel good about it.

Things can always disrupt it but the higher degree of certainty, I think, is better, which arguably says we should be shrinking, not trying to massively grow that base of intellectual property. And I do think on the competition side of the equation we have witnessed I think some policy -- there's law and there's policy. And we've got enforcement and we've got rules. And I do think there is danger that wide swings in policy overlay over the law helps to undermine the credibility and the effectiveness of the law for everybody in terms of, again, predictability.

And right now we're, I think, very concerned that there seems to be, there had been -- just real quickly, I think there had been a sense that in the '70s it got overly regulated and detailed. In the '80s the pendulum swung the other way and it kind of was anything goes. '90s was the feeling that it was coming back into more even keel and now it's, I'm afraid, we're sensing a real sense that antitrust policy just lost its clout as a credible, desirable policy outcome. And I think in addition to disagreeing with that substantive outcome I am unhappy about the swing pendulum aspect of policy evolution.

MR. GABLE: One further thought that hasn't been brought up so far, and Bob and I have discussed it a

little bit, and that is the possibility of an effective reexamination procedure. What is the answer to the clearly invalid annoying patent that is capable of great mischief in this use?

One simple answer would be the reexamination procedure. We do have such a procedure in the patent office, but there are significant defects in it, primarily that the person challenging the patent holder is at a significant disadvantage procedurally. And if you lose, if you're challenging a patent and you lose, then you're barred, you are estopped with the result that your device would infringe a certain patent.

If some small modifications could be made to the present system whereas the field would be more level for both the patent holder and the challenger of the patent and if they both have equal access to review, particularly to the Federal Circuit, such a procedure would be a very effective, at least comparatively to the $12 million or $1 million it would not cost that in order to knock out these patents which are overly broad.

MR. BURK: Let me qualify that just a bit because that's been the subject of some discussion, certainly in the active research literature about broadening or changing or extending the reexamination process.

And it's certainly an idea worth exploring but

some of the objections that have been raised to that is we already have an overburdened patent office. And so at least without making some real changes in the way things are done, it doesn't seem to make a lot of sense to dump back onto them again things that they have already looked at once.

And maybe a less kind and less gentle objection has been that there may not be much incentive for the patent office to look as carefully as they might at something that's already been through there once. There may be some institutional moral hazard, you might say, in looking at that.

So whichever way you want to take that, whether its an overburdened patent office or some institutional difficulties, that may not be the total solution. I think Lew may have mentioned inadvertently another part of the solution, which is he talked about misuse. And we have essentially gutted the doctrine of patent misuse over the past few years.

It may be that we will have to revisit that penalty of nonenforcement for misusing of patents. It might create a credible deterrent for trying to get and enforce patents that shouldn't be enforced.

Notice, interestingly enough, that the renaissance in misuse over the past few years has been in

the area of copyright of software where people have tried to enforce or overreach with regard to their software in the copyright context. It may make sense to relook at the question of misuse of the patent software context as well.

MS. DeSANTI: Thank you. As a follow up let me ask if any of you have observations or insights or experiences related to the burden that is put on the PTO under the case law to justify the rejection of an application? One would just think logically that if there is a burden of proof to show that, in fact, the application should be rejected, then that might prove to be an additional hurdle, in close cases, as you say, Lew, to ensuring that in fact patents that are of the proper quality are issued.

This is an issue that's been raised by some and I'm wondering whether any of you have observations or thoughts related to it.

MR. GABLE: Maybe I can get a little clarification. You mentioned cited case law. When you get a rejection from the patent office it usually names the patent that's being cited or perhaps some article that is being cited. And the patent office in the last five, ten years is doing a better job of formatting what goes into a rejection.

Under these internal guidelines of the office, you need to state where each element in the claim that is under examination is found in the prior art. And typically, what you have is the cited patent shows and then they take the claim that is being examined and try to show in the asserted reference what element meets that.

And if they can make a clear teaching that each reference, each element of the claim, is met by the reference then that patent is validly rejected. Of course, then as a patent attorney we go back and take a look, element by element by element, to see if there is a clear teaching. And that is one of the very difficult skills to teach the examiner.

There is fair application and there is application, particularly of say a young examiner who really has not gone through this process and is not applying the reference element by element in a clear way.

MR. BAHR: I think the question you were asking was under current Federal Circuit case law, the office has the burden of establishing unpatentability of a claim to reject a claim.

MS. DeSANTI: Correct.

MR. BAHR: And I think you were asking would things be better if say the applicant had the burden of

establishing that a claim was patentable before we allowed it?

MS. DeSANTI: Thank you, Bob. That was my question.

MR. GABLE: Okay. I missed it.

MS. DeSANTI: That's okay. Well, Bob articulated it better.

MR. BAHR: From Patent Office lingo.

MR. BURK: When we're thinking about procedure in general, whether it's at the patent office or anywhere else, we typically want to calibrate a burden of proof or standard in such a way that the burden rests on the party with the most information.

And my sense has been, at least in the areas I'm most familiar with, and Lew or others can correct if this is different in the software area, but the party applying virtually always has more information than the patent office does.

And given what we know about the burden on the patent office and at least some studies indicate the patent examiner spends a total of maybe 18 hours with an application that is making its way through the patent office.

It's unlikely the patent office is going to develop better information than the party has. And so

from a policy standpoint you would think that we would want to calibrate things in such a way that the burden be on the party to produce the information rather than the patent office to try and develop the information.

MR. GABLE: There is some procedure at the patent office. I mean there's the duty of candor that the applicant and applicant's attorney owes to the patent office. And if you have some information, whether it's prior art or anything else that would affect the validity of the patent, as an attorney, as an inventor applicant, you're under an obligation to disclose that. And if you fail to do that, that of itself could invalidate your patent. So usually most patent attorneys are very scrupulous in citing everything they potentially can have to the office.

MR. BURK: I think maybe part of what makes the question is, under current Federal Circuit case law that duty of candor is always completely toothless. You're right. But if you aren't candid -- you're right; in theory, it should invalidate the patent but virtually never does. So there's no real penalty there for failing to come forward or to be as diligent as you could be.

MS. DeSANTI: Another issue that has been raised is that there is a duty of candor with respect to what you know already, but there is no duty to search. And

we've been told by some companies during these hearings that they go out of their way not to search because they don't want to know about things and then be accused of willful infringement subject to treble damages subsequently. And any views on that?

MR. BURK: Just the same one I expressed a moment ago that you want to put the burden -- I mean, always in court, in an agency, anywhere -- on the party that has the most information or has access to the most information.

MR. GABLE: Well, there are some incentives that are not written into the rules of the patent office of the statutes. In talking with Scott here on his patent application, one of the things that they did with the results of their searching was to give it to the patent office.

There were an extreme number of references involved, but the reason you would do it, and it has nothing to do with the rules, is that by putting this much prior art into the record of examination, you certainly probably have given the patent office the best references they'll find.

But it also establishes a level of validity. In other words, to seriously challenge the validity of this patent later you would probably have to find a reference

that's not included in the submission of the applicant to the patent office.

And so, you can almost tell me to look at a patent on the front page, how many references are cited against it, I take it as a measure of the effort. If you go a couple of pages of references, you have been very diligent in bringing the prior art to the patent office.

MR. BLACK: I suppose I would think, though, that if we wanted to put patents into different motivations for getting patents, which is not that easy, it's complex. But nevertheless, the attempt that some people, they're getting in there. The rationale that I think they came up with, we don't want to know too much, we can use for leverage. We can use it for trading or we're big enough to bargain and pressure people.

You get a different dynamic. I think what you describe, Lew, is the traditional ideal model of somebody who really has got something, wants to go in and get a patent, license it, what I think we all thought was the core purpose of it and what I'm saying, I think if the patents are going to be done, the different kind of gamed system, then that model doesn't work for a lot of people.

And, in fact, the instinct to not do that research, to not know all of that information, those things become much more cost effective little strategies

to process through the system.

MS. DeSANTI: Well, I'm not quite sure where the siren sound came from, but I was wondering whether someone had a timer on because we are coming to the end and what I'd like to do is give everyone a chance to make any closing statements, cover any thoughts you have that haven't been raised so far. Mark.

MR. WEBBINK: Just to cover a few points and Robert's been very patient listening to us rail to some extent on the patent process. But I don't think any of us look at it as something that is institutionalized necessarily into the Patent and Trademark Office other than as it is treated legislatively.

There are some curative measures and some of them are legislative. Funding, which has been a sore spot for any of us who have practiced in this area, the fact that reported user fees are levied on people seeking protection, intellectual property protection, logic would dictate that those user fees should go to fund the organization that's trying to prosecute and deal with those matters. And yet those funds are diverted to the general fund of the government and away from that office. And then the office is considered overburdened. It seems like we've got a disconnect there.

I think the issues of patent misuse need to be

revisited. The issues of disclosure, especially within the area of software and business method patents, and while we have a system that attempts to put the same shoe on every foot regardless of technology one has to question whether that ought to be the case, whether there are different realities that exist for pharmaceutical versus software, for chemical patents versus mechanical patents. And should they, in fact, all be treated differently or the same?

These are, in fact, legislative matters that need to be dealt with and I don't see any groundswell. If anything where we're seeing the groundswell of legislation being pushed is for stronger and stronger measures, criminalizing practices that have been previously noncriminal practices, industries that have great financial strength go into Congress and say there is no technology that would allow me to safely download my digital content so we need the government to take action and step in on this matter.

Well, in fact, there is technology that would do it. And they know that there is technology that would do it. So there are a host of legislative issues. I then look at the folks that we've got before us and I say, for the rest of us, where's our protection? And it's with the agencies that are sitting right here.

It's with the Department of Justice and it's with the FTC, and asking you all to focus on these matters in the manner that you have, but understand that there is a reality out there that I'm not sure the average member of the public understands about how business is being conducted in this country right now.

MS. DeSANTI: Thank you. Scott?

MR. SANDER: I'd like to just finish up by saying that bigness does not necessarily equal smartness nor is bigness in itself a crime. Let me give you two examples. I told you the story of Arthur Hair and our patents and I think we are -- I hesitate to use the term "poster children" because it makes us seem very much like victims and we're not -- but we are the classic case of where we have got it fair and square. We used it right and then everyone woke up and took notice. That seems to me why the patents should be issued on one hand.

But then I've had a personal experience. I have five young children and my youngest of the five children has bone disease that called osteogenesis imperfecta. It's called brittle bone disease.

And a pharmaceutical company figured out a way to use this class of drugs called Bisphosphonates to treat this and my daughter, who is now seven, from the time she was two to the time she was four, she broke her legs

seven times. Every time she would learn to walk again she would break her legs.

From the time that we took her, actually to put her into this experimental drug treatment, until today she hasn't had any fractures and this Christmas she danced in the Nutcracker with her sisters.

And they did that because they make these drugs because they get the patents and they can put more money into it. So I'm going to leave all of that to you people because it is not that simple. It does matter. And some day SightSound Technologies may be a very big company and I hope that we use our patent rights well. And I think these issues have to be balanced.

MS. DeSANTI: Thank you. Well, thank you all very much for coming. This has been an extremely interesting discussion and I would ask you to join me in thanking our speakers as well.

(Whereupon, the hearing was concluded at 3:54 p.m.)

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

CASE TITLE: HEARINGS ON COMPETITION AND INTELLECTUAL PROPERTY LAW AND POLICY IN THE KNOWLEDGE-BASED ECONOMY

HEARING DATE: MARCH 20, 2002

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: March 28, 2002

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DEBORAH M. TURNER

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.

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SARA J. VANCE