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COMPETITION AND INTELLECTUAL)
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THE KNOWLEDGE-BASED ECONOMY.)
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FEBRUARY 27, 2002

Wells Fargo Room
Haas School of Business
University of California
Berkeley, California

The workshop in the above-entitled matter commenced at 9:42 a.m.

P R O C E E D I N G S

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MR. BARNETT: My name is Michael Barnett and I'm a staff attorney with the Federal Trade Commission. I'd like to welcome everyone to the third day of our hearings at the Haas School of Business here at the University of California at Berkeley, entitled *Economic Perspectives and Real World Experiences with Patents*.

The hearings in Berkeley are provided with the support of the Competition Policy Center and the Berkeley Center for Law and Technology of the University of California at Berkeley as part of a larger series of public hearings from the Federal Trade Commission and the United States Department of Justice Antitrust Division, investigating competition and intellectual property law in the knowledge-based economy. This mornings hearings are entitled *Business Perspectives on Patents: Software and the Internet*.

Here today I would like to introduce Commissioner Mozelle Thompson from the FTC to my right; Commissioner Tom Leary also from the FTC here to my left; as well as Susan DeSanti, Deputy General Counsel for Policy Studies at the Federal Trade Commission; also, Pam Cole, who is a trial attorney at the United States Department of Justice; and Ray Chen,

Associate Solicitor at the United States Patent and Trademark office.

Gathered with us are representatives from software and Internet companies as well as academia and the legal community, to provide us with their insight into patents, competition and innovation within their business or field, and in turn, the industry in general. In my opinion, I think that this is an exciting group of individuals who are impressively distinguished in their fields, and I'm anxious to hear their thoughts.

With that in mind 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 who they represent or what their area of expertise is, to provide us with some perspective toward their relationship to the industry.

Following these introductions, four of our participants have graciously offered to provide us with a brief opening presentation to introduce us to ideas and issues that they find particularly relevant and important to the issues at hand. This hopefully will set the stage for further discussion from the entire panel into these and other issues.

To my far right is Joshua Kaplan. Joshua

Kaplan founded Intouch Group, Incorporated. The company's flagship product was a patented record store kiosk that allowed music consumers to preview any CD in the store and that collected data on certain consumers. The company received a patent on its on-line music previewing system as well.

Before founding Intouch Group, Mr. Kaplan was a technology research analyst with Gartner Group and worked with the San Francisco-based investment banking firm of Robertson, Stephens and Company.

Mr. Kaplan.

MR. KAPLAN: Thanks, Mike. Good morning everybody. Just briefly, I think Mike covered what we do, but we started encoding music back in 1990 and developed --

MS. RODRIGUEZ: Excuse me, could you just speak into the microphone a little more?

MR. KAPLAN: Sure, sorry.

MS. RODRIGUEZ: Thank you.

MR. KAPLAN: After coming out of the technology and investment banking business we put together a company that was responsible for approaching the music industry, this was back in 1990, and telling them we felt we had an interesting concept on unlocking the potential of the music to the consumer at the retail level while

collecting demographic and psychographic data on the customers so that the music industry could find out a little bit more about what their customers were doing.

The way that this worked was somebody would walk into a record store, fill out a form, get a card, walk up to device called an iStation, scan the bar code of a CD and be allowed to listen to anything on the CD or the tracks that we'd encoded. We encoded roughly 200,000 CD's and this was starting in 1990.

We received a patent on that product called the iStation, which was a physical kiosk. We transitioned the business in 1995 to an online business, and received a patent in 1999 for the online version of the interactive kiosk that allowed for previewing music and collecting psychographic and demographic data on a customer and tracking the customer's progress through the website.

Since receiving the second patent we put approximately 190 companies on notice and went into litigation against 6 companies in March of 2000. We have settled with 5 of the 6 companies. We're currently in the Northern District litigating with the final company, and I'll talk a little bit more about that as we go further on.

MR. BARNETT: Next we have Robert Kohn. Robert

Kohn is Vice-Chairman of the Board and Director of Borland Software Corporation. He is also the co-founder of Emusic.com and the former Vice President and General Counsel of Pretty Good Privacy, Incorporated, a developer and marketer of Internet encryption and security software.

Robert.

MR. KOHN: Thanks. I started my career at Ashton-Tate in 1983 and before going to Borland as General Counsel. While I was at Borland we were involved in a highly celebrated intellectual property case that went to the Supreme Court called Lotus v. Borland, having to do with, in our view, the difference between copyright and patent and where the lines are drawn.

I started a company, as he mentioned, Emusic, which is the leading downloadable MP3 music service which was sold to Vivendi Universal last year, and I've recently done a startup company called Laugh.com, a comedy record company with George Carlin, so I wanted to do something less serious.

Borland Software today -- you know, in preparing for this I looked and I had testified for the FTC on November 29th, 1995, and I was reading my testimony last night and it holds up pretty well except Borland is almost a different company today than it was

seven years ago, which is very indicative of our industry and how companies can change so dramatically.

Borland is doing extremely well right now by entering into new phases and new areas of software development. Before, we were doing personal computer software, tools such as spreadsheets and databases and programming language tools, competing head to head with some of the major players, you can imagine who.

And now the company is focusing on development tools not only for PC's but also for the enterprise field as well as programming tools for PDA's like palm pilots and pocket PC's and cell phones, doing deals for development of job applications on the whole new wireless world. So the company has really, really changed what it was doing.

And one more thing that's relevant to what I may talk about later is that Borland, during my tenure as General Counsel from '87 to '96, I don't know the total number but I think we filed over 200 patent applications, filing patent applications for just about everything that Borland had innovated during that period.

MR. BARNETT: Thank you. Next we have James Pooley. James Pooley is a senior partner in the Palo Alto office of Milbank, Tweed, Hadley and McCloy, where he specializes in intellectual property matters, and he's

represented a wide variety of companies in the computer, software and Internet industries.

Mr. Pooley is also a member of the Board of Directors of the American Intellectual Property Law Association, a member of the National Academies of Science Committee on Intellectual Property Rights in the Information-Based Economy, an adjunct professor in the Intellectual Property Program at Boalt Hall, and the author of a leading treatise on trade secrets.

Jim.

MR. POOLEY: To the extent I have anything useful to say here, it probably comes simply from the fact that I have been a trial lawyer in Silicon Valley for almost 30 years now, and my first intellectual property career, if you can call it that, was focused primarily on trade secret disputes which formed in some ways the backbone of the development of Silicon Valley. But in the last 10 years my practice has focused almost exclusively on patent litigation, primarily, although not exclusively, on the defense side, and frequently in the areas of software and Internet patents, so my remarks will come from the experience base that I have in both defending and prosecuting those kinds of claims and in advising clients who are faced with assertion of those sorts of patents.

MR. BARNETT: Thanks, Jim. Next we have Yar Chaikovsky. Yar is the General Counsel with Zaplet, Incorporated, an enterprise software and services company. Before joining Zaplet this year, Yar was the sole patent counsel at Yahoo!. Before that he was a senior associate at the Patent and Technology Practice Group at O'Melveny and Myers in Los Angles, California.

Yar.

MR. CHAIKOVSKY: Again, Yar Chaikovsky. At Zaplet, it's interesting. I have a different take with respect to Internet and software patents, because at Zaplet we focus on enterprise software, collaborative business process management, where obviously we're taking on individuals such as Microsoft, IBM/Lotus, and focusing on patents from that perspective and competition from that perspective.

On the other hand, as Chief Patent Counsel at Yahoo! looking at the competition and then focusing more on the Internet perspective that I bring to bear here, dealing with the smaller competitors that have patents and are asserting patents in order to extract rents at the same time requires filing many patents at the same time to protect our own innovations.

But I will say out front that Yahoo! was able to get to a $120 billion market cap in its heyday with

only three issued patents in its portfolio.

MR. BARNETT: Thank you. Now over to my left, first we have R. Jordan Greenhall. He's the co-founder and CEO of DivXNetworks, a technology company that enables the distribution of DVD-quality video over Internet protocol networks. He has also served as a strategic consultant with InterVu, a streaming media services provider, and is Vice President of MP3.com.

MR. GREENHALL: I guess I'll just give a heads up of some areas that we have some expertise in. Our company is really focused on fairly low level technologies, algorithmic development, chipsets, so we may be the more hardcore technology side of the companies around here.

Previously at InterVu, for those who don't know, we actually had, I believe, five patents that covered most of the distributed networking space (inaudible) Akamai and (inaudible) of the world.

And of course at MP3.com not a whole lot to do with patents, more similar to Yahoo! there. Although if we do drift into copyrights I'd have some interesting experience in that world.

MR. BARNETT: Thanks. Next we have Paul Misener. He is Amazon.com's Vice President for Global Public Policy. Formerly a partner and the Chairman of

the E-commerce and Internet practice at the law firm of Wiley, Rein and Fielding, Mr. Misener also served as Senior Legal Advisor and Chief of Staff to a Commissioner of the Federal Communications Commission.

Prior to his federal service, Paul was Intel Corporation's manager of telecommunications and computer technology policy, where he co-founded and led the computer industry's Internet Access Coalition.

Paul.

MR. MISENER: Thanks, Mike. For those of you who don't know, Amazon.com is the Seattle-based profit-making juggernaut. We are the holder of 22 patents, 2 of which are relatively famous, or infamous depending on your point of view, and hopefully we'll be able to talk about those.

MR. BARNETT: Great. Thanks, Paul. Next we have David Mowery. David Mowery is a Professor of Business Administration here at Berkeley and the Director of the Haas Ph.D. program. His research interests focus on technological change, international trade, United States technology policy and the relationship between public policies and the private sector.

David.

PROF. MOWERY: Thank you. I'm obviously not presenting a real world but an economic perspective here

today. I guess what I will probably speak to are some earlier work I've done on the growth of the U.S. and international software industries, and then in particular a paper that I and a student here, Stuart Graham, did on overall trends in software patenting and copyright which was done for the National Academy's panel on intellectual property rights that Mr. Pooley sits on. Thank you.

Oh, let me just make one other note. Unfortunately, I have to leave shortly before noon because of a teaching schedule conflict, so don't read anything into my hasty departure.

MR. BARNETT: Finally, we have Brad Friedman. Brad is the Director of Intellectual Property at Cadence Design Systems, Incorporated, a global electronics design automation company.

Before joining Cadence, Brad worked as Senior Intellectual Property Counsel at Varian Associates and Varian Medical Systems in Palo Alto. Before moving in-house, Brad practiced law with the patent litigation firm Fish and Neave.

He is a member of the Licensing Executive Society, the Silicon Valley Intellectual Property Law Association, the intellectual property section of the California Bar Association, and the American Corporate Counsel Association.

Brad.

MR. FRIEDMAN: Hi, good morning. Cadence is an interesting company, fairly unique on this panel. Our industry is the electronic design automation industry. We develop software tools that we sell to others who design semiconductor chips or smart electronics like cell phones.

Cadence's patent portfolio has grown through acquisition more than by its own internal innovation, and it's not an uncommon thing to do within the EDA industry.

I come to Cadence from a unique perspective as well. My background, as you heard, was patent litigation, focusing in medical devices, then moving in-house working in imbedded software, semiconductor and now finally in electronics.

I'm looking forward to providing the view of the world's largest supplier of electronic device software in talking about how our patent policy affects this particular branch of software. Thank you.

MR. BARNETT: Thanks, Brad. Now we're going to begin with the introductory presentations. I think we're going to begin with Bob Kohn.

MR. KOHN: What I'd like to share with you are some of my thoughts, I guess really to set the tone for

the morning. I think that means to upset as many panel members as possible to goad them into controversial discussion, but I'd like to say something about intellectual property protection in general in connection with patents, something about software patents in particular, and then something about the system that we're living with.

As everyone knows, we have intellectual property protection, whether it's copyrights or patents, so that there isn't an underproduction of goods. I mean, these are public goods once they're created, and if everyone else can use them without compensating the author, it may not be created to begin with. So clearly, intellectual property protection is needed in order to have an efficient number of goods or ideas or whatever products are produced.

But there is a problem that with too much protection you're going to have the same problem as too little protection. That is, you're going to have too few goods produced, especially in the area of complimentary products such as applications working with operating systems or carburetors working with other parts of cars. So when you have too much protection, there's a danger that you're going to have inefficient production of goods, and the challenge that legislatures have always is

defining the scope of intellectual property protection.

Now, with that background in mind, let's think about software patents or patents that involve computer programs. And the computer program, of course, the source code, et cetera, is copyrightable. It is protected by a large body of important intellectual property protection, but unlike a lot of other areas like a carburetor or a drug or a particular process for building something where you can get a patent, or an airplane, there is generally a specific thing this patent protects, this process.

It protects this product, and if someone is infringing your product, it's the whole product. And if you didn't have the protection you may not have had that innovation, you may not have built that product to begin with.

This is a little bit different from software in the sense that, remember, the software code is already protected by copyright. And you can also treat a lot of your ideas as secrets, you can hide the source code behind object codes and stuff. But in a piece of software, a large complex piece of software, there are potentially hundreds of thousands of patentable ideas embodied in that software, all right? So that leads to a problem of what marginal benefit is there to a particular

patent for a particular part of a piece of software code that is already protected by intellectual property? Okay.

So I would argue or at least put out that in the software area there's a real potential for overprotection of what's going on in a piece of software. It's already protected by copyright. Now you're starting to add patents. What is the marginal benefit of this?

Now in the software area, just by experience I think most businessmen in our field will tell you that innovation generally is promoted by competition and not by the intellectual property protection. Of course, intellectual property protection is important, it's good. You need to be compensated for your software so that, you know, people can't just or shouldn't be able to just copy your software verbatim and not pay you for these additional copies. But most of the innovation comes from a competitor coming out with a new feature or something as opposed to, "Boy, I think we can get a patent on this and protect it for 17 years."

Most of the patents filed, I would argue, in our field, in the software area, are filed for defensive purposes so that if you get sued you'll have a war chest in order to defend yourself, which is precisely what Borland did over the period of time when I was General

Counsel. We filed patents on virtually everything. Any innovation in user interface design, flyover help, spreadsheet notebooks -- I mean, you name it, I had my guys file patent applications.

Those features weren't developed because we could get a patent on it. They were developed because we had to build a better product than our competitor. I was filing them because I knew I was going to get sued someday by some large competitor who had patents and I needed some way to defend ourselves against that lawsuit.

Now, finally, the point I want to make about the system is this. When you get involved in one of these cases, or you get involved even with a settlement discussion, and let's say you're legitimately infringing somebody else's patent in some small piece of process or something that you use in this ten million lines of software code for your product, potentially hundreds of thousands of patentable ideas in your code, somebody sues you and says, "You're using our process, you're using our this or that, our interface design. We want a ten percent royalty on your sales, we want ten percent of your gross."

I mean, you end up getting into these discussions, "Well, wait a minute, wait a minute. This is only one patent out of a hundred thousand, okay. You

can't ask us for ten percent of our product, it's just a minor feature. Yeah, we're infringing it."

"Well, if you don't pay us the money, we're going to sue you, and you know what the damages are in a patent case."

And then you get into this discussion where you're hiring guys like Carl Shapiro for $500 an hour, and I've been through this at Borland. We won in the Supreme Court but we spent $5 million in the damage phase of the case to determine what the potential damages were for infringing the copyright. It's no different in the patent field in determining the damages.

So, my argument is at the end of the day there needs to be a major overhaul of how damages are determined in these large intellectual property cases so that there's some reasonableness brought to the table so that when there's one little process or procedure in a code you don't get into this huge discussion of what are your profits and what are our lost profits. Some judge should be able to say, "Look, I'm going to set a reasonable royalty here. It should be one-hundredth of one-thousandth of a percent because this is what the value of your particular idea is to the whole piece of software."

That's what I have to say this morning, and I

hope that sparks some interest.

MR. BARNETT: Thank you very much, I have a feeling that it will. I think next we're going to hear from Brad Friedman.

MR. FRIEDMAN: I want to thank the Federal Trade Commission and the Antitrust Division of the Department of Justice for the opportunity to testify today. My name is Brad Friedman, I'm the Director of Intellectual Property at Cadence Design Systems, and we're located in San Jose. I first want to state that my testimony, and the views and opinions that I express here today, are solely my own, and do not in any way represent the opinion of Cadence or of any of its employees.

A little bit more about Cadence. It is the world's largest supplier of electronic design automation software and methodology services, both of which are used in the design of electronic space products such as semiconductors, computers, telecommunications equipment and consumer electronics. Cadence employs approximately 5700 people worldwide and had revenues of approximately $1.4 billion in 2001. The company is traded on the New York Stock Exchange under the symbol CDN.

I'm especially appreciative to participate on this particular panel to represent here a distinct and significant industry within the broad umbrella of

software, and that of software tools for product design. My perspective on today's issues may be somewhat unique on the panel.

For example, Cadence Design Systems sells its software not to the end user but to other businesses who in turn use those software tools to design electronics-based products that ultimately reach the end user. I'd like to speak to you from that perspective.

And personally, ideologically and philosophically, I'm a strong supporter of governmental incentives for innovation. I strongly believe that innovation has and does drive the progress of societies. With that in mind, I want to take a look at the current framework in the U.S. as it applies to software.

The beneficial role the patent system in its present form plays in Cadence's industry is not at all clear. Compared to the effect of competition in this industry, the current patent system has relatively little effect on the motivation to innovate.

The short time cycles of innovation, product development and market obsolescence in this industry are inadequately addressed by a patent system encumbered by a single process used for all patent applications. Other more timely means of information and knowledge transfer -- for example, publications, industry conventions and

conferences are seen as much more useful in advancing the state of the art. Business practices, in turn, have adapted to the current environment.

With respect to movements towards open source standards and interoperability, there's an increased participation in standard-setting bodies. Early on, standards organizations were largely based on patented technology owned by the founders of the standard body in an attempt to move the industry under their proprietary position.

More recently, forward thinking standards groups are premised on open source or open licensing schemes for the purpose of achieving interoperability as demanded by customers. There is the implicit expectation that anti-trust scrutiny will be appropriately loosened for these standards groups.

As I'm sure this committee is aware, there is a general animosity to pure software patents within and outside of the industry due to, one, the perceived allowance of what I'll diplomatically call overbroad patent claims, and two, the historically non-proprietary culture of the software engineering industry.

There's a concern that the USPTO lacks the necessary information about prior art in the field of information technology software and business methods to

make the needed decisions on the novelty and non-obviousness of patent claims, and also lacks the needed expertise and infrastructure. The uncertainty in the process generates skepticism, withdrawal from participation in the process, as well as optimism.

I also want to note it's perhaps telling of the role of patents in this industry, the relatively low volume of patent litigation in the design software space versus other industries. This holds true for software in general. The maintenance of a patent portfolio serves mainly as a means of keeping detente or for cross-licensing opportunities.

Given this scenario, can anything be done to achieve the policy goals of the patent system for the electronic design software industry?

In adhering more closely to the fundamental ideology of quid pro quo that underlies and should motivate the patent system, the Legislature might weigh in on this issue and consider more radical changes in our patent system than the courts are equipped to accomplish -- for example, differentiating between those inventions that add greater societal value from those whose benefit to society is minimal. This would be a daunting and improbable task.

Incorporating present day economic realities

into the value given to the patentee through a patent grant -- also a daunting task.

Acknowledging the enormous administrative burden, an ideal, perhaps utopian patent system would tailor the rights, scope and duration of a patent grant to the specific industry or knowledge base to which it belongs. In the electronics design industry, for example, we'll take a short-term, low-level protection in exchange for speed of issuance, while in another industry, biotech or pharma for example, long-term protection might be needed because the revenue stream is in a much more distant horizon.

On the judicial side, we might consider eliminating the presumption of a patent's validity, enabling more rigorous judicial oversight of the already small percentage of patents that end up being litigated.

In sum, largely because the current patent system is poorly fashioned for the software design tool industry, the industry has evolved to minimize the impact that patents have on competition and has relied on other more market-oriented drivers of innovation. I believe this is a missed opportunity for accelerating technological and economic growth in the industry.

Thank you again for this opportunity.

MR. BARNETT: Thank you. Next we have Josh

Kaplan.

MR. KAPLAN: Thanks, Mike. I'm going to give a slightly different perspective this morning because we are a smaller company.

Although we're a ten-year-old company, we're based in the music space, and I think unless you're one of the Big Five music labels it's been very difficult to actually make a business out of the music space over the past few years. I think everybody has seen what's happened with companies such as Napster as well as MP3.com, and a number of companies actually have just disappeared, either being acquired or have gone out of business in my landscape over the past few years.

One of the first things that we did when we were granted our second patent, which covered the Internet for music previewing and the tracking of user and the collecting of marketing information, is that instead of turning it over to our law firm I decided, well, I'll write a nice, non-threatening letter to a number of companies that we felt were infringing on our claims. And I can tell you that out of the 30 or 40 letters that we sent out, we may have received 1 or 2 responses.

Typically the response went something like this: "Meritless patent. We don't believe we infringe,

but send us a claim chart if you think that we do infringe." And that process moved on for months and months and months.

So as a small company, the problem that we faced in the Internet is that while we started in 1990 and we have raised roughly $30 million over 12 years to build this business, the issue in our space is that once something can be broken down and digitized, there really is no competition. And within the Internet space what you've had over the past 4 or 5 years are companies that have gone out, raised massive amounts of capital either through private placements or IPO's, and they have had very little perception towards profitability and it's been to go out and do a land grab.

And what's happened there is that people would wholesale just simply go out and replicate your business within a very short period of time, while it took us three or four hundred thousand manhours to encode hundreds of thousands of albums.

And we started this in 1990. You can imagine the change in technology between 1990 and 1999 where what we did by hand and having people sit there and listen to music and encode a sample and pick out the right point was now very easy for somebody simply to develop a system, drop the needle and build something just like we

had in a matter of six months and then give it away for free.

So, while I've heard some of my colleagues say, you know, we only have three patents and we have $150 billion market cap, the reality in our space is that it's very simple for somebody to replicate your process, go out there and give it away and really destroy the market value of what you have, and so from our position we really had no choice but to assert our patents and try to defend them.

Which brings me to a funny story. We were actually in Federal court on Friday, another summary judgment motion, and I think we've gone through four or five of them at this point and we've spent, just to let you know, it's a small company, probably $3 million and we've gone through two law firms.

We had to be very creative as a young firm. The first law firm we brought on actually took an equity position in the royalty payout of the company, which probably allowed us actually to file our initial lawsuits and stake our claim in this space.

Roughly a year and a half later we were able to find a partner in the music industry that felt that they could leverage our patents, and so they decided they would help fund the litigation moving forward, so it gave

us two things. It gave us a deep pocketed investor and it also gave us somebody we felt could become a master licensee of the patents should they, you know, continue to hold their validity and then go out and license the music industry.

So Friday we were sitting in court. We were the only case on calendar, but there was a motion to the judge that they had somebody else that had to come in. And actually there was a man who approached in shackles, he was apparently a bank robber who had seven counts of robbery against him. And of course we had to sit there for an hour and wait for our summary judgment motion to be heard.

And I found it interesting as I sat there -- again, young company having to put up a lot of money to defend our patents -- that here you've got somebody with a high school education, but yet he had the presumption of innocence and is given clothing, shelter, food and counsel all free of charge.

And I had to juxtapose this to a small company like Intouch. It's a 12-year-old company, really not guilty of anything unless you include filing for software patents, which puts you as a bane of the industry. We had two presumed valid patents, yet the perception is that as a small company asserting patents that you are

guilty before proven innocent. So from our perspective when you look at civil or criminal proceedings versus what we have to go through, it just seems like something's been turned upside-down.

If we were, for example, treated like the bank robber, we'd be potentially given an attorney, have the presumption of innocence, guaranteed the right to a speedy trial, and yet we've gone through litigation now for almost three years. We have to face dozens of summary judgment motions that are really there specifically to try to invalidate your patent versus companies trying to legitimately take a license from you.

So why do I bring this all up? One of the things that Mike and I discussed, he said, "Well, what would you like to see happen through these hearings?"

I think there's a palpable perception problem with those companies that own software patents that are issued through the PTO. The one perception is that the Patent Office doesn't have the resources to evaluate and make a determination as to whether these patents are valid or not, and the other perception is that patents are handed out, you know, really like jelly beans.

And I can tell you from our perspective it took us almost eight years to get our two patents, and our file wrapper on the second patent is probably nine inches

thick, so clearly there was quite a bit of scrutiny to go through and get our patents. We probably have fifty to sixty citings between the two patents, so clearly we went out and we did our homework.

But from everything that you read in the press, every time we approach somebody to take a license or negotiate a license, the feedback was always, "You have a software patent. We'll invalidate it in court. It probably doesn't have any merit and we'll fight you on this." And I would say that that happened 95 percent of the time.

The ones that didn't simply looked at us as a nuisance case where they looked at taking a license relative to what they had to spend to defend us. In other words, as soon as we sue somebody you can look at an instant $100,000 retainer that they would have to pay. So from our perspective, that was the gating factor when we looked at trying to license to companies.

So one of the things I thought about was, well, how can the PTO work to change this perspective? And again, these are longer-term concepts, but I think that the Patent Office has a perception problem. I don't think it's any different than the NRA has. The difference is they have Charlton Heston as a spokesman and everybody feels warm and fuzzy about going out and

getting a gun.

Maybe the Patent Office needs to resurrect an Abe Lincoln or an Edison to be a spokesman so that they champion the software patents and all patents and the innovators and not make it look like we are, I think the term one of my colleagues just used here, trying to extract rents. And that tends to be the perspective of most people, that we're simply here as a fulcrum to try to squeeze something out of the legitimate business.

The other thing I think we'd like to see is whether there's some way that the PTO in conjunction with another arm of the government, whether it's the Small Business Administration, could assist small companies in defending their patents.

Now, I brought this up to Greg Aharonian, who most of you know from PATNEWS. He laughed and said why would you ever want the government to help you defend your patents? That would be one of the worst things you could do.

But I think it's unlikely that most companies can be that innovative, find companies or attorneys to take an equity position and pony up $2 to $3 million and spend two to three years of management time to defend the patent. So if there were some mechanism for funding the litigation of a small company, we think that that would

potentially be a deterrent from people to simply take you on in litigation versus sitting down and negotiating some type of reasonable settlement.

So, I think at the end of the day we're not looking for free clothing and shelter and three meals a day, but we are looking for a fair shake in an industry where you're a small company going up against very large corporations, a number of whom are sitting around this table that we've actually met in court and gone through the process with.

Thank you.

MR. BARNETT: Thank you. Now we're going to hear from David Mowerypanel.

PROF. MOWERY: Thank you. I think I'll try to preserve the PowerPoint-free nature of the discussion so far and I'm just going to summarize some of the findings in this paper that we did for the National Academy of Sciences panel, which is a paper that I believe will be posted on the website for the Board on Science, Technology and Economic Policy, which is a wholly-owned subsidiary of the National Academy of Sciences, and you should be able to find it through their website. It was a paper co-authored with Stuart Graham, as I said.

I began life actually before I came to the business school as an economic historian, and I think

there is some advantage in adopting a historical perspective to some of these issues, because the software industry in particular has been around for a number of years, number of decades, and what we're really looking at in the issues created by growing formal protection of intellectual property in this industry is really a confluence of developments, some of which are related to policy, the strengthening of intellectual property rights generally in the U.S. economy that's taken place over the last 20 years or so, but also technological change and the growth of new markets that have greatly increased the importance of formal intellectual property protection.

And the most recent, if you will, or a recent very important technological development influencing this industry, the Internet, is having effects the ultimate dimensions of which I think we don't fully know at present, but you can think of at least three contradictory, to some extent, effects of the Internet on the software industry and the role of intellectual property protection.

The first is the role of the Internet in making possible the rise of open source software itself. Shareware has been around in the software industry for a very long time, but open source software really is shareware squared in some sense, and the Internet makes

feasible the maintenance of a unified source code, an open source that previously I think was very difficult to do. So that's one challenge in some sense to formal protection created by the Internet.

The second is the role of the Internet in facilitating low cost distribution of software, which should facilitate entry by new firms in some cases and the growth and intensification of competition.

A third and, again, somewhat offsetting effect of the Internet on software development and intellectual property protection is the role of the Internet in creating a space for patented business methods. Most of the rise in business method patenting in this area has been facilitated by the growth of the Internet as a venue for exploiting business methods and patented business methods in particular.

Now let me talk very quickly about some of the trends that our analysis of patenting in the software industry seems to highlight.

The first issue I think that comes up here is how we define a software patent in a way that is meaningful for supporting some kind of analysis of trends over time. That's not a trivial exercise, and so what my student and I have done is defined software patents in a way that tends to overweight packaged software patents

within our definition.

So we're looking at a definition of software patents that tends to emphasize packaged software patents much more heavily than something like embedded software, which in fact is much less frequently the focus of formal intellectual property protection, and I think there are four or five interesting findings, if you will, that are highly preliminary that come out of this.

The first is that by our definition, software patenting as a share of overall patenting in the United States certainly has increased during the last 15 years. The share has grown to nearly 3 percent of overall patents, which is a substantial growth from its level 15 years ago.

Secondly is that within software patenting, large packaged software specialist firms have increased their share of overall patenting. At the same time, however, and a very important set of players to keep in mind when one is analyzing trends in software patenting, is the fact that large electronic systems firms, Motorola, IBM, Intel and others, have increased their share of software patenting by our definition much more significantly so that they are accounting now for more than 15 percent of what we define as software patents.

If we look at patents per R&D dollar -- some

sort of an intensity measure, how many patents are you obtaining for each R&D dollar that you're investing? This is obviously a challenge because we want to try to look at software-related R&D investment -- nevertheless, what we observed between roughly '87 and '97, and I think this is consistent with Mr. Kohn's argument, is that large packaged software firms including Borland have quite significantly increased their patenting per R&D dollar during this period of time, so their patenting is much more intensive, relative to their R&D investment.

At the same time, however, if one compares the patent intensity, if you will, patents per R&D dollar of IBM, who have reported their software-related R&D investment, and Microsoft, who we largely treat as a software specialist, IBM remains a much more intensive patentor of software compared even to Microsoft who has dramatically increased their patent propensity during the 1990's. So if we compare IBM over the 1990's, they begin by obtaining nearly 20 times as many patents per R&D investment dollar, keeping in mind that we're looking at software-related R&D investment, 20 times as many patents as Microsoft.

This gap narrows. IBM's R&D dollars per patent decline somewhat, Microsoft's increase dramatically. Nevertheless, it's clear that a great deal of the

increase in patenting, perhaps much of which is motivated by defensive motives, is going on in the diversified systems firms in addition to an increase in the specialist --

(Tape One, Side B)

PROF. MOWERY: -- two other points.

The quality issue in software patenting has been raised. And again, it's very difficult to know how to measure the quality of software patents. What we have done is define a very crude measure, a somewhat controversial measure, that looks at how frequently software patents are cited, the patents assigned to a given firm, how frequently those are cited relative to all software patents. So if your patent is being cited in subsequent inventions relatively intensively, that is one indication that this is a more widely referred to, perhaps a more important, patent.

And what we observe in looking at patents assigned to these large packaged software firms is that there is no evidence during the '87 through '97 decade of a significant deterioration in the intensity with which these patents are cited. So that's one very imperfect measure of quality. We don't see a significant deterioration over this period of time in the citation intensity, which at least could be interpreted as not

representing a significant decline in quality.

Finally, I think that our exploration of this issue really underscores the extent to which our indicators of what is going on here are very imperfect. I'm going to really put on my academic hat now. This is a very economically important space and we have extremely imperfect and incomplete data.

We don't really even know. We don't have good robust definitions that would allow us to look at how much software patenting has been going on over the past 30 to 40 years, because this field has been so dynamic and because the categories that we are able to use themselves are changing very rapidly.

So I think that as policy makers begin to consider these issues more seriously and deliberatively, one very important issue is trying to develop ways of getting our arms around measuring it as well as dealing with the problems of addressing the economic and competitive challenges created by it.

Thank you.

MR. BARNETT: Thank you, David.

MS. RODRIGUEZ: I was wondering if you could have everybody turn off their cell phones. It's very distracting, and he was going very, very fast. I was wondering --

MR. BARNETT: Apparently, if we could ask everyone to turn off their cell phones as well as if people could be conscious of somewhat speaking at a moderated pace as we are providing facilities for the hearing impaired.

That said, and with these ideas in mind, I would like to begin with a less structured portion of the session. Let me start with some of the rules of the game.

As we begin these discussions, if you would like to contribute or have something to say, just turn your name plate on its side and that way nobody has to waive hands around or anything like that and then we can get to everybody in turn.

Given the statements from the people who have given presentations, I think we'd be interested in hearing from some of the panelists who did not give presentations, and it looks like Jordan Greenhall has jumped into the fray already.

MR. GREENHALL: Yeah, this is great. We do bring a different perspective from the other companies that have spoken today. Let me start off by issuing a few mea culpas because I'm about to agree with Mr. Kohn and Mr. Friedman. First off --

MS. DeSANTI: Hearing is difficult. Could you

speak into the microphone a little more?

MR. GREENHALL: Yeah, I apologize.

MS. DeSANTI: Thank you.

MR. GREENHALL: My previous company, INTERVU, made an egregious amount of money by virtue of its patent portfolio, and my current company, DivXNetworks, also stands to capitalize significantly on a patent portfolio, so I have a lot to benefit personally from the strong and vigorous enforcement of, specifically, software patents.

Second, we are a small company with very large competitors. I think it's fair to say that Microsoft would be considered our number one competitor on a global basis, something I'm reminded of probably ten times a day, and we do have, as I mentioned earlier, many patents filed.

Nonetheless, I would tend to agree with Mr. Kohn and Mr. Friedman about the state of patents and software, and I could just issue a couple of concerns that I have which I think are somewhat different from what we've heard so far today. I'll do that really by virtue of maybe throwing out a couple of concepts that we might want to use or that might have some interesting value.

The first of which is something that we internally call a patent farm. How does one identify a

patent farm? Simply divide the software engineers in a company by the number of lawyers in that company. These are organizations that have very intelligently determined that you can generate, again, hundreds of thousands of patents in software code that you've already paid to develop because you're developing a product, and if there is value in creating a spew of patents, most of which are defensive, although there is a uniquely offensive value to those patents as well, which I will categorize with a second concept that I call patent FUD.

Are we familiar with the concept of FUD?

MS. DeSANTI: I think it would be very helpful for the record if you could lay it out.

MR. GREENHALL: Great. Well, FUD is something that was invented probably 15 years ago, mostly by Microsoft, which stands for Fear, Uncertainty and Doubt. This is a concept where you issue press releases, announce strategic relationships about products that you have not yet developed that you soon will be developing and will destroy everybody else who wants to get into that marketplace, which of course causes smaller companies who are trying to get in that marketplace to find significant difficulty finding traction with customers who say, "Well, isn't Microsoft already developing this?"

Patent FUD is a unique strain of that particular virus that is more effective because now companies who have patent farms can say, "Well, not only am I developing that product, but I've also patented it," which again, thinking about this from the concern of lucidity in the patent landscape, let me sort of put my first bullet point out.

My largest concern about the patent landscape is a lack of transparency. Patent farms and patent FUD specifically go towards that point.

As a small company, one of the biggest risks I face is uncertainty in the marketplace. I can minimize my risk by understanding my competitor's products very well, by understanding my products very well, by understanding what the consumers and customers want. But I've found in the past year that I really can't understand the patent landscape and that I'm sitting with a nuclear bomb on top of my products that could go off at any point and cause me to simply not have a business anymore.

Let me sort of anecdotally describe what I'm talking about here. I recently took one of my lead developers, a gentleman who's widely considered a leader in his field -- he sits on both the MPEG and the ITU committees, is deeply involved with the entire

intellectual property landscape around digital video -- and asked him to evaluate a particular patent that we've been hearing about in the marketplace.

We did a quick search on the USPTO website, which by the way is very useful, and uncovered no less than 120 patents that claim to be within the general scope of this particular patent, which was widely cited.

The poor guy spent the better part of five days examining all these different patents and came back to me saying, "I haven't the slightest idea whether or not we infringe on these patents, and frankly, they all seem to infringe on one another."

The end result being that I have no idea whether my product infringes on upwards of 120 different patents, all of which are held by large companies who could sue me without thinking about it.

The end result, much like Borland, I have now issued a directive that we reallocate roughly 20 to 35 percent of our developer's resources and sign on two separate law firms to increase our patent portfolio to be able to engage in the patent spew conflict. I think the concept here would be called saber rattling. I need to be able to say, "Yeah, I've got that patented too, so go away and leave me alone."

That assumes, of course, I don't get a sit-down

strike from my engineers, who can't understand the logic behind this. And if you guys have ever dealt with engineers, the lack of logic is a complete conclusion.

So really the thought process that I've gone through -- and this is all, you know, very concrete literally in my life in the past year -- is that there's a bizarre inequity between the cost to create patents in software and the value to be generated by purely defensive patents that have no sort of innovative value in and of themselves. They weren't, as we say, created to innovate but simply are riding on the backs of innovation to create a zone of obscurity where other companies really don't know what the patent landscape is.

And also, let's not forget the incredible windfall that can befall a company if one is able to establish both a patent and a standard based on that patent. We could call this the Qualcomm model, which as I understand it, means a secure patent, the establishment of that patent as the international standard for some particular piece of large-scale technology, and then sit back and make billions of dollars.

The time to develop a patent in my company, for example, we could probably do twenty to a hundred patents in a year easily, spend about a million dollars to develop those patents from a technical perspective, that

doesn't count the legal time, which I assume would be three to four or five times that, and frankly, generate billions of dollars off of that intellectual property portfolio if we're able to establish the three cherries of getting that patent into an international standard.

I find that to be odd, that somebody could make billions off of that, somewhat of an interesting, almost lethal possibility, but standing back and thinking about it from a public policy perspective, that disproportionate ratio between the investment risk that I take and the potential upside windfall that I could generate is problematic.

MR. BARNETT: Thanks, Jordan. Jim?

MR. POOLEY: First of all, I want to make it clear that when I'm giving my remarks they're on behalf of myself individually and not my firm, my clients or the organizations I'm affiliated with.

COMMISSIONER THOMPSON: Hey, Tom, there's someone else who has to say this too.

MR. BARNETT: Jim, could you speak up?

MR. POOLEY: Yeah. One of the things I want to focus on here is the distinction between the quality, as it's been referred to, of the patents, software and Internet patents as they emerge from the Patent Office, however one might try to define that, and the quality

of the process by which we resolve disputes about those patents.

I think it's not only a feckless task to try to understand whether something has quality in the abstract when it comes out, but that's not really where the action is in terms of the impact on the marketplace as I have seen it. It's the litigation process that animates the decision of any given company either to take on a license or to, perhaps worse and in a way that we can't measure, back away from a product or a part of the marketplace that they would otherwise compete in.

It's in part because of the issue that's been referred to already about uncertainty. That's one aspect of it. There is great uncertainty in the process of resolving disputes when one receives a notice of the sort that Josh was sending out. And presuming for a moment that there is a rational basis for challenging the validity of the patent or challenging the assertion that one infringes, what you face is a highly, highly uncertain process.

It's made uncertain in part because ultimately we know the decision on things like infringement and the scope and content of the prior art will be decided by a lay jury, and we think ahead to that when we look at what our exposure is.

We consider the effect of the doctrine of equivalents, which is often used, especially in the Internet's space, to make older patents that were intended obviously in their first incarnation to apply to an earlier technological environment, all of a sudden to become applicable broadly to the Internet space. And so the issue of breadth is not in the initial issuance of the patent, but the way in which it is treated in the litigation process and allowed sometimes to expand through the doctrine of equivalents.

The process is made more uncertain because of entrants, and usually in my experience in the software industry we have a kind of business that's easy to enter, but where you enter with sometimes an overwhelming sense of dread because you don't know how many pieces of IP you will need in order to operate.

It is opaque, you can't get there, and in fact the system discourages you from looking very hard because your lawyers may advise you that simply by virtue of poking around to find out what patents exist you expose yourself to wilfulness claims which can triple the amount of damages and exposure to attorney's fees.

And there's also the problem that Bob Kohn has referred to of, you know, we don't know how much we're going to have to pay. And it can seem overwhelming

sometimes when someone knocks on your door and asks for five percent of your revenue and you negotiate that, end up paying three, and then surprise, there's someone else who asks for another five or ten percent.

Because their particular claim is measured by what would happen in the litigation process, not by a sane, well-informed view of all of the IP that is out there that might be necessary and that would be appropriate to reward the producers of that IP, we end up in something like *The Producers* where there's more than a hundred points in the percentage scheme, and that just eats up profit margins and discourages people from pursuing business.

I think one of the process issues that we face, particularly in the Internet and software field, is the difficulty of challenging validity. One of the issues that's already been cited here is the lack of a reliable source of prior art. Unlike the predictable arts, it is very hard to find relevant information unless you have a very large bankroll and a lot of patience and a lot of time to do detective work and come up with the kinds of things that would when laid in front of a court indicate that the patent really was obvious.

The standard of proof is another particular problem. What is clear and convincing evidence? When

you actually put that notion in front of a jury, their eyes glaze over. It really reinforces the notion that the patent with the gold seal and the ribbon on it is something that they as lay persons are not really qualified to look behind and question because someone with training has already checked this out at the Patent Office.

When you combine that, especially in the software environment where, as Mr. Kohn has noted, a piece of software that has perhaps hundreds of thousands of lines of code can be stopped in its tracks through a patent claim that covers one routine in that product, when you deal with issues of validity and you're trying to challenge it, you can be overwhelmed with a story of commercial success -- one of the so-called secondary factors that actually have come to be primary in litigation over this issue and required to be presented to the jury -- you're overwhelmed with this story that the product itself of the plaintiff was successful in the marketplace, and therefore the market has accepted the patented feature.

Well, the patented feature may be buried deeply inside the product, but it is very difficult for a jury to understand when presented with this overwhelming story of award winning products that you really have to push

away everything that isn't the patented feature and try to judge whether the patentee has really demonstrated the existence of relevant commercial success.

When you pile all of that on with the actual out-of-pocket costs of patent litigation, the management diversion and so on, what you end up with is what can be sometimes an overwhelming notion when someone presents this patent to you.

And so I think that some of the focus needs to be brought to bear, the focus of this inquiry, not quite so much on the process of generating the patents or the standards and so on.

And frankly, from my own observation I think the Patent Office is doing a pretty good job in applying the rules that ought to apply for determining whether something deserves to be a patent. But on the process of resolving disputes, because the litigation after all is only accelerated negotiation, and if we were better able to control the cost and provide a little more certainty, then I think we'd bring a little more rationality to the process of working out licensing and lessening the anti-competitive threat that sometimes exists with some of these patents.

MR. BARNETT: Thanks, Jim. A couple of the panelists have mentioned notions of predictability and

patent FUD and backing away from R&D, which brings to mind to me just how does the issuance of a patent or how do patents, whether it's patents owned by yourself or patents owned by your competitors, end up affecting the direction of your R&D efforts? I might direct this one to Yar.

MR. CHAIKOVSKY: Well, in terms of what we've spoken about today with respect to the effect on our R&D efforts, I can talk about both. And again I'll put the same caveat; these are my opinions and not necessarily the opinions of Zaplet where I presently work or Yahoo! prior to that.

But as we've seen with respect to the patents that are issuing and focusing on packaged software in particular because that happens to be the space that we're in and it happens to be the space where you see increased patent allowance from the Patent Office, I can't say that there's, as opposed to coming from Mr. Greenhall at DivXNetworks, a specific amount where I said 30 or 40 percent of R&D is set aside for patent development. That doesn't occur at Zaplet or Enterprise Software Development, although we recognize that there is a focus, that our significant competitors are also Microsoft, as any packaged software company is probably going to say Microsoft is a significant competitor. IBM

is a significant competitor with Lotus in our space, which is collaborative business process management. So we recognize that there are these significant entities.

And also, as Professor Mowery mentioned, we also have the entities such as Motorola, Intel, et cetera, that are patenting software and even Internet techniques that aren't necessarily in their main line of business, but they happen to have a 'patent farm' or what have you and they decide to file for patents that might not necessarily be where their R&D lies.

So with respect to our company, the reality is, and I was going to touch on the point that, again, it's the competition that promotes the innovation. We're taking a look at what competitors have out in the market -- What is Microsoft developing? How is Sharepoint developing? How is Lotus developing? How is Groove developing a product with Ray Ozzie, the ex-developer from Lotus? How is he going out there and developing a product and taking a look at that product? -- and that drives our R&D. At the same time, recognizing that because of the way the patent system is, and we'll use another infamous statement, MAD, Mutually Assured Destruction, and the ability for people to stockpile their patents.

I mean, the reason I was hired at Zaplet and

was brought to bear there by Alan Baratz, our CEO who used to be president of JavaSoft at Sun and came over from Yahoo!, was because of the fear of these larger competitors and not necessarily the fear of the smaller competitors, because the stockpiling or the MAD technique doesn't work against one of our colleagues who has a smaller company, necessarily.

A patent portfolio won't help me in that vein. It'll help me against the larger players so that whether my company, Zaplet, is successful on its own right or whether Zaplet eventually ends in some other liquidity event, whether that's an acquisition or a merger with some other company, the IP is of significant value to that company and particularly from a defensive perspective, so whether that company be BEA or some other company that decides to add us to their ap server, we look at it as, will we add value?

Yes, they're going to buy the code, they're going to look at our engineers, and they're also going to take a look at the IP and the IP is going to be a strong intrinsic value of the company as opposed to just having the code and letting someone else copy it without having the protection to some extent, as Mr. Kohn said, that Borland did. The reality is you have to have that IP in the software space to back up your packaged software. If

you don't have it, you're going to have problems.

But going back to R&D, I can't say that we've set aside engineers or spent specific dollars and said, "Okay, let's do this." Yes, there is -- as a patent attorney I was hired to focus in on making sure that we do have our intellectual property covered. As opposed to another panelist here, my argument would be that intellectual property is something that's useful if you have a product that is very useful in the market, a product that people are interested in.

In particular during the '95 to '99 time frame in this marketplace in this valley, well, you would have gotten a significant investment from a venture capital company such as Zaplet did. Our company received over $100 million in funding from Kleimer Perkins and it was because it had a great idea, they thought they had a great idea. Other people followed through with that and came back and backed that up, whether it was Robby Stephens, Amerindo, Cisco, Novell, Oracle, they're all investors in Zaplet. Why? They thought the company had a great idea.

And it wasn't because we had a patent portfolio at the time, although that was one of the factors that the venture capitalists would look at, is this something that maybe can be protected through intellectual

property, as opposed to some other companies who try to establish a business and try to establish some type of business opportunity, and after going around for three, four, five years recognizing, "Hey, my business isn't working. Well, let's see what I can pull out of the bag and send at somebody, and if I've got something, it may not be the greatest patent in the world but it's the last thing I can do because my business is totally ineffective."

That's not what we do and that's not the perspective we take. I've seen that happen many times so now I'll cut back to my Yahoo! experience.

Yahoo! is a perfect example of a company that came about in 1995, went public in March of '96, didn't have its first patent issued until 1997, didn't have a patent attorney until 1999, and was able to achieve a market capitalization in December of 1999 of, as was previously mentioned, over $120 billion. At that time it had three issued patents.

Patents had nothing to do with the interest in the company, consumer use of the product of the company and the Internet space. There was no focus of an R&D effort with respect to patents.

As I said, the first patent attorney was hired in '99, the company had been public since March of '96,

backed by Sequoia and other venture capitalists in the community here. Why? Because it was a great idea. Was there competition out there? Sure, there was Excite, there was Lycos, there was AOL, there was significant competition. In fact, Excite and Lycos went public in the same month that Yahoo! went public.

But did intellectual property matter? Did the General Counsel or the CEO of Yahoo! sit there and say we've got to file patents and get patents to promote our products? No. And if you even looked at AOL with their acquisitions of Netscape and Compuserve over the years, they have a portfolio that's over 70 patents strong. So it wasn't a concern of the company.

Sure, eventually it became a concern. And why did it become a concern of the company? It became a concern of the company because you did have entities, such as Professor Mowery mentioned, coming at us with large portfolios, upwards of ten patents at a time, and Yahoo! made the realization, perhaps a little late and a little naive -- on the other hand, the company was doing quite well without it -- that they had to get into this ball game also to basically not pay people percentage royalties on the company's revenues going forward. So Yahoo! obviously decided that it was time to hire one patent attorney, and I was it, with no other support

other than that.

You know, at the same time I can say we received letters from smaller companies such as Intouch. And a patent portfolio is not going to really help me in that sense, because I can't really do anything. Building up a patent portfolio for defensive/MAD purposes is not going to help me against a small competitor. I'm not going to countersue him and try to get whatever dollars he has left that he may be spending on litigation at this point, so it's not going to help me at this point.

We had two significant litigations at Yahoo!, one was by a New Zealand woman who had a patent on universal shopping carts. You know, it cost us a lot of money to defend that lawsuit. It was a waste of legal time, it was a waste of our resources, it wasted some of our VP's and engineering and commerce time involved in the project. It ended up settling on terms that were favorable to Yahoo! with Yahoo! paying no amount of dollars of its own and settling the case.

The other case we had going was a Fantasy Football case that was brought by a plaintiff's contingency attorney with patented Fantasy Football on-line on the Internet.

Well, you know if you think about Fantasy Football, for those of you who have ever played Fantasy

Football where you pick the players on-line, well, people have been doing that since the '80s on paper, and to think that you can get a patent on that. And again, the quality of patents is sometimes good, but when you think you can get a patent on that on the Internet and its application onto a computer, it's troubling and it cost the company again a significant amount of dollars. Again, the end result being that time was spent.

Obviously the person here, perfect example on the Fantasy Football and the shopping cart examples, their business models weren't working. Some of them may have not even have had a business model. They end up getting patent agent firms or licensing firms, as we call them, not law firms. They sue on those patents.

They cost our companies a lot of dollars, and the end result is so far none of them have been victorious against the companies that I've been involved with. In fact, it just cost us a lot of dollars. We've never had to pay a cent; it's just cost a lot of legal fees and made attorneys like Mr. Pooley some money at their law firms in representing clients such as ours.

But going back to the point at hand with R&D. Again, a little bit different from the Internet perspective because of the, it's been spoken about, the antipathy, I'd say, towards software Internet patents

from the community here in Silicon Valley.

If you go to engineers in general they'll say, "That's patentable?" I mean, the reality is that's the general reaction from most engineers. They are traditional believers in the open source movement.

On the other hand, as you're protecting intellectual property for your company you're not going to necessarily dive into open source. You might get into some of it, but then you've got to worry about GPL and LGPL and worry about the issues that are involved there as you're selling packaged software and you don't want to have that type of open source wrapped into the new public license that's out there and getting that wrapped into your product, as I see here at Zaplet and the comments with respect to that. It does us no good because all of a sudden I've got to open up my code to everybody and it gets into issues as to what's tied into that open source code.

And I open up a whole new can of worms with open source issues, even though our engineers would love for everything to be open source. We're never going to make any dollars, competition is stifled.

And again, my main point and I'll finish with this is that it's really competition that spurs innovation. I haven't seen anyone look at the USPTO's

website and say, "Wow, I found these ten patents. I'm going to come up with a great idea." That just never happens.

I mean, the reality is we're looking at what are good business ideas. People in the valley here look for good business ideas. They back them up, they go forward. They're not looking at patents. The exclusion to that may be IBM who looks at their own portfolio and makes $1.5 billion a year basically on revenues of their patents, at least they did in the year 2000.

Thanks.

MR. BARNETT: Josh, one of those comments seemed to have brought a -- Oh, okay. Let's go ahead and go to Paul. Paul's been waiting patiently.

MR. MISENER: I'd be happy to have Josh take this.

MR. BARNETT: Oh, that's okay, go ahead.

MR. MISENER: Well, I just hope it's obvious to everyone that these are not mutually exclusive business objectives. You need not sit down *a priori* and say, "Gee, we want to have a patent farm and we don't want to innovate and then get patents." Or you don't go the other way and say, "We're going to be so pure as to just want to innovate in response to competition that we won't actually ever use our patents in either an defensive or

offensive manner."

Let me suggest there's a third leg to this stool, and that is really focusing on what your basic business is and not thinking about the intellectual property as the objective but rather as the means to serve the ultimate business objective, which for example in Amazon.com's case is our focus on our customers and trying to provide them the best possible service that we can. In that way we developed some innovative solutions in the technical space and decided that there was potentially some intellectual property there and decided to and successfully patented several inventions.

I'd like to cycle back for a second, though, to what Jim was mentioning earlier. He had talked a lot about dispute resolution and said that there had been perhaps too much focus on the *a priori* grant, or the prior-to-grant patent quality issues. And perhaps there has been relatively too much attention focused on it, but still I think it's worthy of note here that -- well, perhaps a historical perspective is helpful.

About two years ago, yet another patent was issued to Amazon.com which created some controversy, especially among what we'll call the open source community who had been and remain big supporters of Amazon as a proposition and a company. And so as a

result, we kind of stood back and decided to really engage with the folks in the open source community, primarily with a fellow named Tim O'Reilly who, as you may know, is a publisher of an excellent set of computer books.

He and my boss and I met on several occasions to try to figure out, well, what's a good way to address this in a public policy sense? And we decided that three of us would actually go to Washington, D.C. and spend some of our lobbying capital on trying to get changes made to the patent system that reflected the differences between traditional patents and the newer, call them business method and/or software patents. And what the three of us went to Congress and actually proposed was that perhaps there's a better way of dealing with this particular subset of patents. Perhaps a shorter period of protection is appropriate.

As Jeff is want to say, a business method or software patent ought to be able to catch a lot of wind in three to five years and there's probably no need to protect that for twenty years, so in spite of the fact that we hold several of these patents, we actually lobbied for a reduced term on them.

We also suggested that for U.S. based patents, which as you may know, there is no pre-issuance comment

period allowed for U.S. based patents, perhaps at least in this area there ought to be a pre-issuance public comment period. That, tied with what has been discussed earlier, some sort of a prior art database, could be valuable to the USPTO.

And lastly, we have spent some of our capital trying to ensure that the USPTO is able to at least keep the funds that it raises. I'm not sure it's widely known, but the USPTO serves as something of a cash cow for the federal government whereby it takes in all of its revenue through fees. Taxpayer money does not pay for the USPTO, it takes it in by fees, but it also has to turn over a large percentage of those fees, and I think it's roughly 30 percent or so, to the general revenue of the government. And so in other words, the Patent Office is taking in more money than it's allowed to keep to do its own business.

This to us seems like a major problem. And it's not to say that the patent examiners are doing a bad job now, I don't think that's the case. But frankly, in order to simply reduce patent pendency, which in this business is a huge issue, we ought to allow the USPTO to retain the funds that it collects.

MR. BARNETT: Josh, do you have some thoughts on this?

MR. KAPLAN: A couple things come to mind. Again, I think I try to represent a real world application of patents here. An interesting thing, and I'm not going to, you know -- Yar made some interesting points.

Number one. You know, Intouch also is funded by people like Bill Hewlett, Ray Norder who founded Novell, Amerindo, Bay Partners, Tim Draper, venture capitalists who felt we had a great idea. And we were very early on in this thing, 1990. I think the founders of Yahoo!, I don't know, they were still in high school probably around that time. We were out there very early.

In fact, when I first got my patent on identifying the user, tracking the user, having the user uniquely identify themselves to the system, previewing music, I waved my patent around at a board meeting to venture capitalists. They looked at it and they said, "Let me understand this. You've got a patent that somebody will have to identify themselves to a system before they listen to music? What a worthless patent that is." They didn't ascribe any value to the patent that we had.

In fact, as recently as two weeks ago I read an article where the venture capitalist was quoted, and I think it was Benchmark that said, "We really don't

ascribe a lot of value to patents that small companies have. It's more of getting out there quickly and establishing a beachhead for their product."

Now, interestingly enough, I've never met Yar before, but obviously he received our letter, our notice letter. Okay. No follow-up, no discussion, not a call, not a reach out. Hey, Intouch, what can we do to work with you to see what we can do?

And by the way, Yahoo! I believe just became a profitable company. I'm not sure if they're profitable today, but like most of these companies that have spent hundreds and hundreds of millions of dollars -- Excite, obviously we know what's happened with them. They're, I think, in Chapter 11 right now and probably will cease to exist.

It's been a market share game in the Internet industry. It doesn't really matter how quickly you are out there with a product. Ask anybody who's competed against Apple or Microsoft. You establish a nice little product. Next thing you know, it's part of their operating system. Oh, too bad, you've lost your market. This has happened to countless companies in the valley, all that have been venture funded. The only thing they can do is go off and sell their company.

I think when EMusic was public it had a market

cap of, I don't know, $300 million. Is that right?

MR. KOHN: Don't remind me.

MR. KAPLAN: $300 million. They got sold for $14 million, I believe.

MR. KOHN: No, 25.

MR. KAPLAN: Okay, $25 million. So again, market cap doesn't mean anything, the public market doesn't mean anything. The problem is if somebody comes along with your same technology and eclipses you and runs out there and gives it away, you really have nothing that can protect you aside from your patent portfolio.

So Yahoo! was known as a search engine. They got into the music space. When they did that we sent them a nice friendly letter, not from the lawyers but from myself to the CEO of Yahoo!. No response. And we don't understand why there wasn't some type of reaching out to say, "Let's take a look at this. How can we work together? "

Actually, we did finally get a letter from a gentleman at Yahoo! who said, "Show us how we infringed." So we went back to our intellectual property letter and we put together a massive claims chart analysis on our patents versus what Yahoo! was doing, clearly showing that there was at least the presumption of some infringement. Nothing. No return calls, no return

letters.

I think we've now outlasted three or four lawyers at Yahoo!, and we finally, because we happened to settle with our good friends over at Amazon -- and I'm not even sure Paul knew about our lawsuit with Amazon. Maybe you did, maybe you didn't, but I will tell you this. As soon as we try to reach out and establish a contact at a company for a license, the business people say, "Let's send this to the lawyers." That's it, end of negotiation. It then becomes my lawyers negotiating with the lawyers within Amazon.

So for two years, and I'll wager that Amazon spent $500,000 to $600,000 to defend this, we end up settling. It's a confidential settlement so we can't say anything. We're pleased with the settlement. I'm sure Amazon is too because they never have to deal with us again, and most of the companies have tried to structure the same settlements. But it would have been a lot easier and a lot less expensive for everybody involved if the business people could have sat down very early on and decided what a reasonable license fee is.

We hired damages experts. We sent the damages expert report to Amazon. I'm sure they laughed at it and filed it away. But again, every step that we made to try to reach a reasonable negotiated settlement simply ended

up with the lawyers saying, "It's really not acceptable to my client," and so you're right back at ground zero.

And so, it's my feeling that unless there is something that preempts the legal process, like an arbitration or like something where there's a panel that is able to sit down and help these companies come to terms, it's simply an issue then between the law firms, and then it becomes an issue of who has the staying power.

Luckily we were able to be creative and bring in initial money from lawyers who were contingency lawyers. It's not the greatest thing I would recommend, but your venture capitalists don't want to see you spend $5 million to defend a lawsuit, so we had to do what we had to do to try to get to this point.

We've settled with five of the six defendants. Finally, after doing this and after getting some press, other companies are saying, "Okay, we'd like to sit down with you and discuss this," and that's where we are today, but it took two years and millions of dollars and hundreds of notice letters to even get to this point. I mean, I think if anybody else has to do that, any entrepreneur or inventor, it just kills the whole process.

And we have a lot of people coming to us right

now, small inventors that have interesting patents that are saying, "How can you help us with this? We haven't gone through Markman. You've seemed to monetize this. You've gone through the process, you've gone through all the pain. Can you help us with our patent?"

And so one of the things that we're looking at is, is it worth it to take on some other patents, make them a part of our portfolio and move this ahead? That's what we're faced with in order to protect our market.

(Tape Two, Side A)

MR. BARNETT: Yar?

MR. CHAIKOVSKY: My first response would be that Josh did receive response very, very quickly. He may be forgetting due to the sheer number of people he sent letters to, but actually our company was one of the few, and was in fact congratulated by Intouch for our responsiveness as compared to others, maybe even some that are at this table, to your letter. So I would disagree with that characterization.

Secondly, I would also disagree with the characterization that, yes, it does get handed off to lawyers, but the lawyers requested more than just claim charts. The lawyer requested a significant amount of information, and the information that you just set forth with respect to what you provided Amazon, never

forthcoming.

I mean, the reality is -- and I won't point this at Intouch -- the reality when you get letters all the time from companies is that they don't provide you this information. You're looking for information with respect to the patent, whether it be claim charts or what exactly it is that they think is problematic or infringes their patent, or the damages calculations, as Josh just mentioned. You know, where is all this information, or maybe you could help me come to a reasoned analysis as to what to do in this situation.

And the reality is, yes, lawyers do provide advice in the situation. And the fact of the matter is that Josh may be sitting there because his company is sending out a letter, and this is his business and he's not making money in his business and therefore they have to sue people to extract rent to keep up with his business.

Well, Yahoo! at the time when I was there, I was getting a letter every three weeks, so maybe yours wasn't on my priority list because I was getting a letter from every other company in the world to do the same thing, and being the only patent attorney there, there was a lot to do.

So there's also a time lag when you're dealing

with the Yahoo!s, the Amazons, the AOL's and all the other individuals, Time Warner, et cetera, that you sent letters to. These are large organizations, bureaucratic organizations, and as opposed to these smaller entities such as Zaplet where I could probably respond to you at a quicker point in time. The bureaucracy happens to be a lot larger, not as large maybe as the government's, but it happens to be quite large and the responsiveness will be quite longer in time.

MR. BARNETT: Thanks, Yar. Everybody, it seems, is ready to speak. I've been informed that it might be a good time for a break, though, just because we're approaching the two-hour point, so let's come back in ten minutes. I've got -- well, let's come back in ten minutes. Thanks.

(A brief recess was taken off the record.)

MR. BARNETT: -- that these companies are dealing with and that the industry is dealing with and some of the problems that exist. I think it might be nice to shift gears a little bit and maybe look at perhaps some solutions or some ways that have been attempted to try and deal with some of this, whether it's at the PTO or the Business Method Patent Initiative or the re-examination process.

Jim, do you have any thoughts on that as far as

the re-examination process and some of the initiatives of the PTO?

MR. POOLEY: Well, the Business Method Initiative, by all reports both anecdotal and I think statistical, is very encouraging, and I think it's a demonstration of the way in which an agency with a gate keeper function like the PTO can properly respond to an issue and do it in a timely and effective way. So I'd say kudos on that one.

As far as issues of pre-grant input or the post-grant opposition process, I think there are some very interesting things to look at there to make the process more rational and efficient, and I think those deserve further inquiry.

I think the difficult thing you have to deal with is trying to get the information in to the PTO so that it can be used, and to make sure that that flow is open and free and not discouraged or constricted by fears of estoppel by participation in the process. So there has to be a certain balancing there, but I think there are great opportunities in both pre-grant comment and post-grant opposition so long as it's extremely efficient, streamlined and doesn't lead us to the kind of process that we've seen in some other countries.

I do want to make just two very quick comments

on some of the observations that have been made here.

The notion of different terms or a reduced term for certain kinds of patents rather than a one-size-fits-all twenty-year term. It's a beguiling suggestion and I think an interesting one; however, I think it's something that we have to look at very, very carefully. The system has worked very well so far, I think, by and large with a twenty-year term or a seventeen-year term or a ten-year term, whichever point in history you take as the measure, but a common term for all sorts of technologies.

We have to look carefully at what some of the collateral problems might be of trying to define which patents fall into what technology and how much each deserves and what the effects are of the length of the examination process, but all of this may be a bit academic because we have certain international treaty obligations that may make that impossible anyway. So that's one comment there.

The second comment has to do with the danger in this debate of descending into name calling on patents. Not about people. I think, you know, that people can measure their own relationships, but I think when we're talking about patents it's easy to label a patent as bad, silly. And some of them clearly are, and we all can

amuse ourselves with some of the patents that have been issued.

But as I pointed out earlier, in my own observation, it's not the patent as issued that really is the biggest problem, but the way in which we deal with it after it's issued. And if we succumb to labels, whether it's the one-click patent of Amazon.com or call something else a shopping basket patent and so forth, we sometimes make assumptions about the content of that patent and the coverage of the claims that are not warranted and that deteriorate the quality of the debate.

It's very important when you're looking at any patent and trying to make a judgment about its quality and its coverage to read the claims and understand exactly what it is rather than to put a name on it and then get drawn into a discussion that may not be well-founded.

MR. BARNETT: David, I know you have to leave fairly soon.

PROF. MOWERY: Yeah.

MR. BARNETT: Do you have some points you'd like to make?

PROF. MOWERY: I just wanted to comment very briefly on the point you raised about the U.S. re-exam process and the processes for post-grant re-examination

or opposition.

First, and I should preface this by suggesting this is not, as far as we can see, the fault of the USPTO, but the re-examination process as it was amended in the Congress and developed really is one that operates very differently from what we see in an EPO, European Patent Office, style opposition process.

If you look at the data, which again Mr. Graham has helped me collect and Bronwyn Hall collect, it looks as though nearly 50 percent of the re-examinations for which we have records in the USPTO covering the '80s and '90s are initiated by the patent holder, all right? So this new prior art comes up or they encounter problems in the claims.

So the point here is not that this is a good or a bad thing. It is that this is operating for a substantial number of the patents in a very different way than the opposition process that some people originally envisioned the re-examination process fulfilling. And again, this is not a USPTO issue, this is more a congressional design of the process issue as far as I can see.

The second point relates to the opposition proceedings as they operate in the EPO. One of the benefits that some people have suggested for a more

elaborated post-grant opposition proceeding in the U.S. system is that it could resolve uncertainty about the validity and the like more quickly. However, what seems to be the case in the EPO process is that, partly because of the need for an appeals procedure, this takes a very long time. So one of the key benefits that is at least held out for an opposition style process in the States would be that that is a more rapid resolution doesn't seem to operate based on the data that we've been able to collect on the EPO opposition process. That's something to keep in mind.

And it's also important to recognize that the EPO opposition process does not preclude litigation following the conclusion of the opposition process and the appeals of the opposition process.

So it's not clear what you're buying into, at least on the basis of the data we've seen. When you go toward an opposition process and graft it into the U.S. system, which obviously would have a very different set of political dynamics in the design of this process, as witnessed in the re-exam process.

MR. BARNETT: Brad, you've been fairly patient for awhile. Do you have some comments?

MR. FRIEDMAN: I do, actually, on what's been just discussed and I wanted to talk a little bit about

your question on R&D.

First to what was just stated, in a potential U.S. opposition procedure one possible solution is to allow a third party similar to what we currently do in the re-exam, allow a third party to submit prior art and perhaps an argument, and that's all, and have the rest of the proceeding continue to be ex parte in the Patent Office. And so that third party is no longer involved that would highlight the efficiencies, if you will, of the U.S. Patent Office vis-a-vis the inefficiencies that you might see in the EPO system where the opposition period can take an extraordinarily long time.

I also wanted to note that I personally don't feel that it's ordained that all patents must be identical, whether it's 17, 20 or 10 years.

And also with respect to the breadth and scope of those rights that are given, I look to countries outside the U.S. such as the petty patents in the German system where the patentee or perhaps the Patent Office if you might here in the U.S. can decide what type of patent, what type of grant might offered to the patentee, and so that creates more options for the government to give particular rights to the patentee for providing further innovation. I think that's something that we might be well advised to look at.

The difficulty, as I mentioned, is the administrative burden, which is enormous, in trying to make those distinctions, and would those distinctions be then appealable, and so it's very important to look at that process as well.

A comment on the innovation and the R&D question that we had initially asked, I wanted to make this point. Outside the software industry the use of patents for other business purposes such as corporate intelligence or determining technology trends where there are technology gaps within the IP vector of the industry is fairly commonplace. In the software industry it's not. Outside of software the information can be used as input in, say, a continuous feedback loop for R&D, so I understand where the technology is going because I can see what has been patented and what is being patented; therefore, I know how to direct my R&D to innovate in a particular area.

In the software industry, as we mentioned earlier, and Jim, I think you mentioned it specifically, the number of overbroad patent claims allowed by the USPTO, the uncertainty in the current patent process going through, and particularly the uncertainty in the judicial process post-grant, all combine to increase the difficulties and inaccuracies of the endeavor of trying

to use that information in a competitive manner, because there's too much information and it is no longer meaningful in the same way as it might be in other industries, which might seem irrational.

The result is that you undermine the fundamental purpose of a patent system to provide valuable information and incentives to innovate beyond the existing art so I see where the art is and I instruct my R&D, I focus my resources and endeavors to improve upon that art for my profit and ultimately for the benefit of society. But instead, in the software industry I would say that patents are at best neutral to R&D efforts, and at worst an additional risk and uncertainty that slows innovation in the industry.

MR. BARNETT: Bob.

MR. KOHN: Yeah, first I'd like to clarify for the record that I'm not speaking on behalf of Borland, I'm speaking on behalf of James Pooley. Well, two comments. One is -- actually, I'm speaking on behalf of Laugh.com so that you won't take anything I say seriously.

One comment that, actually, Jim has alluded to or referred to twice, and that is that he's not unhappy with the Patent Office and how their processes and procedures are going.

I don't have any hard facts, but I can just say just through my experience over ten or fifteen years, I've seen just too many patents come across my desk that are generally agreed to be either obvious or the claims are just overbroad. Too many of them, whether they're business model patents or other kinds of patents, they're just stunning and we just can't believe these actually came out of the Patent Office.

And the other thing I'd like to just throw out which is more in the notion of Adam Smith, you know, the invisible hand. I don't really think anyone at the Patent Office is doing anything to specifically sway the system one way or another, but I did see the previous Commissioner of the Patent and Trademark Office give a speech once where he showed a chart of the revenues of the Patent and Trademark Office and how proud he was that those bars kept going up and look at all the patents that we're issuing. And it was just going up, up and up, and he was saying that was sort of the reason of their existence, to have more and more patents issued.

And everyone, I think, was pretty skeptical in the audience that I talked to, like wait a minute, it's really we're talking about the quality of the patents that really should be the focus here and not the quantity of the patents.

And to even be more skeptical, and I'm not accusing anyone and I'm a lawyer myself, okay, but the Patent Office is comprised of examiners who are all lawyers, all right, and they're going to -- I think their career path generally is not to remain patent examiners but to go out in the field and to either prosecute patents or to become like a Jim Pooley and be a litigator of patents where it's a lot more lucrative.

So isn't there something built in, may I ask very skeptically, isn't there something built in the system where these transaction costs and wasteful wealth transfers, as economists would call them, are kind of being perpetuated by the very people who would benefit from those wasteful wealth transfers and transaction costs? Which the transaction costs of course 99 percent of it go to the lawyers, so maybe the economists have a piece of that too, so they're the ones who have an incentive, I would think, to create as many bad patents as possible so that when they get out they litigate them, all right?

Now, I'm not accusing anybody in specific, I would never accuse a specific person, but I think the incentive there is built in, and the Patent Office, rather than talking about quantity, ought to really be focusing on things built into the system that are, I

think, incentivising high transaction costs and wasteful litigation.

On the other side of the coin, I mentioned earlier my concern or my desire for a system where, as Jim put it, it's *The Producers* problem where one company comes in and asks for five percent, another company comes in and asks for five percent, and all of a sudden you're like Zero Mostel or Nathan Lane, you know, giving away a hundred and twenty percent, three hundred percent of your revenues to various patents.

And there's an infinite number of potential patent claims that can come to you, that there really has to be some kind of a system whereby the reasonable royalty or the fee for that patent relative to all the other things that go into that project can be determined at a much earlier stage rather than after the liability has been determined, it should be well before then.

And I'd like to ask Jim whether he has any ideas on the subject of how, since he's a litigator and would be closer to it, how he might envision that kind of a system.

MR. POOLEY: If I could just answer that, and I'm speaking only for myself. I've been in this position before. One idea that comes to mind short of trying to encourage either through industry sources the formation

of consortia or perhaps even through government imposition, there is the idea similar to a stakeholder lawsuit in court where you would implead all the people that you think have IP that's relevant to what you're doing into one place, offer to pay a reasonable royalty to whatever it is that's determined at the end of the day to be the necessary IP, and let them fight it out among themselves in one place as to what the proportionate share should be.

I've not had a client yet that's willing to take on that burden, and of course it's an imperfect solution because you don't always know who all the impleaded defendants would be, but at least it's, I think, a way for us to start to think about this. The problem is that we don't know who all the people are and we can't get them all in one place.

MR. BARNETT: That raises some interesting issues. To a large extent, concepts such as standards setting have been brought up as well as, I don't know if the patent pools have been brought up so much, but those seem to come about in other conversations.

Jordan, do you have any thoughts on what he just said?

MR. GREENHALL: Actually, I have a number of comments that I'm going to hold onto the floor for a

second, but actually MPEG was one of the areas that I wanted to talk about.

MPEG is the significant patent pooling organization in my space, which has to do with video technologies, multimedia technologies. They were created in response to the patent thicket that had developed in the mid-'80s in the digital video space such that business couldn't move forward in the industry because there was simply too many overlapping conflicting patents. So in order to promote standards, the international organization got together to create a patent pool that would try to create both a nice standard for everybody to be able to work with and a comprehensive reasonable and fair license so everybody could actually go ahead and have rational licensing.

It worked quite well for the first two iterations. The current iteration, MPEG-4, may be exposing some of the significant difficulties that have arisen since the inception of the standards organization.

The first is the increasing politicalization and economic value just found in being embedded in the standard. Frankly, the first two iterations of MPEG were what you might call an ideal environment, very public service-oriented, lots of intellectual property dropped

into it, very touchy-feely and came off quite well. Everybody agreed on it and the licenses were pretty straightforward.

MPEG-4 has become considerably more politicized with very significant companies being part of the licensing process as well as the standardization process who have significant interests in the failure of the standard, for example.

That said, they've just recently announced licensing terms for one element of the standard, about two years after they said they originally would. And in fact those terms will be open for another year before they're finalized, introducing some quite novel concepts to the licensing scheme.

For those who aren't familiar, MPEG-2 licensing has always been driven by the encoder and decoder. Think of consumer electronics, flat fees based on units sold with also a small fee tied to disks.

MPEG-4 introduces the concept which is very sort of 2000-ish of starting to also put fees on broadcasts, that is per viewer, and start trying to put a tax on the actual use of the technology as it scales into delivery of content -- something that's shocking the content providers and interestingly enough, actually, economically if you just do the math, can't work. The

fee is actually larger than the revenue generation that this provides. But that's neither here nor there.

The issue that's of significant interest within the industry is the failure of MPEG to provide a reasonable platform of patent. That is, I can go out and get an MPEG license, but that doesn't in any way protect me. The number of companies who have similar intellectual property to those that are inside the MPEG-4 patent pool is very large; the overlapping of those licenses is very large.

And to make it extremely concrete, if a very large international multimedia company, who won't be named, asks me to license them my technology, and as part of that license requires that I warrant that my technology does not infringe on anybody else's patents, I can't sign that contract, because I don't know. Even if they go out and pay the MPEG-4 license and leverage their time and effort to actually go out and do the analysis, they can't promise that either. So it's a pretty significant problem that even an international standards organization can't promise you that if you pay their license, they can cover you against third party lawsuits.

Another comment, just to be clear on the allocation of resources that we're facing and maybe to give a little bit of a ballpark of how research and

development is impacted by patents, our company is 75 percent engineering, research and development. We've been around for 2 years. For the first year and a half we were allocating roughly 50 percent to advanced research and 50 percent to development. In the coming quarter that allocation will now be 50 percent development, 25 percent research; 25 percent of that will also now be dedicated to assisting in the filing of patents. This is actual engineer time, these are physical engineering resources who could be developing new technologies who will be working directly with our attorneys to process the actual patents.

By the way, that does not include the negative impact on productivity that occurs when you force engineers to talk to lawyers.

As a complete side comment, but I think one that was brought up earlier that I found to be shocking and interesting, is this concept of wilfulness claims that Jim brought up earlier.

My first introduction to the way to deal with patents by my attorneys was, for the love of God, don't look at them, which meant that I was in a vacuum for more than a year. I simply didn't look at any patents and I never went to the USPTO site, and if anybody mentioned a patent I burned it as quickly as possible.

I've recently reversed that process, simply because I've been asked to sign these warrants and I kind of feel like I need to know what I'm warranting. That puts me in a very precarious position. I now am familiar with lots of patents, many of whom it's reasonably arguable I might be infringing on, although for the record I don't believe I'm infringing on any patents.

That just strikes me as a very odd way for the law to work, so just my two cents to those who might have some ability to change it: if you could fix that, that would be great.

Last part on the concept that's been floated around a little bit on reallocating the scope of patents to be proportionate to the industry, the idea strikes me as being very common sensical. Really, if you sort of look backwards, if the concept of patents is to promote innovation, and to be very bottom line as a citizen and as a consumer to provide me with as much cool stuff as possible for as little as possible, a patent should compensate an innovator with the very least amount of economic incentive that would introduce as much innovation as possible, so that if I as an innovator feel like I can get, say, 10-X return on my risk, I'll do it.

In many industries, particularly in the software industry, you don't have to give me any

incentive because competition would generate innovation. It would be great if I could get 100-X return on my investment, and certainly as an executive I'll probably be lobbying you to do that, but as a citizen if you look at simply the risk involved in the development of intellectual property in different industries, the investment and time to market is incredibly disparate.

I mean, before I got into this IP nonsense I was actually involved in biotech, and they were talking about ten, fifteen years, hundreds of millions of dollars and very high likelihood that it'll blow apart at any moment.

In my business I can develop intellectual property that's highly patentable in two, three months, $20,000, and it's guaranteed to work because I did it. Rewarding me with the equivalent patent coverage just doesn't seem to me to make sense from a pure common sense perspective. I would say that the biggest issue really is taking the time to go out and take a look at what the actual economic implications are of changing that machine, and then really taking the time as intelligent people to figure out how to implement the right institutions to make it work.

I admit I'm extraordinarily naive. I actually do tend to believe that smart people can actually develop

pretty good rules when they put their minds to it, but that naivete leads me to think that's a pretty good idea.

MR. BARNETT: I think at this point we should go straight to the source as far as the Patent Office goes, and Ray, do you have any thoughts?

MR. CHEN: Thanks, Mike. I'm not even sure where to start. I'll just do the best I can to talk about a few different things.

Yeah, I am concerned that maybe there is, the more I listen, perhaps a perception gap going on with regards to the Patent and Trademark Office, but first of all, I think I do recognize that there's a concern about uncertainty with regards to patent scope and things like that, and perhaps patents being interpreted rather broadly.

But at the same time, I think if you look at the recent few years, say five to seven years, and you look at what the Federal Circuit as well as the PTO has been doing, you'll see that there's been a rather significant conscious trend towards stressing the clear notice function of what patents should have in terms of what their scope ought to be, and I think that's been especially stressed in these past few years.

If a certain Commissioner has taken pride in the fact that filings have gone up and issued patents

have gone up, I think it's probably more of an indication to him that that's a reflection on the pace of technological change in this country, especially over the past 20 years where we've seen an explosion of progress in so many different industries.

I think the USPTO would definitely want to encourage as much public participation in the process of trying to maintain a strong system of valid patents. I think that's really what the PTO is there to do. I don't think there's anybody in the PTO that really thinks that its incentive is to issue as many patents as possible. I think it's to try to do the best job that it can do under the circumstances and under the prior art that it has access to, and to that extent, public participation is a problem.

I've been hearing that there seems to be feelings of concern with the two re-examination regimes that currently exist, and perhaps they are imperfect, and we're definitely open to hearing all kinds of suggestions that we can promote on the Hill to improve both of those processes, as well as the possibility of opposition proceedings.

I think we've heard that the Business Methods Patent Initiative that came out a couple years ago has done quite a bit in this particular arena to improve the

quality of the examination process. We've done industry outreach where we've specifically gone out to seek out as much prior art as possible. Obviously, most of our prior art databases rely on previously issued patents, but in areas such as software and the Internet, obviously we have to go to non-patent literature as much as possible. And again, that's where we really count on public participation.

One question I have from hearing some of the discussion this morning is whether there's something unique about the software industry -- and maybe I pose this specifically to Professor Mowery and Mr. Pooley -- about this tension between small companies, large companies, maybe a small company having a patent, and whether or not there's this following perception that these small companies are somehow creating a drag on the larger companies?

And just as a crude analogy I would look at, say, the auto industry where maybe an individual inventor has a patent on a windshield wiper and then all of a sudden goes and tries to reach out to the Big Three automotive companies and tries to find a reasonable royalty there, and is that somewhat analogous to what we see here?

I guess the only question I have is, is there

something unique about the software industry that makes it different from really any other industry that's dealing with these same type of issues?

PROF. MOWERY: I have to go in just a couple minutes. I think the question you pose is absolutely the right question to pose to this group because I think that there's a great deal of industry specific knowledge here and a lot of what, in my view, we've heard this morning could be replicated in other industries: small firms, large firms, short pockets, deep pockets, etcetera, etcetera, etcetera.

Seems to me there are probably two or three things about software that are different. One obviously is the fact that you have a regime change in this industry in some sense where you have new markets opening up where formal IP protection now is much more valuable, and you have this change in the judicial deference to patents and the like that has increased the perceived value of patents.

All of that means you're in this transition period where you're going to a much more patent intensive regime. That means that the patent-based prior art is much less abundant for examination. But again, that, I think, is something that one sees in new areas of technology more generally, this transition problem in a

system that relies heavily on reviews of patent-based prior art.

So software is different, but software is not different in that you've got this transition problem, and arguably, once the transition is over, whenever that happens -- and as prior art becomes more abundant that may be less of a problem -- but I think the other areas in which software may pose unusual challenges is the potential complexity of the patent coverage of a given artifact. I mean, the argument that you can have potentially dozens or hundreds of patents covering individual components of a product, that may create one of these anti-commons problems where the complexity is so great.

The second, I should say the third area in which this industry is perhaps different is that the cost of entry, particularly as compared with the automobile industry, is obviously relatively low. I mean, people still in some instances can enter this industry on the basis of maxing out their credit cards. That's not commonly associated with other far more capital intensive industries.

So arguably you have a much larger fringe of independent or new entrants who are interacting with, sometimes fruitfully and sometimes not, an established

group of firms, so in some ways that may be another characteristic of this industry that is different, but it's embedded with the change in markets and the change in technology that is driving this industry so rapidly.

So those are some thoughts, but I don't think I have fully exhausted the possibilities of what makes this industry unique. I wish I could stay and hear from people who actually know more about it from a practitioner point of view, but I have to go teach. Excuse me.

MR. KOHN: If I can reiterate a couple of David's points on the difference between software and others. The availability or nonavailability of prior art, primarily because a lot of it's behind the object code, is a challenge the Patent Office has had and we realize that, and also the number of potential processes that could be in a million-line or ten million-line piece of source code.

But again, something I mentioned earlier. You can't get a copyright on a windshield wiper, so really the only available protection for innovation for windshield wipers is patent protection. You already have copyright protection in that entire piece of software. What is the marginal benefit of patents within that particular piece of software to the people who have to

make money selling the software? So I think that is something that should be considered, and I think clearly there is a difference in software.

I don't know necessarily that there needs to be any changes to the patent law to reflect this. I've given a lot of thought to this. The changes that were made several years ago, I think were great, eliminating the submarine patents. But having been through some major cases, I just think that -- and I didn't mean earlier to accuse the Patent Office of overtly doing it or whatever, but certainly I do think the Commissioner was very proud of the fact that the quantity of patents are going up.

I don't necessarily think it's all this new innovation, it's just all this need for defensive patents because of this thing that's been created. But I think the focus might be in what is the value in the software field of that one patentable piece of this huge product that has lots of contributions to its value, and how can that be determined at an early stage so someone can make an evaluation rather than just being faced with "We want five percent or we want ten percent, or this is going to cost you half a million dollars to litigate," so it's a nuisance value to begin with even though there's some minor value there.

I think there should be some focus -- and I was a little disappointed, James, that you didn't have the total solution to the problem on the process of litigation. Maybe when this lawsuit is filed or maybe when you get a demand letter there's some kind of board that goes through the evaluation of what's going on here to weed out the frivolous claims or not. I don't know the answer to that, but I think that's where a lot of, I think, useful focus can be made.

MR. BARNETT: Pam.

MS. COLE: Yes?

MR. BARNETT: You've been very patient.

MS. COLE: I have, and I'm usually not. Just a few introductory comments. First of all, my views do not reflect my colleagues at the Antitrust Division or my superiors, and they might not even reflect me because they change every day. I actually wanted to shift gears a little bit and talk about the role of the antitrust enforcement in all of this since these hearings are about the collision, if you will, of intellectual property and the antitrust.

Let me first say that I work with the San Francisco office of the Antitrust Division, and the Federal Trade Commission also has a San Francisco office, and both offices pride themselves in being very familiar

with high tech antitrust issues that are coming out of the Silicon Valley. That is what we tend to specialize in, so know that you have local friends in the antitrust enforcement agencies that you can talk to.

Which leads me to a story that I'd like to tell some of the business people here today. About a month ago, a small business owner came in to meet with me. This small business owner was being sued for patent infringement by a very big firm. This small business owner had found out that this very big firm had indeed sued many companies for patent infringement, had lost all of the cases that had gone to litigation, and if the cases didn't go to litigation had actually purchased the defendants as a way of settling the lawsuits.

That raised a lot of red flags with me, and that type of behavior by a dominant firm or a dominant patent holder can raise some interesting antitrust issues. They could potentially raise some sham litigation issues by the patent holder in terms of bringing these infringement cases as a way of tying up these small firms and because they're too busy defending the case to focus on what they're there to do.

And it's also a way, like I said, that they can be acquiring these firms. And a lot of times we at the government will not know about these acquisitions because

they will fall below the Hart-Scott-Rodino notification threshold or they will be deliberately structured in such a way as to avoid Hart-Scott-Rodino notification. So that type of behavior can raise Clayton Act merger concerns, it can raise sham litigation concerns, and I opened up a case and now I'm going to look at it.

Now, the good news is that if the government looks at a case it doesn't cost you anything except your tax dollars. Now, yes, we can move slowly, but quite frankly, I'm not sure we move any more slowly than the private courts do in this.

So I just want to raise that and I actually wanted to ask any of the panelists if they've had any experiences mostly as a patent defendant where they have raised antitrust counterclaims such as sham litigation counterclaims, patent misuse counterclaims, unfair competition counterclaims. I mean, the good news is if you win on that you obviously get treble damages and you can get attorney's fees.

So I see some cards going up so I think I'll just stop right there and hear from you on that.

MR. BARNETT: I think Bob just edged out Jim.

MR. KOHN: Sure. Well, when we were sued, when Borland was sued by Lotus -- my God, when was that, '93, 1990, '91? I don't know when it was -- we intentionally

did not file any counterclaim for antitrust or anything else, but particularly antitrust.

And you know, they had 80 percent market share at that time, which was before Excel essentially, so there were potential claims there, but the reason why we didn't was it would have invoked their insurance provision so the lawsuit would have been covered by insurance, so we intentionally did not.

And most antitrust counterclaims in patent and copyright cases tend to be viewed by the people in the profession as just sham. They're not really going to work, but you just throw something over to the other side to put them on the defensive. But we decided not to do that because it would just simply have all their litigation financed.

Ours was financed fortunately by our insurance because I made a claim under our advertising injury provision, and we literally changed all the insurance forms as a result. But we had almost all of our fees covered by the cost of that, and we knew that on the other side that would be the main advantage for them, so we didn't do it.

And again, antitrust claims are generally these really soft claims and very difficult to do.

And the analogy, by the way, of

Hart-Scott-Rodino, maybe there should be a Hart-Scott-Rodino kind of process before patent litigation begins.

MR. POOLEY: There's something provocative.

I would just say that from my own experience, increasingly antitrust claims, counterclaims are made in patent litigation, but you have to distinguish between the sort that are the sham litigation claims which judges look on generally very skeptically, tend to bifurcate and put off because you haven't reached the predicate point of proving that you've won the case, and then the more complicated interesting kinds of claims of the sort that you've recognized or you've mentioned, including refusals to deal.

And there, I think, the experience generally is that the trial judiciary, cheered on a bit by the Federal Circuit, is also fairly skeptical about those kinds of claims because what they're hearing at least from the Federal Circuit is that patents are a very, very strong bit of property and you can't blame owners for how they use them. And I realize, of course, it's a much more complicated issue than that, but the tone is there.

And so, on the other hand, we absolutely see these kinds of claims coming up more and more often, and somebody's going to have to deal with them at the

appellate level on a continuous basis, I think, until we get further clarity.

MS. COLE: Let me just respond very quickly to some of those comments.

First of all, there will be separate hearings that the Federal Trade Commission will be holding in D.C. in terms of the role of the Federal Circuit. Perhaps it is because I was one of the attorneys that represented Intergraph in the private antitrust suit against Intel that went to the Federal Circuit, perhaps that leads to these comments. I myself am very concerned about the role that the Federal Circuit is playing in antitrust and I think that's an important issue.

In terms of your comment that antitrust counterclaims are often viewed as a sham or looked down upon, again, this may come from my perspective of being a plaintiff's antitrust lawyer in private practice and actually went back to the government, and after hearing comments today I'm very glad that I did.

You know, don't be so sure who's creating that perception. I mean, granted, yes, there are some cases that are of concern that are coming from the Federal Circuit, but I think you just have to be careful in terms of who might be creating that perception and why it's being created, because the antitrust laws are still

there. There are still some good opinions on the books.

And I do agree that sham litigation is increasingly becoming difficult to prove, but one of the great things about doing an antitrust counterclaim is that you get access to some very good documents that you cannot believe exist, and so I just wanted to make those two comments.

MR. BARNETT: I think Jim's comments brought up another idea in my mind. Another avenue other than litigation where antitrust or fair competition issues can arise is in the licensing or cross-licensing process, and we've heard concepts such as leveraging and also from the standpoint of dealing with patent pools or dealing with --

(Tape Two, Side B)

MR. POOLEY: I have raised this notion before. I'm not sure whether it's a good idea or not, but it is an idea and so I'd like to throw it out here and perhaps hear comment from some of the other panelists.

One of the problems in licensing is the notion that was alluded to by Josh; that is, that virtually all patent licenses are confidential. And as a result of that, when you enter into negotiations with a patent holder and the assertion comes across the table that you should pay X amount, whatever it is, because the industry

has recognized that, the natural response probably would be, "Well, that's interesting, but let me see the licenses so I can examine what the circumstances are and weigh the context in which that kind of agreement was reached."

But you can't see those agreements, you don't know precisely who the people are, how much it is that they actually are paying when weighed against other contributions that they're making or obligations that they're taking.

That, it strikes me, necessarily leads to a higher general payment of royalties than otherwise would happen if, for example, and this is where the idea is, all patent licenses like patent assignments were required to be recorded and perhaps made available for inspection.

You know, a radical notion and one that where we have to think about the collateral consequences, but it bears mention that there's a great deal of opacity that inhibits the natural process of negotiation of licenses, and it might be helpful if we were to free ourselves from the problem that comes up every time when someone suggests you ought to pay this and you say, "Well, let me see your other licenses and they say we can't do that."

And the rejoinder is, "Well, if I sued you or

if you sued me, we'd be able to see them." And he says, "Yes, I know that, but we're not in litigation." So you feel almost as if you're forced into litigation in order to get the discovery that you need to make an intelligent resolution to the dispute.

MR. KOHN: I like that. That's a great idea.

MR. BARNETT: Brad.

MR. FRIEDMAN: I had one comment, but I'm going to fold it into what Jim just said, which was intriguing. I'm going to, Jim, remind you of what you had suggested in terms of using impleading in terms of having all the people who might ask for a share of the royalties, of the rents.

One thing that David Mowery said was that the software industry was unique in terms of the number of components and the patents covering the various components to it. There's another industry that clearly comes to mind that I've previously worked in, which is biotech, and certainly pharmaceuticals, which shares that problem that the final product is covered by a large pool of patent owners, each of which own the naked virus, the gene, certain components, the vehicle of delivery and so forth that result in the final product.

And some system whereby you could pool these interested parties, and I view them now as patentees on

the one hand, and then on the flip side the potential licensees whose agreements you can't see, pool them together and create basically a market-driven assessment of the value of the patent.

The difficulty there is markets with few people in it are extraordinarily inexact. Currently what we have, though, is a one-off every time, and so I certainly don't see that what I'm suggesting is a panacea, but it's a whole lot better than what we currently have. Nor, of course, am I suggesting a particular structure because I haven't thought of one, but I think it's important to look at the uncertainties that we can focus on and bring to light.

For instance, we require some license agreements to be recorded if you want to create a secured interest in that license and the value, the revenue that comes with it. Well, perhaps having all license agreements recorded for the purpose of allowing the value of the patent to be seen is a good idea. Whether or not that should be public to everyone or available to those who sincerely are approaching for a license, maybe that's a good thing to do.

Which is leading me to say perhaps we want to go to a compulsory license model such as in France, in which case a reasonable royalty becomes out there and all

comers who are interested can show that they deserve to have a license. I'm not sure if we want to go there, but I think it's something we ought to look at if you're looking at trying to shed light on those areas of uncertainty.

MR. BARNETT: Thanks, Brad. I think at this point we may start wrapping things up. If anyone has any particular final comments they'd like to make or any thoughts that they've had as a whole, we'd appreciate them now. Jim.

MR. POOLEY: Just a quick comment. The compulsory licensing scheme I know Brad appreciates is a provocative notion, and just for my own point of view I think we need to be very, very cautious about that, because one of the pillars of the patent right is the right to exclude, and once you create a general compulsory licensing scheme you've eliminated that right.

I think there is some merit in other suggestions I've heard where, for example, the right to exclude, that is to provoke a judge to issue an injunction, might be limited to those who actually practice the invention, but a general compulsory licensing scheme I think is anathema to our system.

MR. KOHN: But compulsory licensing isn't totally foreign to intellectual property. It may not

apply in the patent field because the relative value of the patent of the particular product is going to be so varied in each case it would be very difficult.

And I mean, I don't know how they do this in France, but in the music industry there's a value of a song to a sound recording and they've set it at 7.55 cents and that's what the government's statutory rate is set. And some songs have greater value than others to a recording, but you know, there is a level playing field that they can establish there for that.

I was looking at my testimony seven years ago in front the FTC and I suggested in one instance, and I'm not taking this position today, but that a compulsory license might be applicable in an antitrust situation where someone is controlling some kind of an interface standard or something like that to such a degree or so dominant that it's determined that --

MR. POOLEY: Essential facility.

MR. KOHN: Essential facility, I don't know what the terms are, and I don't want to get too close to that subject. But anyway, I'm not suggesting that, but compulsory licensing might be confined to specific instances where the antitrust field comes about.

MR. FRIEDMAN: I just wanted to say that I think it's clear we have a lot in our arsenal in terms of

enhancing innovation and specifying the ways in which we do that, and so if we put all of those on the table and take the radical idea that we can actually change things with a focus of vision as opposed to it's hard to change what we have as opposed to inertia, I think we can get to a place, perhaps even in our lifetime, where we've improved the system quite significantly.

MR. BARNETT: Very good. Does anyone else have any comments? On that note, I would sincerely like to thank all our panelists for coming today and would like to join in a round of applause for them.

(Applause.)

Thank you for attending. The next session is at two o'clock.

(Whereupon, at 12:25 p.m., a luncheon recess was taken.)

AFTERNOON SESSION

MS. GREENE: Welcome back and thank you for returning for the afternoon panel. We had, as many of you know, a fantastic panel this morning that was an industry panel looking at the Internet and software.

This panel is entitled "Diverse Perspectives in Patenting" and we have an extraordinary group of folks around the table, so let me turn to introducing them very quickly.

Firstly, I'd like to introduce my colleagues at the government. My name is Hillary Greene and I'm from the General Counsel's Office at the Federal Trade Commission. To my left is Bill Cohen, who is the Assistant General Counsel for Policy Studies in the Office of General Counsel.

MR. COHEN: Policy Studies.

MS. GREENE: Policy Studies, that's where we come from -- Bill and Hillary. And then one person over we have Carolyn Galbreath, who is a representative from the Department of Justice; and then to her left we have Commissioner Tom Leary from the Federal Trade Commission; and to my right, Ray Chen, who's from the Patent and Trademark Office.

Okay. Let me just go real quickly through who our panelists are. They're going to be each giving

presentations scattered throughout, so why don't I just get the intros out of the way up front.

First we have Greg Aharonian, who is the publisher of the Internet Patent News Service, a daily e-mail newsletter that covers intellectual property issues. The newsletter has focused on the issue of patent quality, in particular the problems patent applications and examiners are having dealing with non-patent prior art. Mr. Aharonian is also a consultant to corporations and law firms conducting patentability and invalidity searches primarily in the electronic and computer areas.

We also have John Love with us. John Love is the Group Director in Technology Center 2100 at the U.S. Patent and Trademark Office. As director, he is responsible for managing the work of several hundred examiners who review patent applications for compliance with statutory requirements for patentability in the area of data processing, e-commerce and cryptography. Mr. Love has also served as Chairman of the Supervisory Patent Examiners and Classifiers Organization and has been awarded many Department of Commerce awards for his work at the Patent Office.

Next we have Rick Nydegger, who is a founding partner at Workman, Nydegger and Seeley, conducting IP

matters for many of the firm's clients in the electronic software and information science, e-commerce and medical device technology areas. Mr. Nydegger was invited in 1999 to become a member of the National Patent Board, a non-profit entity founded to provide access to experienced IP attorneys for mediating patent disputes, and he has also served as an arbitrator.

Next we have John Place, who is the Executive Director of the Center for Internet and Society at Stanford Law School, a policy center dedicated to exploring the impact of the Internet on law and society. Mr. Place is a former Vice President, General Counsel and Secretary of Yahoo!, the first in-house attorney Yahoo! hired. And before joining Yahoo! Mr. Place was senior corporate counsel at Adobe Systems. The *Los Angeles Daily Journal* has named him one of the 100 most influential attorneys in California.

Next we have Carl Shapiro. He is a professor here at the Haas School of Business and is Director of the Institute of Business and Economic Research and Professor of Economics in the Economics Department at UC Berkeley. He has also had a public service career. He served as Deputy Assistant Attorney General for Economics in the Antitrust Division of the U.S. Department of Justice during 1995 to '96. His current

research interests include antitrust economics, intellectual property and licensing, product standards and compatibility and the economics of networks and interconnection.

And next we have Robert Taylor, who is Managing Partner of the Silicon Valley office of Howrey, Simon, Arnold and White. For more than 25 years he has specialized in patent and antitrust litigation and related fields of law. His experience covers all aspects of litigation in these areas. He is the former Chair of the Antitrust Section of the ABA. He was also a member of the Advisory Commission on Patent Law Reform, whose report was presented to the U.S. Secretary of Commerce in August, 1992, proposing changes to patent laws.

Next is David Teece, who is participating with us once again today. He is an applied industrial organization economist and an economics professor here at the Haas School of Business. He has testified before Congress and government agencies on regulatory, technology and antitrust policy, and has authored over 150 books and articles.

Additionally, we have Les Weinstein. He is the Senior Litigation Partner at Squire, Sanders and Dempsey, focusing on patent and antitrust matters. He counsels technology clients in a wide variety of fields including

chemical, pharmaceutical, electronics and telecom industries. He began his legal career as the first U.S. Patent and Trademark Office registered patent lawyer employed by the U.S. Department of Justice Antitrust Division.

And we have an unfortunate omission. Katherine Ku, the Director of the Office of Technology Licensing at Stanford University, is not able to join us, which is unfortunate, but we are really delighted to have in her place Luis Mejia. He is the Senior Associate in the Office of Technology Licensing at Stanford. He has been at Stanford for 14 years and has negotiated over 200 license agreements. He has a Bachelors of Science and Mechanical Engineering from Arizona State University, and has been the co-founder of several Silicon Valley startup companies. He has spoken internationally on many occasions on the topic of technology transfer at universities. Most recently, he was keynote speaker at the Ericsson Innovation Awards at Canberra, Australia.

Well, it took a while. Fantastic panel. Thank you all so much for joining us.

Let's see. In terms of logistics, we're going to have three presentations, then we're going to have discussion, then we're going to have two presentations, and then we're going to have a break. Then we'll have a

couple more presentations and then a discussion.

The bottom line is that I realize that the numbers don't add up. Several of the panelists who are joining us today were kind enough to forego a formal presentation on the assumption that our discussion would be an adequate vehicle for them to get their ideas out. And what I can say is: we know who you are, and so while everybody else needs to tilt up their table tent like this to let me know that you have a comment to make, I want to make sure that those people who won't be giving formal presentations just throw their table tents at me. I really want to make sure that you have your points adequately included. Okay, so here we begin.

We talk about the social trade-offs that are inherent in the patent system, and what we have is you have disclosure, and what you get from the disclosure is a right to exclude. As a result of that, we as a society are hopefully promoting innovation.

What we're going to be looking at today is, as a practical matter, what does it mean to implement that trade-off? What are the consequences of how we choose to implement that trade-off? Step one in this process of implementing the trade-off is clearly the patent application or the grant process. Our first three presentations will focus directly on that process, and

then we'll have some discussion. And then we will expand our inquiry into how the patentee uses the rights once acquired, and part of that will be the litigation that invariably, or at least frequently, ensues.

So why don't I turn now to our first presentation by Les Weinstein.

MR. WEINSTEIN: Thank you. Can you hear me in the back? You may want to change places with people that can't.

First I need a standard disclaimer. I do not speak for my law firm, my partners or my clients. I come here today speaking on my own, drawing on my experience in the middle of the last century as patent examiner, as an antitrust lawyer, and now increasingly involved in the patent antitrust interface.

For those of you who are interested, more extensive remarks and some suggestions about the problems that need to be remedied are going to be available on the FTC's website. I'm going to focus on a couple of points today.

I want to compliment the Justice Department and the FTC for this very important step. This is something that is essential to our economy, and you're to get high praise for undertaking this work.

I am deeply concerned with the way the patent

system is functioning today. My view of it is that we are no longer granting patents on inventions, we are granting patents on investment. And that's a policy the country can make, but it would be much more efficient to do it through tax policy rather than handing out -- through the examination process with all of its imperfections -- patents which are also clubs, and I'll come to the nature of those clubs in a moment.

They're clubs to drive people out of business. They can be clubs used to destroy their investment. The exclusionary power of a patent, as Kodak found out a few years back when it lost $900 million because it made a "mistake" can be very powerful in how our economy is effected.

Now, in fairness to the Patent Office, which is often everybody's current whipping boy, it's fair to recognize that the Patent Office is caught often between: the dictates of the Court of Appeals for the Federal Circuit which is expanding what can be patented, the statutes our Congress has passed through whatever legislative process goes on commanding them to do certain things; and its own shortcomings in budget and occasionally in talent. So I do not want you to think that I'm here to bash the Patent Office particularly, but to talk about how the system works.

The problem as I see it is that we are issuing too many patents with too many claims, each of which is an individual patent as a practical matter that cannot be understood. We are told that a patent is like a deed to property or like a statute, that it's supposed to warn people as to what is forbidden. Yet in almost every case now, millions of dollars are spent and certainly hundreds of thousands in Markman hearings so a judge that is reversed about 50 percent of the time, can tell people what that patent means. Something is wrong with that system.

There are patents that come out today with hundreds of claims, unintelligible to almost anyone except the people who drew them. And yet, people who violate them jeopardize sometimes a lifetime of investment or their division or their product. That system doesn't work well to spur innovation or carry out the constitutional mandate.

Indeed, for those of you who were here this morning and listened to the people in the software industry talk about how threatening this is to their businesses, as I see it, patents today are often entrenching the established at the expense of allowing the newcomer to come in. I question today whether a Steve Jobs could start an Apple or a Bill Gates could

start a Microsoft in view of the web and thicket of patents that is out there. Let me give you just a couple of quick examples.

I was in the ski shop the other day and I was interested in buying an orthotic for my ski boot, and I spotted this little card here saying it's covered by 38 patents. Now, that's very interesting because, as it turns out, a competitor only needed 1 to protect its own device.

Now, I'm not faulting this company. It merely took advantage of the system. I'm not faulting any company that is playing by the rules. The question is, do the rules work?

Again, this morning those of you were here heard Jim Pooley say don't jump on patents until you read the claims, don't take anecdotal evidence. Let me read you a claim here of a recently issued patent by four inventors of IBM.

> "A method for providing reservations for restroom use, comprising receiving a reservation request from a user and notifying the user when the restroom is available for his or her use."

You know, if you say to this flight attendant,

"Please tell me when the bathroom is available," you're all probably infringers. This patent has in it 64 claims by 4 inventors. It goes on to make a real contribution, though, because it suggests in one of the alternative claims that you could schedule people by either the price of their ticket or their frequent flier miles status.

Now, let me tell you that similar things are going on with laser technology, going on with semiconductors and microprocessors. And this is a burden, this is a drag on our economy and we need to figure out some way to fix it.

MS. GREENE: Right. And we're going to move on to our next presenter, and we'll be coming back to you and hopefully figuring out ways in which we can, quote, "fix it." Our next presenter will be Greg Aharonian.

MR. AHARONIAN: Well, since I'm going to blame the lawyers I suppose we can fix it by getting rid of the patent lawyers.

My problem is as follows. I'm not a lawyer, so when I hear a lot of these words I have to kind of define them in my mind. When I hear the word 'antitrust' I'm sure there are a lot of legal rules in Washington about what exactly that means, but in my mind it's someone who abuses the spirit of the system and not actually any particular law.

A couple big businesses chit-chatting over some drinks somewhere could probably do it discretely enough to not violate any laws but end up somehow abusing the system in some way. To me that's not so much antitrust but against trust, to abuse the trust of the public, of their peers, whatever. So to me, I mean, what's at interest to me in the patent system is the abuse of trust that goes on, assuming there is any.

Now, to me, I have no problem with someone with a good patent, developed patent with a new invention, being as nasty as he wants. I suppose that's kind of the fun of the game and the reward of actually coming up with something new. I mean, I think there's very little new to be discovered and I think the person who does discover something new should be able to have as much fun as he wants with it, or her.

My problem is with the quality of the patents. There are just too many patents, as Les and many other people have stated, that are just plain bad; and I blame a lot of it on the applicants themselves and their lawyers.

Certainly, I've bashed the Patent Office many times over the years, and I think there's much they could do to improve their operations, but they are hamstrung in many ways by politics and budgets and things like that.

But what gets me is just kind of the cavalier attitude of a lot of patent applicants, especially the corporations.

I've passed out, in the back of the room if you don't have a copy, some statistics I've gathered on computing patents, which is my field of expertise, and the numbers, I think, are quite interesting. The data ranges from 1976 to 2001, so it's a very long time period. It stretches the Internet period and it stretches over the '70's and early '80's when a lot of the formative technologies that now are part of the Internet and other areas were being developed.

I mean, you see some interesting things. We go from a few thousand patents in the early '80's to upwards of seventeen to twenty thousand computing patents a year being issued now. And I mean, frankly there's just not that much innovation out there to justify that kind of rise.

One of the reasons why so many patents are issuing is that the Patent Office really has no choice. The examiners are obligated to pretty much process a patent application in two passes so that at the end of the second pass if they have no more ammunition to use against a patent, they pretty much have to issue something.

And the problem is that you look at one column

there, Number OREF, and the second column, Percent ZREF. What that translates into is the number of non-patent prior art references cited on the average patent is the number of OREF. And percent ZREF is the number of patents that cite no non-patent prior art at all.

Now, in the computing field as of today there are probably about ten million publications in the general area of computing. There are major organizations, IEEE, the ACM, that have hundreds of conferences and journals every year with thousands of pages in each one. You walk into any engineering library around the country and all you'll hear is the librarians complaining about not having enough room on their shelves for more books, more conferences, more papers. So that for a computing patent today hitting the Patent Office, I would say that there are about ten million potential pieces of prior art that might be asserted against it. Now, the vast majority of them are in different fields of computing. I mean, a patent on a graphics technique will have no prior art in the database area.

But the fact that over half of all patents issuing cite none of this prior art to me is abominable. And the reason is that the corporations and the applicants aren't doing any searching because they're not obligated to. The problem then is that the examiners,

who everyone knows are overworked and under-resourced, they don't have time to go out and seek that prior art. The end result is that they have to issue patents on ludicrous ideas like a reservation for an airline restroom because they don't have the specific information on hand to properly issue a rejection.

So the solution is quite clear, it's to stiffen the search requirements for applicants. Rule 56 -- which is an obligation on applicants to disclose what they know but not to search what they know exists -- to me, is a total joke of a rule. It allows companies, especially large companies like an IBM which brags about having the biggest databases on the planet and the best search engines in the universe, to then say, "Oh no, we don't know how to find out anything, only apply for our patents." I mean, come on, give me a break.

The other problem is that right-hand column, Percent Jepson. For patent applications there's a language you can use in the patent claims and there's a certain phrase that appears occasionally, "the improvement comprising." Now, if any of you use software or any technology, almost anything you see coming out new on the marketplace is an improvement on something else.

I mean, there are few truly revolutionary ideas anymore that are just so new that they're not an

improvement on anything. So, I mean, to someone who's naive to all this you would think that every patent claim where someone's claiming what it is they've invented would first say, "Here's my improvement over the existing art," so that we could then focus, for example in Markman hearings and other such venues, on what it is that's truly new that someone might be infringing. So you'd think that 80, 90 percent of the patents would be using this format if they were truly sincere.

Given that even amongst lawyers in fields of computing the thought is that at least half the patents are invalid and, therefore, they're an improvement on nothing. And, yet, over the last 20 years we see the use of this format dropping. Why? Because lawyers will say, "Well, if we specifically point out to the examiner what the improvement is, he'll issue us an obviousness rejection because he'll say, `well, you have so much other stuff that everyone already knows about, your little improvement's too trivial, it's obvious, so no patent.'"

I can understand that, but the answer to me is to have the patent lawyer work with the Patent Office to come up with a way to, A, get their client to do more searching, to come up with some minimum search requirement that everyone would have to do, and B, to

come up with a way of pointing out what the improvement is so that people can focus on that.

So, I think there's a lot of work that can be done with the mechanics of the system itself to improve greatly the quality of the patent without imposing an undue economic burden on anyone. Applicants are now spending ten to twenty grand to get a patent issued out of the Patent Office. In bulk, decent searching could be done on all those either by the companies themselves, by people such as myself, and I do this for a business, or by giving more money to the Patent Office so they could do it. I'd estimate at the level of about $500 on the average for a patent application. So for someone spending ten to twenty grand, and again we're talking mostly corporations in the computing field, I do not think $500 is an undue burden to help improve the quality overall of the entire system.

And the result then is these issues keep on getting pushed off year by year. A lawyer down in the valley, Ron Laurie, in 1988 and 1989 gave a talk on computing patents, and this was before all this hit the press and became real big news. But even back then he was arguing, based on his experiences in the firms he was with, that 80 percent of the issued computing patents were invalid. That was, what, 14 years ago, and frankly,

I have seen nothing change in the subsequent time period.

So my concern over the past few years has been harping on this one issue. There's a lot that can be done very easily, very reasonably in terms of cost to greatly improve the quality of the patents. And I think that if applicants -- and again, if you look at one of the columns, Percent Corporation, the vast majority of these patents are going to corporations large or small. We're not talking about some guy in a basement anymore, this is corporate stuff.

If you really want to get a powerful weapon, the patent is -- and I have no problem with the patent being a powerful weapon -- I think you should have a higher burden to get such a weapon. But for too long the patent bar has done nothing, and the Patent Office I don't think has a chance to do much of anything.

What happens with all these issues? You have to go into court, spend hundreds of thousands of dollars, millions of dollars, arguing what it is that was invented, whether or not the prior art was relevant or not, in front of a jury or a judge who doesn't understand the technology, and the district court doesn't even understand the patent laws. I mean, it's a real mess, much of which could be dealt with a lot earlier in the system, but it isn't. The result is that large companies

and smaller companies start building up these patent thickets and they start suing people and it's hard to fight stuff like that off.

I myself should know. I mean, I've been sued for patent infringement on a patent that is totally worthless, and you know, spent a fair amount of my own money defending myself. In the end I think I'll prevail, but it's not something I should have been made to do.

And it's the type of patent that, had the applicant been required to do some searching ahead of time when he was filing for the patent, or if the patent assignee, once he got the patent but before he sued someone in court, was required to do a search.

I could maybe see arguing that, you know, let's not burden everyone at the patent application stage. But to be able to sue someone without doing any due diligence on the validity of your patent and hiding behind the the canard of, you know, the patent was presumed valid, I mean, again as a non-lawyer, that's silly. It may be legal, but it's not very serious.

So I find it funny that in this era where we have in Silicon Valley some of the brightest minds, some of the most powerful software tools, tremendous amounts of technology, some of which is being claimed, that the very process for protecting that technology, the patent

system, is so ineptly run.

I mean, how can large companies in Silicon Valley with a straight face file for these patents and not do any searching when a five-minute automobile ride from their buildings and offices to, for example, the libraries of Stanford University which are some of the best libraries on the planet, or companies here in the East Bay, to apply for a patent and not say to one of your engineers, "Get in your car, drive over there, park it somewhere, do some searching for an hour or two and then we'll throw the results into the patent application," to me is just total nonsense, it's silly.

MS. GREENE: Okay. Thank you so much. And we're going to have John Love give his perspective on the patenting process.

MR. LOVE: If I can get this up on the screen. Thank you.

I was also here this morning and found it very interesting to hear the different perspectives. At some times I found it difficult to sit back and not say anything. I was kind of rising up in my seat whenever the term 'PTO' was mentioned, but there is one thing I'd like to say about some comments this morning to get the record straight.

A comment was made that all the examiners at

the PTO were both attorneys and engineers. And there was, I guess, an insinuation, perhaps in jest or maybe not, but that this somehow gave them incentive to issue as many patents as they could because they were later on brought into the private practice and would be defending and suing on these patents. But I just wanted to get the record straight that the vast majority of examiners are not attorneys; a close percentage would be about ten percent have law degrees.

I appreciate the chance to come and give a presentation on what we're doing at the PTO to improve the quality with respect to these software and, in particular, business method applications. I'd like to give a little bit of a background here. I think most of us know this but it's been talked about indirectly and sometimes directly.

There are knee-jerk reactions to patents that are issued, and of course while the language may seem clear even in the claims, the claims do define the scope of the invention, but the claim interpretation is a question of law and not of fact, and what you read may not be exactly what would be interpreted to be covered by the scope of that claim. It's very complicated. Not unimaginably complicated, but it is a technical question that the courts do go through when they interpret the

scope of a claim. They look at the specification and the prosecution of the case that could have an effect on the narrowness or how narrow those claims are interpreted.

And of course, we know that the right is to exclude others from making, using or selling the invention, and in response to what Les said awhile ago about exclusivity rights, I think we need to keep in mind that the Constitution in Article 1, Section 8, talks about securing for inventors the exclusionary rights that we're talking about here, so even the founding fathers in the Constitution provided for a patent system.

There are many ways, and we don't pretend to be perfect at the PTO, there are many ways that third parties or others can participate in the application process both before and after a patent is granted. With the recently changed law, the AIPA, most patent applications will, in effect, be published 18 months after their filing date. After that, any member of the public has an opportunity to submit prior art to the Patent Office for our consideration.

Prior to that publication date, if an applicant becomes aware -- excuse me, if a member of the public somehow becomes aware of a pending application or sees that a product is stamped patent pending, they can send to the PTO what's called a protest under our rules, Rule

291, and include with that any information they'd like us to consider as a protest to the grant of a patent application on that particular product.

And we also heard this morning some discussion about the various procedures that we have after the grant. And we do have, in fact, at least four procedures whereby the validity of a patent can be brought into question after it's issued by a third party without necessarily getting involved in a, except for the fourth one there, without being a party to litigation.

The first is through a prior art citation as provided for in Rule 501. Any third party can submit a prior art statement and have it placed in the file of a patent. Those submissions are submitted to the group directors for review and will in fact be considered should a reexamination request be filed in another proceeding. Those prior art statements that are in the file will be considered.

There's an opportunity for an ex parte re-exam proceeding. Any member of the public can initiate that proceeding, and we've averaged in the last 15 or 20 years about 400 per year.

Also, the AIPA provided for a second type of reexamination proceeding that we call inter partes. And that's the one where there's been a lot of discussion

about the adverse or the estoppel effect that may be, say, a detriment or a deterrent to people using that particular process. We've only had three filed to date, but part of the reason is that it only applies to applications that have been filed after November of 2000, so there haven't been a great deal of patents that have issued since then.

And, of course, invalidity can be raised as a defense in litigation by a party who's being sued or in the preliminary injunction hearing.

As far as I know, the Patent Office, we do an internal review of the quality of our patents, and we, I believe, are the only one in the world that will publish the results that we get, our findings. And these reviews are done by staff that report directly to the Undersecretary for Commerce and they do not report to the patent core management, so we hope and we feel that this gives it a certain amount of objectivity.

What you see there -- at the bottom line -- represents the core error rate. That means that in 5.5 percent, at least in '99, of the applications that we eventually allowed, that there were 1 or more claims that our internal review found to be unpatentable for various reasons, either 102, 103 or 112 or 101.

The TC-2100 and 2600, TC stands for technology

center, these are the two technology centers that deal with what we can, I guess, imagine as software patents. There's a 95-percent chance that they would be assigned to one of these technology centers. And you can see that the error rate in those two technology centers is below the office average. In fact, last year, 2100, which I'm associated with that has the software or the e-commerce patents and the business method patents, our error rate went down substantially from '00.

In the year 2000, March of 2000, there was what we called the Business Methods Initiative. That was partially in response to a public concern about the quality of patents that were being issued in the business methods area, and to address those concerns we put out a rather comprehensive program to help us in the examination of these applications. The purpose of the industry outreach portion of that initiative was to help identify additional sources of non-patent literature [NPL], to provide training opportunities for examiners, and also provide a forum to discuss business method issues.

We are partnering with over 30 industry organizations that communicate with us and talk to us and provide us resources for training and indicating additional sources of NPL, since this initiative began.

These are some of the organizations that we partner with: the Information Technology Association of America, Software Industry Information Association, NACHA, BITS, and you can see the others.

We've had two internal partnership meetings with our customers. Representatives from these business organizations and the legal community attend and we discuss the issues that are common and important to all of us. The initial roundtable was held in July of 2000 -- since I have ten minutes, I got to promise to get through here in ten minutes. We published a federal notice in the *Federal Register* where we indicated the non-patent literature sources that we examined and we asked our customers and our partners to indicate to us if they felt there were other areas that we should be looking at.

Part of the Director's initiatives were to create three mandatory fields of searches for the examiners. The first would be the traditional classified search for the examiners, the second would be foreign patent literature databases, and the third was that we required the examiners in the business methods area to do a non-patent literature database search.

Now we've identified over 900 commercial databases and we've grouped them together depending on

the particular technology or part of the business method area that the examiners are searching. And it's a mandatory search that they go into these commercial databases and do word technology searches on the inventions. We also have available to the examiners professional searchers who will help them go through those databases and will help them craft their search strategy and actually do the search for them if they ask for it.

Many of our partners have sent representatives to give us presentations on different topics. You see some of them here, and they're very well received by the examiners and they really give us a great deal of information on what the up-to-date techniques are in the industry.

We have a program in the PTO where we will pay for examiners to take technical courses during their non-duty hours, and we've expanded that now to take courses in finance, business and insurance so that these courses now also qualify for the type of training that we will pay for for our examiners.

We've revised the guidelines to take into account the State Street and the AT&T decisions, which by the way, I hope have put to bed most of the 101 issues. We're focusing now on trying to develop the best art that

exists as opposed to the 101 issues about eligibility. I explained this to you a little earlier -- about the fact that we have a mandatory search for all cases that are originally filed in class 705, and the examiners are required to search a document from each one of these sources of searching.

A unique aspect of this program that we initiated in 2000 is what we call our second level review. When an examiner gets to the point where they feel the case should be allowed, we pass that on to an experienced examiner or panel of examiners who review that case. They, first of all, review it to make sure that the searching requirements have been met. They look to make sure that reasonable allowances have been placed in that case, and they also do a basic review of the scope of the claim. If they have any questions or concerns about the scope of the claim then they'll kick it back to the examining group and we'll take a second look at it. That's in addition to our overall quality review program.

That is a sampling of all cases throughout the office, and since this program has been introduced, for the entire portion of '00 which included the first two quarters of '00 prior to the initiatives, the allowance rate was 55 percent. In '01 the allowance rate for class

705 went down to 45 percent, and that's compared to the office-wide allowance rate, which is 69 percent. The allowance rate is basically the percentage of cases that are allowed versus those that are eventually abandoned. And to give you some raw numbers of the patents that we issued in class 705 for '00, we issued 899, and the patents that we issued last year in FY '01 basically were cut in half to 433. So I hope that provides some basis later for discussions following up.

MS. GREENE: Why don't we have some of the discussion now?

MR. LOVE: Okay.

MS. GREENE: We've gotten several different perspectives on the patent system and how the trade-offs are working as a practical matter. Do we have anybody else that would like to comment as to what their experience has been?

MR. WEINSTEIN: I have a question for Mr. Love.

MS. GREENE: Absolutely.

MR. WEINSTEIN: To be candid, I'm troubled about the terms "partners" and "customers." When I was an examiner there were "practitioners" and "applicants." Shouldn't your only partner be the public in which you invite the public in to discuss these things and to talk about what is good for the public interest?

MR. LOVE: I think we realize that we have a duty to protect the public interest, and patent examiners have always, their job is to protect what should be protected and then not to protect that which is in the public domain.

And when we talk about partners we don't limit it to people that have filed patent applications. We have members of the press, we have members of academia come to us and participate.

MR. WEINSTEIN: Would you be happy if the FDA treated people seeking new drug applications as customers?

MR. LOVE: That would be a definition of a customer certainly.

MS. GREENE: Bob?

MR. TAYLOR: I have just a comment really on a couple of the points that Mr. Aharonian made. I think it's certainly contrary to my experience that companies start litigation on patents where the lawyers that are representing them haven't done a substantial amount of due diligence, because you can spend a very large amount of money as the plaintiff in a patent case. And to get to the end of a patent case and have a court say that that patent is invalid, particularly because of prior art that surfaced that you could have found, is not something

that any of my clients would tolerate for very long. They're very insistent that we know, as best we can determine before we start those lawsuits, that we're going to prevail at the end of the day.

I also had a question perhaps of Mr. Love, because I think Mr. Aharonian makes a fairly good point that when you analyze the software patents the Patent Office doesn't seem to be using the non-patent database information as much as it might.

When the Commission on Patent Law Reform sat ten years ago now, one of the suggestions that was made to the Commission over and over again by people in the business was that the Patent Office really does need to create its own database for the very reason that Mr. Aharonian mentioned -- that the technology develops so rapidly that you really are not going to find in the patent database the real prior art -- and I'd just be interested in a comment as to where that's going.

(Tape Three, Side B)

MR. LOVE: -- we are relying on commercial databases. And as I said, we have over 900 that are available to the examiners. They have a terminal on their desk that they can access these databases and they're encouraged to use it.

I think we perhaps have a ways to go, but at

least the numbers show that we're going in the right direction, and in fact, in the business methods area it's a mandatory search right now. I would like to be able to say that 100 percent of the cases that issue in 705 will have at least some NPL literature cited, but I won't promise perfection.

MS. GREENE: Carl.

PROFESSOR SHAPIRO: Yes, I have a couple questions for Mr. Love as well from the perspective of somebody who's trying to listen to all this and sort out, you know, are there really a lot of bad patents out there or not and what should we do about it.

First, the idea of imposing search requirements on applicants, I'm wondering if PTO had a view on that. It seems like a good idea to me, I guess.

And the second thing, you gave some data indicating, if I saw that last slide correctly, in class 705, whatever that is, less than half the number of patents have been issued in '01 than '00. Do I take from that that you're saying that the PTO has significantly improved the quality and there were probably a good number of low quality patents issued but you hope you've gotten over that problem?

MR. LOVE: Getting to your first question, there's been discussion about mandatory prior art

searches or IDS's [Information Disclosure Statements] being submitted. I mean, it's still nothing that we're advocating at the current time. Certainly Rule 56 is there. One of the methods that we encourage of complying with that is submitting a prior art statement or an information disclosure statement, so that's one way of complying with your duty of disclosure.

With respect to the numbers, I guess they speak for themselves. We understood that there were concerns about the quality of the patents that were being issued in the late '90's; and with the increase in the awareness of business methods as a viable form of patent protection as a result of the State Street decision, we felt it was important to take these initiatives. And certainly I guess the squeaky wheel gets the oil and the squeak goes away. So the fact that there are fewer patents in '01 than were issued in '00, I think is an indication that we're at least searching harder for prior art in these cases and we hope that we're getting the claims narrowed to the point of where they should be to protect the real invention and the contribution to the art.

MS. GREENE: John.

MR. PLACE: First I've got to make a disclaimer. I'm not a patent attorney, I'm way not smart enough for that, but the perspective that I can bring to

the discussion is as one who has had to manage through this patent environment for a company, and I have some experience as to how the patent environment influences a company's behavior and influences how it allocates its resources. Just to comment on a few things that have been mentioned here.

It could be, if I recall the slide on the patents allowed in '00 versus '01, it seemed like the percentage allowed had gone down, but if you extrapolate those numbers it seems like the number of applications is much more in '01 as well. Is that correct?

MR. LOVE: Well, the number of examiners also has increased significantly from '00 to '01, and then the filings tripled from '98 to '99.

MR. PLACE: Okay. But the filings were, it seems like they were significantly less from '01 to '00. Is that if you extrapolate those numbers?

MR. LOVE: That were issued. Yeah.

MR. PLACE: Oh, okay.

MR. LOVE: Yeah, these were the issued patents, but the filings have gone up.

MR. PLACE: I'm just looking at the allowance rate.

MR. LOVE: Right, yeah.

MR. PLACE: And if you take the allowance rate

-- I'm just wondering if my premise is correct, because if that's the case, if there are significantly fewer number of patents applied for in '01 and that's the main impact on the raw number allowed -- it could be because a lot of the so-called business method patents have been filed by Internet startups and other companies that were in a much different financial position in '01 than they were in '00 and their financial backers, either venture capitalists, et cetera, they didn't want their companies spending their resources on patent applications.

MALE VOICE: It takes longer than a year to process a patent. It's not an automatic cycle.

MR. PLACE: All right, fair enough. Just a thought.

With respect to who does the searching on prior art, what has been my experience -- and I don't know what the right answer to that is because, again, I'm not a member of the patent bar -- but how it impacts companies is you get a patent claim and all of a sudden you have to marshall all kinds of resources, and the most precious resource of a small company or a medium-sized company is not necessarily cash, it's engineering resources.

Engineering resources are far more precious in many cases than cash, and you'd have to divert a significant amount of engineering resources, especially

in the Internet space, to go out, marshall all their contacts, spend a lot of time digging up all the prior art that they can. And so there's a shift, the burden and the cost of finding the prior art is shifted to the potential defendant. Again, don't know whether there's a better system, but that's been my experience how it works now. And the soft costs, i.e., the engineering resources that are diverted from actually being productive and actually building products and actually making a business run, they're diverted now to defending a patent claim.

There's another diversion of engineering resources that we can talk about when we get into the business aspects. Again, I'm not a patent attorney but I have worked with many, both in-house such as Mr. Chaikovsky from this morning and with a multitude of outside patent counsels, and so I've taken the liberty of canvassing some of them and asking them what certain problems might be and what certain solutions might be. And with respect to the qualification of the examiners, one idea that was presented is, if I understand it -- and again, correct me if I'm wrong, it's not my field -- in the past, software engineers couldn't be examiners, and that was relaxed.

To really understand the prior art in certain business method patents -- and again, I understand when

you talk about business method patents that can be a fuzzy line -- but to really understand the prior art in the Internet space and the business method patent, you sort of have to be of that space, and in many cases having a business background is very helpful. So one idea that has been mentioned by a couple of my contacts in the patent bar is, well gee, maybe we don't require everyone to have an engineering degree. Maybe we allow people from other backgrounds, other business backgrounds, maybe finance degrees.

And then you could say, "Well, why don't we get people who both have a finance background and an engineering background?" But if you look at that, someone who's got an EE and an MBA is going to be an incredibly valuable commodity and because of the opportunity cost of working for the Patent Office it is probably not going to get a large number of people.

MS. GREENE: Okay, you've raised a really interesting way of thinking in terms of where are we placing the burden. Where does the burden lie? Who's capable of handling it better? How much cost does it impose? As the session wears on we're going to see that part of the allocation of burden question up front may be connected to what are the costs and benefits down the line. Because obviously the patent application process

is -- we're just starting at the beginning. And then we're going to look at the way that it's used and the litigation that often results. So these are our three last comments for this session and then we will switch to some more presentations. Greg?

MR. AHARONIAN: I have a comment to Robert and then a question for John.

I actually want to take back what I said. I didn't want to tar and feather all law firms or all applicants. There are law firms that do exactly what you say, make sure working with their clients that their clients do have some good stuff to assert, and also work with their clients to help them fight off the bad stuff. But there are other law firms that don't, so there are good apples and bad apples.

As I mentioned in my Patent News, when I got sued I turned to one of the best firms in the business, your firm, to help defend me, so you know, I understand completely. I am constantly asked by inventors and stuff for what law firms to use, and you know, I have a list of firms that I think are very excellent and I give them their names all the time, including yours.

MS. GREENE: We'll stipulate that there are some good law firms.

MR. AHARONIAN: I suppose I've kind of lamented

over the years that the good law firms and the good lawyers really haven't done more to crack down on their bad brethren. I mean, there are some firms out there that working with their clients are just bad and, you know, should be kind of stomped out.

MALE VOICE: Bad people.

MR. AHARONIAN: Now, as I said, I've done invalidity studies on close to 500 software, Internet and business method patents in the last 5 or 6 years, pretty much working with all the firms here at one point or another and many others. I have no problem, because in many cases it's my money on the line, if someone asks me to do a search and in the end I really don't find anything of any thrilling value. I probably won't end up charging on that particular search. But when people call me up to do a search, lately they've been calling me up with batches of five patents to bust. I don't know why but it just seems they come in clumps in five. I think it has something to do with IBM. IBM for many years liked to throw five patents at people, and I think other people are picking up on that.

And when I get ready to do the searching and start planning to allocate time and anticipate income, I figure I'm going to collect on four out of the five patents. That is, I'm going to find some really good

prior art that takes down one or more independent claims out of four of the five patents. It's pretty much held up like that for about eight or nine years, and it certainly is consistent with what Ron was saying back in the '80's, that about eighty percent of the issued patents in the computing business have one or more independent claims that are invalid on one of two grounds if not one of three grounds.

Now, I routinely do surveys out of my newsletter of what everyone in the business thinks just based on their impressions of the invalidity rate. Typically, when I get hundreds of responses from lawyers, academics and inventors from the computing field, it's upwards of 60 percent, 80 percent of the issued patents have 1 or more independent claims that are invalid.

So it concerns me that, oh, the many years I've been sending out my data that I've repeatedly heard Patent Office officials, John now and Jerry before him, saying that by their internal measures they're getting about a 5 to 10 percent error rate on having 1 or more claims of an invalid nature, and it makes me continually question exactly how the Patent Office does measure their quality internally. And given the endless accounting scandals all over the place where internal controls were violated and ignored, it seems to me that it's due now

that the patent system have an independent outside assessment of the patent examination process.

MS. GREENE: Okay. And now I want to switch to someone else. Les?

MR. WEINSTEIN: I want to ask Mr. Love another question. I have some question about your statistics. When I take a patent prosecutor out and buy him a martini, they tell me that it's almost malpractice not to get a patent issued. And what they tell me is that when you take out the mom-and-pops and the nonestablishment applications and subtract from that the odious practice of filing continuation after continuation, which you take credit for, that the actual issue rate at the corporate level approaches 90 percent. And I've seen studies to that effect. Is there merit to that?

MR. LOVE: I'd have to see the data you're referring to. Believe me, we're not happy with continuations either, because they do add to the workload.

MR. WEINSTEIN: But you have not looked at any data to determine what the issue rate is for the Fortune 500 or Fortune 100?

MR. LOVE: Our statistics don't take into account the characterization of the applicant, if that's what you're asking.

MR. WEINSTEIN: Take a look at Mr. Quillen's study which is part of this record. You'll see that his statistics, which are pretty good, looks like it's 90 percent issuance rate.

MS. GREENE: Okay. I see that we have two more folks teed up to speak, Bob and Luis. Let me just throw out on the table the question of, and you can address whatever you want, but we've got this idea of what obligation could or should be imposed in terms of search?

MR. AHARONIAN: Actually --

MS. GREENE: If you did -- one second. If you did have some sort of search requirement, what would be limiting principles for that, and how would that be converted into practice? Because I think that the translation mechanisms of the aspirational goal of what we want to achieve in terms of how do we actually get it out of any institution is interesting and I'm curious to hear what you all have experienced and what you think it should be.

Is this going to be fast?

MR. AHARONIAN: Yeah. Mine was a question to John, does he think we should have an independent outside review of their quality?

MR. LOVE: Well, I think you ought to ask

Mr. Rogan about that, how he feels about it.

MS. GREENE: Okay.

MR. LOVE: We administer the laws as Congress sees fit.

MS. GREENE: Bob?

MR. TAYLOR: I'll address the question you put on the table and save for a later time the point I was going to make.

MS. GREENE: Okay.

MR. TAYLOR: It seems to me that the biggest difficulty with imposing a search requirement on anyone who comes to the Patent Office, there are two aspects of it and they're both problematic. One, the vast bulk of patents that get issued really never have any economic significance. And so if you add to the cost of getting a patent several dozen hours or numbers of hours of engineer time, you really just impose a burden which really is just an additional cost of getting a patent on a company. That's the first point.

MS. GREENE: Okay.

MR. TAYLOR: The second point, and I think it's perhaps the most difficult one, is the task of policing. How do you know whether someone has lived up to their responsibilities? Right now the state of the law is that if an inventor or the lawyer who represents the inventor

in the Patent Office can be shown to have known about a piece of prior art and if, with an intent to deceive the Patent Office, they failed to call that to the attention of the Patent Office, then that's regarded as a violation of Rule 56, inequitable conduct, and the patent is unenforceable.

There's a specific intent requirement. And we get into the things that keep trial lawyers in business -- which is trying to determine from the fact of nondisclosure whether the surrounding facts are such from which you can infer specific intent. You rarely get hard evidence of specific intent.

Now, just translate that problem as it now exists with proving inequitable conduct into an arena where you're now saying to the engineer your job is to go search. You have to go, as Greg put it, to Stanford University, and not stop at the McDonald's on the way and spend half of your five hours having a coke and a hamburger. I think it's an impossible standard to try to articulate and administer as part of the system.

MS. GREENE: Okay. And I'll just throw out and we'll take it up in our next session: What are the implications of what you've just said in terms of what presumptions should be attaching to the patents? And as a practical matter, what are the implications of these

burdens in terms of the cost to search up front or what issues or what comes out at the back end?

Luis?

MR. MEJIA: Yes, I'll make my comments very quick. First of all, costs are extremely important to universities. We generally operate our licensing operations much like an individual business unit within the university. We have to be able to justify our patent expenses by the income we generate from licensing. So, consequently, we have a different perspective on what we choose to file patent applications on.

The difficulty in what we do is that the inventions that we deal with are very early stage. Oftentimes they're ten, sometimes twenty years, ahead of their time before they're possibly commercializable, so costs are very important to us. Some of the current changes in the Patent Office, I think, have led to more complicated and costly prosecution. One thing that I've noticed recently is an increase in the number of restriction requirements that we're getting. It's not uncommon now to see a restriction requirement with four or five different groups, so we're faced with having to do the possibility of four or five different patent applications to try to get claims allowed. So anything that goes to increasing the burden on universities with

regard to the patent prosecution process, I think will not be a welcome thing.

I'll address the issue of searching also because, again in an effort to try to keep our costs down, we do do searches on many occasions. Fortunately we do have the Stanford University libraries to access, but we do it because it's a cost effective means to get enforceable and strong patent applications.

It's a different motivation, of course, than what companies have. Companies are motivated to file patent applications for defensive purposes and to build their patent portfolio estates to increase the valuation of the companies. This is completely contrary to what universities file applications for.

So I guess my point in summing this up is with regard to anything that's going to increase the cost of filing patent applications and the prosecution of those, I think that would be looked at quite negatively by the university environment.

MS. GREENE: Okay. And you've teed us up perfectly because you're drawing the distinction about the ways in which the universities and businesses may anticipate using the patents differently. We have with us our next two speakers, two attorneys who have a lot to say about how businesses use patents, and so I'd like to

start with Bob Taylor.

MR. TAYLOR: I've got a PowerPoint presentation in my computer set up. Let me start off by saying that in preparing for this presentation today I thought very hard about how one distills remarks on a topic that could take ten hours into ten minutes, or perhaps even more than ten hours. So what I've really done is to try to hit some high points, and I'm going to move very rapidly through them and then hopefully the questions can flesh out some of the points.

And like Les, I have to make the same disclaimer that no one should conclude from any of my remarks that they're on behalf of either my firm or any of my clients.

Fundamental principles, it seems to me, are an important starting point for the work of these agencies as they think about some of the many complex issues that are on the table as a result of Chairman Muris's challenge in his November talk on this subject. The fundamental principle -- and it goes directly to something that Les said although I reach a different conclusion from it -- the fundamental principle is that reward is essential to attract capital and to attract people that are willing to undertake risk. And the patent system is for many industries, particularly those

with high front-end costs where their products are easily copied and attracting free riders, the patent system is an absolutely essential requirement for those companies to be in business at all.

I represent a small medical products company, and their objective is to make the best surgical products that are available to surgeons. They take 22 percent of their revenue stream and plow it back into R&D. And they live and they die by their patent portfolio, it's the crown jewels of the company, and there are just literally dozens of companies in the California economy and nationwide that are in that same circumstance.

The second point. Patents and copyrights over a long period of time have offered a proven method for measuring the reward for an innovation with the value that it brings. The vast majority of patents never get asserted, they never have any economic value. They have economic value, remember, only if there is some economic advantage of saying to someone you cannot use this invention. It is only a tiny portion of patents for which that turns out to be true.

Third bullet point. Much of the concern that we're hearing expressed about patents today, I think derives from a couple of industries, the drug industry being one where you see for a given product or a given

drug a very high level of profitability. One of the things it's important to harken back to, however, is the risk equation. High profitability for success often reflects high failure rates for people that tried and didn't succeed.

One of the wonderful examples from 50 or 60 years ago was the wildcatter looking for oil. The wildcatter drills 9 or 10 wells that are dry before the company hits one that produces any real oil, and the oil that comes out of the 1 well that's producing has to pay for the costs of drilling those 9 dry holes or nothing happens, there's no economic incentive to do it. The drug industry is the same way; every blind alley costs money, and those do not show up in the profits that are measured by looking only at the cost of producing a given drug.

My final point on this fundamental principles slide is that the marriage of capital and entrepreneurial zeal in the California economy and in the nation's economy has been one of our primary engines for growth over the last 20 years. I'm going to talk a little bit about the history of the intellectual property system over a longer period of time in a second, but I want to just focus clearly on how important this marriage of capital and people willing to take risks has been. The

primary growth in the American economy has come out of this.

Before we start looking at changes that need to be made, I thought it was important to focus the agencies on a little bit of historical perspective on where we've been.

Early in the twentieth century, if you look back over the history of the patent system, early in the twentieth century the enactment of the Sherman Act in 1890 began to dominate the thinking of courts towards what you could do with a patent. License restrictions became unlawful. As a general principle, any effort by the patent owner to capture value outside the patent was not only unsuccessful but often held to be illegal.

There was a case decided in the '30s called Carbice v. American Patents Development Corp. It had to do with a company that was in the carbon dioxide business, the dry ice business, and in order to create a market for their dry ice they came up with a clever two-layer box arrangement that you could stick the ice in the little space between the two boxes, and they got a patent on that. And when they tried to enforce the patent the Supreme Court of the United States said that because your patent is on a box and you're trying to use it to sell carbon dioxide, that's an extension of the

patent monopoly.

This kind of thinking just took away much of the incentive that companies had to be innovative. This company wasn't in the box business. They were in the dry ice business, and they created that box only to help them sell some dry ice. That was evidence of what throughout that period of time was an intense hostility by the Supreme Court toward all forms of intellectual property.

Times change. In the early 1980's, actually in the late 1970's we began to get very concerned in this country about the successes of foreign competition, the Japanese automobile industry, the German automobile industry, the Japanese and Korean electronics industries. Many industries were being afflicted by foreign competitors coming in, and in the early days of that the concern was that their labor costs were low. The steel industry, for example, said, "Well, how can we compete with these foreign competitors from Asia whose labor costs are much lower than ours?" By the end of the 1970's, it was Japan and Korea primarily that were coming in with technological superiority, and that turned out to be a wake-up call.

In that same period of time we were seeing the rationalization of antitrust to economic principles. Market power became an important criteria before we would

find conduct actionable. Per se rules really were narrowed, and the primary principle was the shift from protection of competitors as an objective of antitrust to consumer welfare. All of this was accompanied by an upheaval in the treatment of intellectual property. The first harbingers you see, at least the first that I've been able to find, are the SCM v. Xerox and the Dawson v. Rohm & Haas cases.

In SCM v. Xerox, SCM challenged the Xerox use of its patents to maintain what had become a monopoly in plain paper electrostatic copiers. They contended that because Xerox had bought the patents from Dr. Carlson and the Battelle Institute in the early days, that that purchase of the patents with the intention of having a monopoly was illegal. And the Second Circuit could easily in an earlier time have agreed with that, but the Second Circuit to its credit took a hard look at the economics of investing in a risky new technology. And it's commendable reading for you because it lays out very clearly the risks that Dr. Carlson had to take.

He took that technology to every serious business products company he could find. IBM turned it down several times, and finally he got the Haloid Corporation, a little company in Rochester, New York, to make an investment in the technology and commercialize

it, and that company changed its name to Xerox.

And the Dawson v. Rohm & Haas case, the Supreme Court --

MS. GREENE: What I was hoping that we could do is to switch actually to your next slide. That's just because I have an advance copy, and I'm concerned because I really would like to have these ideas put on the table so that we can all think about them for the next bit and then have our break.

MR. TAYLOR: The purpose of this slide is to recognize a couple of points -- that the reconciliation of antitrust and intellectual property is still required today despite having created a much more hospitable environment for intellectual property in the 1980's that exists today. The two primary points on this slide that I know Hillary wants to talk about are the fact that the consumer welfare analysis, as a matter of economics, is quite different between intellectual property and traditional antitrust, and I articulate that in this way.

If you look at just an ordinary restraint of trade as a matter of antitrust law and you ask the question: does this restraint diminish consumer welfare? Does it raise prices or does it diminish output. You examine that restraint of trade on its own and you see whether that restraint in fact diminishes consumer

welfare. Everyone agrees, or at least most everyone agrees, that intellectual property and antitrust seek the same objective in that both seek to enhance consumer welfare, but the enhancement in intellectual property comes in a different time frame.

If you just look at whether or not there's an enhancement of consumer welfare to let someone enforce a patent, close down a competitor as Kodak did with Polaroid, you clearly diminish output and allow Polaroid to maintain a higher price, so that's not the time frame in which you ought to be examining this enhancement of consumer welfare. And that turns out to be a hidden problem that is very confusing to the courts that often get into this. I suspect it's one for which you all are going to struggle as agencies in trying to find a way of figuring out exactly how much diminution of consumer welfare you're willing to tolerate as part of the patent system.

And the second point is somewhat related. When a patent owner has a real patent monopoly as a matter of economics as did Polaroid in the time frame anyway of when Xerox [sic] was trying to get into their business -- when you've got monopoly profits one of the questions that has come up over and over again, going all the way back to the General Electric case in 1926, is to what

extent ought antitrust policy allow the patent owner to share that monopoly profits in order to diminish the incentives of other potential competitors that might produce competing technologies? That's the question that didn't get addressed in the GE case, has never really been carefully addressed by any court that I've ever seen, and yet it is an implicit question that underlies antitrust analysis in many of these cases.

All right, I quit.

MS. GREENE: Okay. Do you have the last slide up? It's got a lot of good information.

MR. TAYLOR: Oh, yeah, this is an important slide. One of the things that I want the agencies to keep well in mind is when we talk about reconciling the patent system and the copyright system to principles of competition, I want you to keep well in mind that they're already defined in an effort to reconcile them.

John mentioned that the U.S. Constitution makes reference to the patent system and it does. It is both a sanction of the patent system, but it's also a limitation on the power of Congress to grant exclusive rights. They have to be hooked to something like progress in science and the useful arts. Going back through the Supreme Court jurisprudence, particularly that drafted by Justices Douglas and Black, you see constant references

to the fact that Congress couldn't create this kind of a right. The best explication of the reconciliation of the patent system with principles of competition in the early days is in Graham v. John Deere, the Supreme Court decision by Justice Clark.

We find competition used today in patent and copyright analysis in connection with defining the scope of what is protectable in a software copyright, for example, the Computer Associates v. Altai case, the fair use doctrine, and just recently the Ninth Circuit in Sony v. Connectix held that a competitor of the copyright owner can reverse engineer the software -- can copy the software in order to reverse engineer it and extract out the ideas that are not protectable in that.

You see the same thing in the patent law, you see claim construction issues being referenced back to what competitors should reasonably be able to rely upon. You see section 112 issues, particularly the definiteness issues in section 112, harkening back to what should competitors be able to construe from the history and from the patent itself. And clearly you see competitive concerns being used to shape the doctrine of equivalents.

My final point is that the agencies are already being heard on these points. Probably the best brief that was submitted to the Supreme Court in the Festo case

was the one submitted by the Solicitor General's Office in consultation with both the Patent Office and the Department of Justice.

So that's my final slide and I've used up all of my time.

MS. GREENE: Okay.

MR. TAYLOR: And then some.

MR. WEINSTEIN: -- in your reference to Kodak. Kodak got about, by my account, 400 patents on essentially the same technology. Polaroid fenced Kodak out forever. There never was competition in instant photography. Polaroid got lazy, didn't see the digital revolution coming and went bankrupt. And this is a good example of how piling patent on patent on patent deprives the public of ever getting the reward that they're supposed to get under the constitutional provision.

MS. GREENE: Okay. And why don't we take a break now for ten minutes and then when we get back we're going to start off with Professor Teece and then turn to Carl Shapiro, and we will address the questions of what are the implications of those patent layerings. Thanks.

(Whereupon, a brief recess was taken.)

MS. GREENE: Do you have your PowerPoint? Okay. Thank you for joining us again.

PROFESSOR TEECE: Perhaps I can begin by trying

to open up the concept of the patent thicket. I think we've heard today and on a number of previous occasions that there may be antitrust issues when so-called patent thickets exist. The suggestion is that when there's a lot of patents they may not only just get in the way of competition, but they may in fact get in the way of innovation itself.

It seems to me that these discussions are fairly superficial and that the right question to ask is not whether or not there's a patent thicket, but whether or not the patent thicket, if there is one, is undergirded by a technology thicket or not. Because it's one thing to have a patent thicket without technology, but it's quite another to have a patent thicket with technology. Needless to say, I'm not troubled by the latter but one could be troubled by the former.

But I'm amazed that when discussions about patent thickets take place and people complain about all of these patents, there's never much of a discussion about whether or not there's any technology; and if there isn't any technology then why isn't it easy to work around?

A related concept that I think is necessary to understand the patent issue in the antitrust context is the difference between patents that are complements

versus those that are substitutes. Many patent thickets involve a complex mixture of both. And, in fact, one with a large portfolio will probably never know what's really a substitute and what's really a complement, and perhaps it's not important to know. But, as a matter of theory, if one is cross-licensing it's almost impossible in my mind to find a way where you would ever be troubled by complementary patents being licensed in some type of cross-licensing arrangement.

There may be issues that arise if what is being cross-licensed is substitutes rather than complements; although just figuring out what a substitute is, as I said before, may be quite difficult. But even where substitutes are being cross-licensed it could be, for instance, that by combining substitutes you in fact create a new technology which is better than either. But the general sense here, of course, is that maybe it's better for companies not to cross-license their substitutes but to pursue them independently because that way you'll get more competition in the market. I mean, I think that is a hypothesis that's worth exploring on a case-by-case basis, but as a general matter, licensing and cross-licensing really ought not raise antitrust issues.

I believe that the question of royalty

stacking, which is a related question that frequently comes up, is perhaps of the same ilk. Here we're talking about a circumstance, and it relates to the patent thicket idea, where there are multiple bits of intellectual property that are needed to bring a product to market. And of course if every owner of every bit wants a five-percent royalty, you can't make it if there's fifty patents. And indeed, in a fairly simple product like a personal computer, I think someone mentioned yesterday there are literally hundreds, if not thousands, of patents. So the royalty stacking problem arises, in theory at least, if you have a variety of parties who are each asking for their piece of the action in the way of a royalty, and the stacking of one royalty claim on top of another overburdens the technology and the technology fails. That's the concern.

Question: Is this an antitrust problem? Well, I think it's important to ask what is the generic problem underlying this and is it unique to intellectual property, and I think the answer is no. You see exactly the same problem in many other contexts. For instance, if I'm a real estate developer and I want to develop a block of city property, the guy with the holdout lot may screw up my opportunity to develop the entire block, but in such circumstances one typically doesn't go to the

Federal Trade Commission nor the Department of Justice and seek relief.

Is it different with respect to intellectual property? If someone's holding out on a patent that's important for development, should the agencies and should the antitrust laws be involved? I think it's a bit more complicated than the urban development example I gave you, but the principles are similar. If there are alternative technologies, then clearly there is no issue.

And, in general, these things tend to get worked through so long as you've got rational actors who are aware of the fact that there are other parties claiming value from their intellectual property. So the concerns only really arise if you have negotiation that is for some reason socially inefficient, but if people are rational and are aware of the other bits of intellectual property around, these problems should get solved. So there may be transactions cost issues here, but it's hard for me to see that there is a competition policy problem.

Let me use that as a basis to circle back to this whole question of patent breadth. We've heard, I think for the last three days about the saga of the patent that's supposedly too broad, and the Patent Office takes it on the chin for supposedly granting patents that

are too broad. I think we must recognize that there may be patents that are too narrow as well, but the people that don't get granted patents that are broad enough don't come forward and complain. So the political economy of this process is one where people that have to pay to people that have patents that are too broad typically show up, and those that get patents that are too narrow you typically don't hear from.

But clearly the sweet spot here is to align the scope of the patent with the scope of the invention. And what of course we all seek and I trust what the Patent Office tries to do is to conceptually end up there on the 45-degree line, but if you listen to some people, they don't want patents to be issued on that 45-degree line as clearly as someplace lower than that.

Well, how should the Patent Office deal with this or how should the antitrust authorities deal with it? Well, it seems to me that if there's an antitrust issue here at all, and I'm not sure there is, it's purely a policy one, it's certainly not an enforcement one.

We don't want the antitrust authorities running around playing cleanup behind the Patent Office. If there is an issue, and I'm not sure there is, it seems to me that discussions need to take place between the enforcement agencies and the Patent Office to clear it

up. But I think if the Federal Trade Commission or the Department of Justice jumps in directly, it simply creates additional uncertainty and, in fact, perhaps leads to a reduction in economic efficiency rather than an improvement.

The other point that I think needs to be made, and I think Mr. Love did an excellent job of this, is that there are mechanisms for combating the overly broad patent. When people speak about patents being overly broad they often leave you with the impression there's nothing you can do about it, but Mr. Love explained in some detail so I won't bother to go through it that at least since 1999 patent applications are thrown open to the public. You can come in and protest and try and get things changed. And of course, as was explained as well, these matters do get dealt with in litigation, although the question there, of course, is at what cost?

So let me just briefly talk about some of the litigation issues here, and I would draw your attention to the paper by my colleague Mark Lemley because I think he really puts in context the reality that we're looking at.

You know, there's over 200,000-odd patents that are issued each year, but in the end there's only about 100 trials each year over patents. There's, I think

something like 16,000 patent suits, but 100 of these end up in court.

Where do you focus your attention? You know, should the Patent Office be spending lots of resources on a whole bunch of patents that are never going to see the light of day? Or should the resources be focused where the rubber meets the road on those few patents which in fact are economically important and that are the ones that get litigated around? So I think my comments here are perfectly consistent with what Bob Taylor was saying, and that is that these issues do get sorted out in court, the question is at what cost?

And that brings me to my final comment. You know, patent thickets have gotten a bad name, so has so-called defensive patenting. But once again, people don't really tell you what they mean by defensive patenting. I think by defensive patenting people are referring in the main to a circumstance where someone gets a patent merely for the purpose of essentially trading or exchanging or cross-licensing with somebody else. And clearly if that's the case, then you'd be better off if everyone could agree not to engage in such behavior. How one would effectuate such an arrangement of course without violating the antitrust laws is a completely different issue.

But it seems to me that a defensive patent once again is something that's in the eye of the beholder. If a patent has to be used, then there's got to be some technology that's underlying it, so a defensive patent must have something underlying it, otherwise it's not something that would ever get in the way.

So my point here is that, as with the concept of the patent thicket, the whole concept of defensive patenting has to be blown open as well to see whether or not there is anything that's deeply troubling with respect to the behavior that I just described. I think at the end of the day what one will discover is that, yes indeed, there are some inefficiencies in the market for know-how, that it takes a while for industries and for the players in an industry to figure out cross-licensing and other arrangements that will move the technology forward.

But as Hal Varian described in the first day of these hearings, with the sewing machine industry in the early days there were patent disputes, in the automobile industry there were patent disputes in the early days, with respect to radio there were patent disputes, but some way or another, and there's a different story in each case, these things got sorted out.

And that one should indeed be concerned that

technology could be delayed, but the reality is that if there is reasonable clarity around intellectual property rights, people will negotiate through to solutions. That's not to say that some litigation won't be involved along the way, but all of this is to say that there may be some policy issues here, and undoubtedly there are some, that the Patent Office and the competitive authorities can work on together, but in terms of finding enforcement opportunities whereby the antitrust agencies need to go out and use the antitrust laws to fix patent problems, I think that's going to be a very, very rare circumstance.

MS. GREENE: Professor Shapiro.

PROFESSOR SHAPIRO: Thank you. Well, I come to the discussion as somebody who's spent a lot of time doing research and getting involved in some cases involving antitrust, many of which have important intellectual property rights associated with them. I would commend or encourage you to look at my website and a paper I've written about patent thickets and also on patent settlements.

And I'm a believer, I think, which reflects what Professor Teece just said, that some division of labor between the antitrust enforcement agencies and the PTO. Typically, at least, the standard, or certainly my

approach, to antitrust is to take as given the intellectual property rights and then for the antitrust analysis to then evaluate what companies are attempting to do in terms of its competition in the presence of those rights.

But having said that, I think that the FTC and the DOJ cannot just be neutral, as it were, with respect to changing conditions in the patent world. I mean, FTC and DOJ have always had to kind of roll with the punches, if you will, in terms of changing business conditions, whether it's additional international competition or the need to consolidate because of economies of scale.

I would say the changing business conditions now that are on the table and we're talking about involve significant changes in the way patents are issued and treated and used, and this is not neutral with respect to competition by any means. So in my limited time I'd like to focus on three changes in the nature and use of patents that I think are well documented and in fact have only been confirmed by the last couple days of these hearings, and I want to talk about their implications for antitrust enforcement.

The first change let's just call the patent thicket which we've now heard of: the increasing propensity of the patent, the increasing number of

patents, the defensive patenting particularly in selected industries such as we've heard and indeed some of the industries that have been represented at these hearings. So patent thicket is one.

The second is the fact that in more and more antitrust cases the agencies, in order to evaluate the competitive effects of what is before them, whether it's a merger or a license, need to or feel they need to assess the quality or strength of the patents that are involved in the case, and that can be a headache for the agencies and I want to talk about how they can operate in that situation. So let's call the second one the importance of patent strength in evaluating antitrust specific matters.

And then a third area would be the increasing number of weak patents that have been issued. And actually the fact that you can have a patent thicket does not mean there are a lot of weak patents. I think this is what David Teece said, there may be a patent thicket because there are a lot of good technology, so let's break out the third point. If we believe there are a lot of weak patents, that raises a whole set of separate questions.

And when I say patent strength or weakness, I would tend to define that as, if you have a patent, the

probability that if it gets litigated it will actually be proved to be valid and infringed, that would be its strength. So it's not a technical measure, it's something of how strong it is in the context in which the patent is being applied or considered or asserted.

And certainly we've heard that there's a lot of concern about there being weak patents. Again, this is nothing new historically whether we get into the sewing machine or the radio or the airplane, but it seems to me it's not a matter of indifference to the antitrust agencies if there are many weak patents being issued.

I would certainly be in the group that would encourage the FTC and DOJ to be part of a process working with the PTO to improve the quality of patents, and we've had that conversation today. I think we have to take it as given that there are probably a lot of low quality patents out there. Even if the PTO has improved its act, which it sounds like they're at least indicating they believe they have, there's a whole body of lower quality patents that still are out there that would be enforced for some time.

Okay. So the three areas. First the patent thicket. I would pose the question as, how should antitrust enforcement policy account for the presence of large numbers of patents, including potentially blocking

patents, in certain industries?

I think primarily this becomes a business issue. Companies in these industries such as semiconductors, are well aware of this problem and they have a variety of business reactions to it, primarily cross-licensing, patent pools, various licensing practices. I think I do not agree with Professor Teece that these things necessarily work themselves out in an attractive manner. Royalty stacking. Seems to me the example of the urban real estate tells us that, first, that's a real problem when you have holdout people who can prevent major development, but it's mitigated by the fact that if somebody holds out on one block you can probably go to another block and build your skyscraper. That's not going to be true if we have truly blocking patents, particularly in the context of industry standards.

So businesses are trying to work this out all the time. It's not a costless thing to do. I think by and large the agencies have done well to recognize the benefits of cross-licenses and patent pools, and they should affirm those benefits going forward. For example, the DOJ's treatment and business review letters in the MPEG and DVD patent pools I think were exemplary in that respect.

I would, in contrast, take issue with the FTC's analysis in the Intel case where they did not count as a competitive benefit the lower cost that Intel achieved through its so-called IP-for-IP strategy, where Intel hoped by trading IP they could have lower costs than having to basically pay royalties on their core products. However, I think these days we're in pretty good shape in the U.S. and I doubt the current FTC would bring the Intel case. But I might flag that the European Commission is not necessarily quite in the same camp, and I'm somewhat concerned actually about their taking a more rigid view of various restrictions such as field abuse and geographic restrictions associated with patents. But I think the patent thicket is primarily a problem for the quality of patents, and the agencies are doing a pretty good job understanding what businesses have to do in the context of the thicket.

Secondly, how can the DOJ and FTC enforce the antitrust laws without also coming to highly technical judgments about the strength of various patents that are central to more and more antitrust matters?

Here I would say let me give an example. So when Gemstar and *TV Guide* sought to merge about a year and a half ago, Gemstar was suing *TV Guide* in the area of interactive program guides, but in the face of that

lawsuit *TV Guide* was competing. After the two agreed to merge, Gemstar basically went in and said to the DOJ, "Look we have these patents. To the extent *TV Guide's* competing, it is illegitimate competition because they're simply infringing our patents. And, therefore, a merger that eliminates illegitimate competition should be fine. You shouldn't be in the business of preserving such infringement activity, so let us merge and get on with it." Now, of course the agency, particularly since there was a whole slug of Gemstar patents, they didn't want to have to evaluate the quality of each of these and the probability they would win and so forth.

I would suggest an approach where much as the agency would take in a case where there was a merger and the acquired firm came in and said, "We're about to leave the market, we're about to exit because, you know, our products, we can't keep up." The agency would look and say, "Well, by all indications out there on the market, you're competing effectively. We have no reason to think that that will change overnight, and so we're inclined to look at what you do rather than what you say in terms of predicting future competitive effects and we're not going to simply take as given that you now say you're about to exit when your documents don't support that, when your business behavior prior to the merger does not support

that."

So, on that view, one should look at the ongoing competition in the face of the patent suit that had been filed there by Gemstar against *TV Guide*, and I would not view that competition as somehow illegitimate. We don't know how the patent suit will end up, and the effects of the merger can be evaluated to a considerable degree without assessing patent strength.

The very same issues come up with some of the FTC generic drug cases where incumbents pay money to have challenging generic players either not enter, as in the Cipro case, or delay entry. Then one does not necessarily need to assess the strength of those underlying patents in order to evaluate the competitive effects of these arrangements. Now in other cases, cross-licenses and some pools, I think it is inevitable to evaluate patent strength.

So what I'm saying is with some good economic analysis the agencies can minimize the extent to which they have to be judging the strength of patents in order to do their job enforcing the antitrust laws; but they can't entirely avoid that and that's just the way it goes.

The third area, the presence of low quality patents, I must say I'm even more concerned about this

problem. I was quite concerned about it before, and being here the last couple days has just elevated that concern. One might ask how should antitrust enforcement policy be affected if many low quality patents are thought to have been issued?

Okay, now while I go back to my starting point, which is I don't think the antitrust agencies should be in the business of saying this patent should never have been issued, because that's the PTO's job. At the same time, if there are low quality patents, that is low strength in the sense I've defined the term, then one should be more suspicious of agreements that eliminate competition based on those patents, because competition is more likely to flourish if the patents are actually litigated because they would probably fail just by definition if it's a weak patent.

So in other words, just simply comparing a business arrangement, whether it's a merger or a license, we would say without this arrangement the parties might litigate. But say they would litigate and the patent would probably fail, that might open up a lot of competition. And compared with that the proposed business arrangement looks to afford less competition and less benefits to consumers. That's a legitimate comparison and is more likely to go against permitting

such arrangements if the patent is seen to be weak.

Now, in this respect again a number of lawyers I talked to say, "Well, the patent is presumed to be valid and it's a right to exclude and the patent holder should be given a lot of deference here to enter into arrangements even if they eliminate competitors, because after all that's what the patent is supposed to be for."

And my answer to that, and maybe this will be a pithy end to my short remarks here, would be, well, you keep hearing I guess the standard thing for IP lawyers is the patent is a right to exclude. Well, I'm going to be maybe controversial and say I disagree with that. I think the patent is not a right to exclude; the patent is a right to try to exclude.

If I have a patent, unless I can get a preliminary injunction, I can't get you to stop infringing what I claim is infringing. I can go to court and try. Now if the patent is very weak I may fail.

So all patents should not be treated as though they were an absolute exclusionary right. Some are stronger or weaker than others. And the presumption of validity should not mean that the patent is treated as an absolute right to exclude, and of course there's no presumption of infringement to begin with anyhow.

So I would encourage us all to think about the

patent not as some absolute right to exclude, but more of a probabilistic right. It may be a right to exclude or it may not be, and of course that will depend on how strong it is. Thank you.

MS. GREENE: Thank you very much. And just as a little point here -- many of the earlier schedules that came out said we're ending at 4:30, but we'll be continuing till 5:00 o'clock. Obviously, that's barely enough time to fit in everybody's comments, but we'll at least give it a try. And next I think we'll hear from Commissioner Leary.

COMMISSIONER LEARY: Thanks very much. I appreciate the opportunity to make a couple of highly individual comments here.

I've been interested in this interface between patent and antitrust law for as long as I've been on the Commission because I see them as essentially the flip side of the same issue, and the issue is how we weigh present effects versus future effects.

Bob, with respect, I disagree with your comment about the differing time lines between competition law and patent law. The incipiency component of antitrust is forward looking, just like the patent laws are, and the only difference is that they're sort of upside-down. In the antitrust laws when you're looking at whether or not

there is some kind of an incipient antitrust violation, you're looking at some present conduct that may be benign or even pro-consumer in a static sense, that may have long-term anti-competitive effects. And to be simplistic about it and without expressing any views on the merits, that's kind of what the Microsoft case is all about.

The patent law is upside-down. In the patent regime what you're doing is you're saying we are willing to tolerate certain present anti-competitive, anti-consumer effects in the expectation that in the long run it will lead to pro-consumer benefits, innovation and so on, not only with these particular products but across the entire economy.

So in a sense they are both incipiency regimes and they both involve a certain degree of wishful thinking, or in the other case pessimistic thinking, and I think the problem I have is that we don't really know a great deal about how to weigh those trade-offs. Anybody would say you have to discount future effects very heavily when you're weighing them against present effects because of the time value of money and the increased uncertainty as you go out ahead, but beyond saying that, I'm not sure I know how to do it, at least for my piece of this puzzle.

And it seems to me that what we're talking

about here, a couple years ago you may remember a responsible economist would say that the high-technology sector is different, we shouldn't have any competition rules in the high-tech sector, it's so fast moving and so on and so forth, the antitrust laws have no application. You don't hear that too much anymore. I don't know whether that's psychological as a result of the crash of the .coms or what, but we don't have that feeling of this magic mystical thing that's going to turn the economy upside-down.

On the other hand, I don't think that anybody in the enforcement community and I don't think that any of the critics of the current patent system sitting around this table would say that there's no role for the protection of intellectual property, so I don't think that's the issue. I don't think we need to frame it that way. Those are just straw horses on both sides.

The issue is what are the appropriate trade-offs and what can we do to improve the trade-offs given the best knowledge we have, recognizing that we can never ever perfect it. To me that's what the value of these hearings are, as an exchange of information and an effort to accumulate some kind of body of knowledge. I've certainly learned a great deal. The key issue for me sitting here is the issue that some of the other

people have addressed and that is: what can we do about it?

I mean, we in the Federal Trade Commission do not run the world. We don't establish patent policy and we don't establish energy policy and we don't establish a great many other policies in our economy, but we are asked to comment from time to time. We're asked to comment in judicial actions. We file amicus briefs. We're asked to comment about various legislative proposals. And my sense is that thing that was called competition advocacy about 15 years ago, I think you're going to see more of it. I think you're going to see more proactive commentary by the Federal Trade Commission -- and I would assume, maybe, by the Department of Justice as well, I can't speak for them -- in those areas bringing whatever expertise we have to bear on issues of public concern.

Just as I don't feel embarrassed to submit a comment in another forum, I would hope that speakers as we go forward in these hearings will not feel remotely embarrassed to tell us specifically what they think we can do within our limited jurisdiction to assist this process. Thanks.

MS. GREENE: Comments on the Commissioner's comments? Yes, Bob.

MR. TAYLOR: Let me see if I can expand a little bit, Tom, on the point about the time line.

MS. GREENE: Which I gave you generously all of, what, 20 seconds to explain?

MR. TAYLOR: No, 45 seconds. And it's helpful to go back to some basics and just ask the question, what is a patent and why do we give it?

If you accept the idea that the inventor brings to our society something that didn't exist before and that there's nothing improper or anti-competitive or anything else about saying to that inventor, "If you'll tell us what you did and record it here so that others can do it, we'll give you a limited monopoly -- we'll give you a limited exclusive right," I won't use the term "monopoly." So if the only question that the court or an agency is having to deal with is, is there anything improper or anti-competitive about letting that inventor enforce its rights in that particular technology? Because it's new and because that's the bargain that you struck as a government with the inventor. I don't think there's even a competition law issue involved in it.

COMMISSIONER LEARY: I agree.

MR. TAYLOR: The competition law issues come up when you start examining the real world behavior of companies that own the patents. They don't just

normally, some do but many do not, they don't just sit back and own the patent. They enter into all sorts of complex relationships, and it's those complex relationships with other companies that are potential competitors that raise the issues that bring antitrust concerns into play.

Now, I don't disagree with you that antitrust often focuses on a longer time line than just a snapshot look at an industry. But the point I was trying to get across is, if you think about any given patent, and it's much simpler to do this if you think of a one-patent industry or a one-patent company -- think about any given patent and strip yourself of social policy and just look at economics -- that patent was given to a company for technology that's already invented.

You don't have to give the patent to get the technology that's already been invented except to the extent it may require some disclosures. So what you're doing, as a matter of policy, is you're granting a patent on technology pursuant to a long-term contract in hopes of encouraging the next investor to come along and develop technology and to disclose it. But if you just look at the specific patent that's on the table, that patent represents the ability of someone to diminish output and raise price, and in that sense it doesn't fit

the kind of equation that a normal antitrust analysis would fit. That's the reason that I say the time lines are different. I do understand the point, though, about antitrust taking a longer horizon, particularly in the last 15 or 20 years.

COMMISSIONER LEARY: I don't have any problem with what you say. It's just that it seems to me, just as in the late '70's and in the '80's, we in the antitrust community came to the conclusion that we were emphasizing long-term downside effects excessively and condemning a lot of arrangements that were benign in the short term out of an excessive fear of long-term effects, in both of these regimes, we always need to be open to the possibility that there is a present imbalance, that's all I'm saying.

MR. TAYLOR: And I don't disagree with this. The reason I raise the point is, in our interest to reconcile patents and antitrust, let's not get too short-term in our effect and forget that the purpose of the patent system, if you back off and look at the last 20 years -- and it's the reason I went through a historical perspective -- and ask yourself what has happened in the American economy, it is a vastly different more vibrant economy today than it was in 1980. Those American companies that were being pushed out of

world markets are now being challenged because they're too dominant in world markets. We are a much stronger country, and if you think that there's any connection between that and the reinvigoration of the patent system, you really do have to take a macro look at this.

COMMISSIONER LEARY: Yeah, and that's a very fair comment. We did that in the antitrust world as well, because we looked at what was happening to American industry in the '70s and came to the conclusion that our present antitrust policies may well have been unrealistic in light of what was going on around the world, so that's a fair comment.

MS. GREENE: Rick.

MR. NYDEGGER: I was asked to come and to comment about the kinds of things that clients that we've worked with over the years take into consideration as they attempt to develop patent portfolios. That's an interesting question in the context of the hearing on antitrust policy as it relates to the interface with intellectual property laws.

From my experience, smaller clients tend to look at patents from the standpoint of added value to their business and entry into a marketplace. They're interested in acquiring patents to protect their innovative technologies and ideas and hopefully put them

on a somewhat level playing field with larger competitors.

On the other end of the scale you have larger clients. We also have some interaction with clients that are fairly significant players in their respective industries, and interestingly enough, I see those clients also using patents in what I think is a pro-competitive way, not an anti-competitive way. Although I will be quick to tell you that if I'd ever sat in a discussion with a client that talked about using patents in an anti-competitive way I certainly wouldn't admit to it in this forum. Larger clients, from our experience, tend to use patents in many respects, I think, to protect, as do smaller clients, their innovative technologies, but also I think to protect themselves with respect to a concept called freedom of design access, continued access to technology. That's an important concept to many of them, particularly the larger ones.

Turning to the question of antitrust policy and how that plays into these kinds of considerations, which I think admittedly is a much more difficult topic in some ways. It seems to me that historically antitrust law has played the role of implementing enforcement policy in those circumstances where patents have been abused.

Unlawful tying arrangements, for example, which

have attempted to improperly extend the scope of the subject matter of the patent to unpatented subject matter, or unlawfully extending the term of the patent beyond the lawful term of the patent, those kinds of arrangements. And I would make the additional point that typically antitrust enforcement policy has been concerned with the large firms, not the small players who are seeking entrance.

So I suppose that if there is a question, if we take for just a moment as a given the assumption -- and I don't want to by any means by this comment suggest that I agree with it; in many respects I do not -- but if we take as an assumption that there are large numbers of patents that are being granted that are overly broad in their scope, not high enough quality, I think the real question that that seems to pose then is, does that give rise in some fashion or another to large firms to increase or strengthen their monopolistic positions, assuming that they have them? I think that's a tough question to address, particularly given the fact that much of what goes on today goes on in a context that's much different from when the antitrust laws first developed this enforcement policy.

I thought that Professor Greenstein from Northwestern University submitted a paper that was

extremely interesting on this point and I want to just make reference to a couple of points that he made by way of closing that will kind of emphasize the comments that I've made here.

He made the point, first of all, and I'll quote:

> "Public policy should distinguish between environments where intellectual property is effective and where it is not. When it is not, policy should be concerned when a dominant firm uses noninnovative tactics to move the focus of competitive behavior away from innovative activity."

As a corollary to that he made the comment that:

> "Recent rethinking reframes the analysis of the central question about large firms. It presumes we live in a world of widely distributed technical knowledge where many small firms have access to some if not all of the technical assets necessary for inventive activity. And, in

addition, commercializing those inventions involves use of real assets from both disinterested parties such as venture capitalists and deeply interested parties such as incumbent firms."

And then he concludes with these two points in relation to this idea:

"This approach directs attention toward two questions. First, if the two parties cooperate, do incumbents have assets that significantly raise the value of the invention in its commercial form?"

Then he says as it turns out:

"Policy issues arise in markets where incumbent's assets survive, which is to say most innovative markets."

And then his second point is this: "Especially crucial," and I'm quoting again:

"Especially crucial, if the two parties compete, can entrants effectively exclude the incumbent from imitating their invention? Most markets lie between two extremes,

those where entrants can exclude by the incumbent and those where they cannot. To be sure, the effectiveness of intellectual property such as patent law plays a key role in determining which situation arises, and when inventors can exclude imitation, then markets for tradeable technologies arise. The larger point is that inventors tend to act as the source of ideas but they do not tend to overturn commercial leadership."

A lot of what's gone on, it seems to me, in the hearings is anecdotal in nature, but there are very large and real questions out there. I think one of the key questions, as I said at the beginning of my comments, is whether if one assumes that there are problems with the scope of patents being granted, does that necessarily suggest an enforcement policy or something else? I thought Professor Teece's point on that was a good point, it was well taken. Perhaps there's a role in terms of encouraging reformation. I think the Patent Office is painfully aware of that.

They've undertaken that role last year. Just

last year at about this time, they implemented an initiative with respect to their business methods patent examination group. We heard John Love talk about that today.

I think related to that question is whether patents in that category are really any different from patents across the board that the Patent Office deals with and grants. We've heard a lot about business method patents.

Back in the '70s when I was first starting to practice, there was an interesting patent tacked up on the wall of one of my clients that was a medical device company having to do with a method for swallowing a pill. This is a problem that's been around for a long time, over a hundred years in fact. If you look at the telephone and the telegraph cases, the very same issues were presented in those cases over a hundred years ago in terms of whether the scope of those patents was commensurate with what was being added to the state of the technology in terms of what was new and different and patentable.

So, I guess in short, again coming back to Professor Greenstein, I'd simply close with once again, maybe, a quote from his comments because I think it dramatically underscores the situation. He says this:

"Public policy can encourage dominant firms to compete by innovating. It can do this by discouraging powerful incumbents from using non-innovative tactics that discourage innovation at other firms. How far does this principle extend? For example, should public policy selectively intervene to discourage a powerful incumbent from using innovative tactics such as patent suits and patent blocking?"

MS. GREENE: Right, Professor Greenstein certainly does raise a lot of very important points in his comments, which I will say as a plug are on our website, ftc.gov, which is where the proceedings from the entire set of hearings over the next several months will be put. There will be transcripts from our hearing today as with all the other hearings. PowerPoints will be put up there as well.

And you've really honed in on an interesting point which is sort of delineating these roles, as Professor Teece said, that the antitrust agencies have a policy role to play. And, as you said, a reformation role as well as this enforcement role.

MR. NYDEGGER: I think that's the real question.

MS. GREENE: Okay, and I'm curious does anybody want to take on either one of those potential roles and give us some advice?

MR. WEINSTEIN: Let me try and address in an effort to be constructive what it's like to be on the wrong end of a patent assertion. If you're a small innovative company, really got something good, and you get a letter in the mail that says, "If you don't pay us big bucks, you're going out of business because we're going to sue you."

First of all, the deck is stacked dramatically in favor of the patent owner. Most people do not realize this, but section 102 of the patent law says the Patent Office shall issue a patent unless it proves that the patent is unworthy. Imagine a big drug company coming in armed with lawyers and Ph.D.s against some college graduate two years out of chemistry battling with this drug company. So there is this presumption that the Patent Office has the burden of carrying the ball. Now this company gets sued, and what does it find? There's a presumption of validity when you might argue that it could be just the other way around.

In addition to that, the Court of Appeals says

a presumption of validity is not strong enough. We're going to make clear and convincing the standard to overturn it. We don't like a preponderance of the evidence standard.

So this little upstart company with a great new cure for Parkinson's Disease or whatever you want to hypothesize is now faced with five patents with a hundred and fifty claims with fantastic financial burdens placed upon it if it wants to stay alive. It has to decide whether it can finance its defense or whether it's going to fold and merge with that company, sell out its portfolio, give up or pay a high priced license fee, assuming the plaintiff will license as opposed to just say you're gone. Now this is a very serious real world problem, it happens every day. I've been there, I've seen it, and that's the way the system really works when it comes to Mr. Big versus Mr. Little.

Now let's assume the patents are invalid. Let's assume that Mr. Big has just decided to aggregate and throw out the standard letter saying somewhere in these five patents we got you. Put yourself in the position of this innovator and figure out what's good for the consumer, what's good for competition, and how we get the balance back to where it needs to be.

Now, I agree with the Commissioner that there

is a strong need for an advocacy role. I do think particularly where there are reckless or knee-jerk assertions of these patents there's room for section 5 of the Federal Trade Commission Act and there is room for other various remedies under the Clayton Act and the Sherman Act when things go beyond the pale when the patents have been purchased in order to aggregate those patents.

Let me just say if I can just two more points and then I'll be quiet.

No one has addressed either this afternoon or this morning that I heard the subject of whether or not we're giving patents for R&D or investment versus invention. This goes to the fundamental question of the standard of invention. That is the essential question for reform. It's not an antitrust issue, it's an essential question for reform.

The other thing is, I'm old enough to remember when the head of the Senate Judiciary Committee, Philip Hart, and the head of the House Judiciary Committee, Emanuel Celler, were there worrying about the public interest. Worrying about it, preserving it, holding hearings. I haven't seen their likes in the Senate and the House on the patent front since they've been gone.

I've seen people come in and say, "Well, you

know what, you guys in the software industry, if you can agree on a bill we'll pass it. You get together, go out in the hall, and we'll pass it. Or you guys get together and pass a new patent law just so you're all in agreement, we don't want to get in this fight."

Well, who was protecting John Q. Public? And that's the role I think that must be played by the enforcement agencies or this will not get corrected.

MR. PLACE: I might add that the same dynamic happens in copyright as well.

MR. WEINSTEIN: Yes.

MS. GREENE: Okay. Actually, Professor Shapiro.

PROFESSOR SHAPIRO: I think some of this discussion about the big guys versus the little guys and how threatening it is if you're on the wrong side of the suit actually should highlight exactly where the FTC and the DOJ should not go in taking sides on those sort of disputes. It seems to me that that's always going to be the case. We heard it on biotech earlier, you know, there's people saying you've got all these patents, particularly when large numbers of patents are asserted and they're suspect about the quality.

As I understand the law here, it seems to me just right, so long as somebody's asserting their patent

in good faith and there's no fraud on the Patent Office, that is what the patent allows you to do. And the other guy might not like it and it may tend to exclude and shut down the target of this assertion, but that should not be something that the FTC or DOJ should try to stop any more than they should get into mandatory licensing if somebody doesn't want a license. So I think that's where you want to draw the line.

Now, when we get to a whole range of other business practices, if somebody's acquiring patents and maybe building up a portfolio that has an exclusionary effect, or the terms of a settlement are restrictive conditions, are exclusive arrangements -- merger could be an instance of this -- that's when you come in and say, "No, no, maybe those particular terms are not something that is pro-competitive." But I think you don't want to get swept off in the passion of those who are on both sides of these disputes, which is inevitable when people are asserting these intellectual property rights.

And of course, you can take that view and still play an active role in making sure that the public and the little guy is protected in the sense that the patent policy is well thought out and the way the PTO is run and the procedures to make sure that patent quality is improved. But don't get in the middle of these disputes,

they're simply the normal process of people asserting patents, which of course can be exclusionary.

MR. WEINSTEIN: Carl, would you get in the middle if you learned that the letter accusing the party of infringing five patents was sent out without an investigation and challenge it under section 5 of the FTC Act?

PROFESSOR SHAPIRO: Again, not being a lawyer I think I'll duck this one, but it seems to me so long as it's good faith and if it's Bob Taylor's law firm and they've checked it out --

MR. WEINSTEIN: No, it's bad faith. I asked you to assume no investigation.

PROFESSOR SHAPIRO: Well, my understanding is if it's bad faith in the sense, for example, you know the people don't infringe, and it has a true exclusionary effect that effects a whole market and not just, you know, one competitor, then that's a real antitrust issue, sure.

MS. GREENE: Okay. Professor Teece.

PROFESSOR TEECE: I'd like to build on what Carl is saying and put it back to Mr. Weinstein. Yes, you can come up with these individual anecdotes, but in fact one of the interesting things that's come through from these hearings is that the guys with the patents are

not the big guys frequently, it's the little guys. In fact, Mr. Nydegger just pointed out that in many cases small firms, new entrants, use their patents to establish that they're qualified players in an industry, and those of you that heard Bronwyn Hall yesterday will remember that she surveyed the semiconductor industry and found that the folks that really especially appreciate patents are the new entrants.

So the sort of traditional, old-fashioned view that the incumbent firms have the patents and the poor little new entrant's getting hit on the head and this is retarding competition, while it undoubtedly occurs from time to time, the reality is that doesn't fit anymore from what I'm hearing based on the field research that's been done around here and from what people are giving in the way of general comments.

So we have to be very, very careful not to craft policy based on the individual anecdotes. I mean, I've been in many circumstances where the venture capitalist says, well, I'm throwing in an extra million dollars for a patent litigation because I expect it. This is not the end of the world. The odd patent case, there's a hundred of them a year, is not the end of the world. You know, every industry when it emerges there are difficult problems around patents, but we shouldn't

throw the baby out with the bath water. We should certainly always work to try and improve policy, but you know, to craft policy based on individual sad cases will surely give us bad policy.

MS. GREENE: Greg.

MR. AHARONIAN: You know, there's another agency we haven't really mentioned here today, at least in this session, I'm not sure of the others, but that's the Securities and Exchange Commission.

None of these lawsuits and activities before the lawsuits happen in a vacuum, especially during the Internet bubble era. Oftentimes we'd see one startup after another, as soon as they got their patent issued, go straight to the press and announce that they got this great patent that's going to let them block out all their competitors that was broad as hell. You would see the stock price rise immediately and significantly, and then over time as everyone started checking it out and realized these guys are bullshitting, the price dropped.

In fact, I commented on this in my newsletter and an economist actually checked it out and he figured that you could actually make money by shorting the stock of a startup or a big company that announced a bogus patent the day after they announced it.

To me, one of the reasons I'm so insistent on

patent quality is not just for players in the industry itself, but also bad patents lead to market distortions in stock prices and related phenomena, and that is directly a charge of the Securities and Exchange Commission, to make sure such things don't happen.

So my question for Professor Teece and maybe the Commissioner is maybe we're addressing the wrong commission here or maybe we've got to pull in the SEC.

Bad patents distort the markets, that's bad for everyone, and there are competitive problems there as well. Maybe we should bring them in, because they do have a direct role as opposed to these kind of vague trying to find some antitrust goings on out there, which I think is hard.

PROFESSOR TEECE: Well, you know, I'm not in favor of bad patents, but I would point out that there's learning that goes on. And you just described it as basically that people are idiotic and think that somehow or other issuing a patent is conveying uncommon value. Anyone that's studied patents will know what Bob Taylor said, namely there's only one in a hundred that ever has commercial value, so the fact that there are idiot investors out there who make dumb decisions and there's people who make money on it, I don't see the SEC needs to get in and fix that. We're not going to fix every

problem in this society. If people take a while to learn, so be it. But if we run in and try to regulate our way to perfection, we're certainly not going to get perfection.

MS. GREENE: John.

MR. LOVE: I just want to comment. I've heard a lot of concerns raised about what to me is patent misuse and I certainly understand that there are problems there, but I think that's a different issue than looking at the patent system in general. If there are concerns about patent misuse I think the FTC and Department of Justice, certainly there's a concern there in some policy issues, but I guess I'll reiterate don't throw the baby out with the water. The problem may not be with the patent system. It may be in the use and the practices that people make of it, of the patents themselves.

And one other thing. The last 20 years there have been other industries that have gone through similar, I guess, patent awareness and increases in patent activity, and I just want people to keep in mind that the patent system has served industries very well the last 20 years. You know, our economy has certainly flourished and we've been one of the best economies in the world and the envy of many companies. In the sporting goods area, those of you that play golf and

tennis, I'm sure you're aware of the number of patents and the increased development of the technologies of those companies, and they seem to be surviving very well.

Also, I used to have jurisdiction over the medical and health care industries, and I think people who are familiar with those industries, 20 years ago they were very, very -- I guess, in the patent infancy stage about using and filing for patent applications -- but over the past 20 years the activity in that area has increased drastically, because I know I had to oversee the increase. There used to be about six examiners handled all the applications in the surgical area, now there are over 150.

So other technologies have dealt with the problem. They've survived, competition has flourished, and software may have some different characteristics, but I think let's not overreact about the value of the patent system if in fact there are some misuses of the patent itself, which seems to be a different issue.

MS. GREENE: Okay. Bob.

MR. TAYLOR: I would very much not want to see the agencies getting into the business of trying to police what somebody thinks might be bad or weak patents. First of all, I think you may even be proceeding from an incorrect premise that there are more patents today than

there were at other times in history. The size of the American economy is vastly different today than it was 20 years ago or 40 years ago, and if you make an assumption that there might be some correlation between the number of patent applications and the gross national product, then you at least ought to examine that question, which I'm not sure anybody has done.

Furthermore, on that point, the nature of the American economy. We are increasingly finding our growth in the economy in new technology, and while new technology has been a driving force for this economy for 200 years, it is today the primary driving engine, and that will in and of itself lead to a large number of patents.

The further point, though, is even if you accept the idea that there are in the patent system a lot of weak patents, and I'm not sure I agree with the way Carl looks on a weak patent. He said he thought that a weak patent was one that might not be enforceable. I think the system itself, by and large, takes care of the unenforceable or the invalid patents. I think there probably are some patents that make very marginal contributions in terms of the advance of human knowledge, and if I were thinking about patents that would support anti-competitive types of arrangements between companies,

it would seem to me that that would at least be a relevant inquiry.

Indeed, I think that if you contrast the old General Electric case dealing with tungsten filament light bulbs with the U.S. Gypsum case which dealt with a machine that depressed the edge of a wall board, of a piece of wall board so that when they build a house they can put tape in the joint, cover it over with mud and can seal the crack, the way the Supreme Court handled the price fixing arrangements or the price restrictive licensing arrangements in those two cases, you will at least find some historical precedent for treating differently technology that really adds something of great importance to the economy.

But for the agencies to get in and try to bring enforcement actions and try to identify those strikes me as an almost impossible task. There's precedent for it. U.S. v. Glaxo, and there's at least another case brought by the Department of Justice back in the '40's and '50's where they challenged restrictive licensing based on the grounds that the patent was invalid and they went after a validity attack on the patent. I thought we had laid those to rest by the time we got to about 1970.

MS. GREENE: Right. Unfortunately, our time is starting to come to an end, so just to restate one of our

issues and throw it out for everybody to make some closing comments, Professor Teece articulated it as -- I keep picking on your presentation -- you've got some problems, but they do get sorted out, and then the question becomes at what cost?

And one of the things that seems to be percolating through our discussion is that the cost of addressing certain problems changes if you address them early on or later on; and, in fact, the nature of the issue or the problem may change over time, depending upon what it is. And I'm obviously speaking about the patent process through turning it into actually using the patent, then potential litigation, et cetera.

So with that as just sort of a final word on my part, does anybody have some additional comments?

PROFESSOR TEECE: Just one last comment, if I may. There probably are a few cases where in theory the agencies can improve things, but let me come back to a fundamental issue about patents and patent disputes.

Most patent disputes and the reasons why they end up in court are around different perceptions by the parties as to validity and infringement and therefore value, so there's uncertainty. If there was a clear definition of the property rights these things would typically get worked out in the marketplace through

negotiation and there wouldn't be litigation.

Even if the agencies can improve things in theory, if you inject another element -- namely, I've got a patent, not only do I have to work through the probability that it's valid and the probability if it's valid that it's infringed, but I've also got to take into account what the agencies will do -- unless there's absolute clarity with respect to the way the agencies are going to act, that's an additional element of uncertainty that can create distance between the parties to the litigation and reduce the likelihood of settlement. So you end up pushing things out of the marketplace and into the courtroom unless whatever you craft is so clear that it doesn't add another element of uncertainty. So that's kind of just raising the bar really on terms of how you get good public policy here.

I'm willing to admit that I think that there is some policy improvement that can come through the agencies working together at a policy level. But when you get into the enforcement action, unless the policy guiding the enforcement is crystal clear, you're going to take a step backwards rather than forward because you're going to create additional uncertainty which will lead to more disputes, not less.

MS. GREENE: Carl.

PROFESSOR SHAPIRO: I think the agencies have of course long realized that there are various licensing arrangements and deals between competitors that can act against the public interest. That's equally true of various settlements. So while I agree with various sort of hands off sentiments that have been expressed, I would leave you with the notion that you should not presume that settlements or other arrangements involving patents that are reached between competitors are in the public interest. There is just no such inference, and that's why it's an entirely legitimate area for the agencies to keep an eye on such settlements, particularly between direct competitors.

MS. GREENE: Right. Les.

MR. WEINSTEIN: Picking up on this point and also responding to Professor Teece, it's important to recall that for every case that gets to trial, and I have no data on this, but it would not surprise me if there were 50 or 100 that get settled that if they had gone to trial would have had a defendant prevail, but the risk of the draconian injunction putting you out of business and the treble damages and the uncertainty surrounding litigation forces settlements which impose a tax on the public as opposed to allowing the invalid patents that are pouring out, and I do think they're pouring out, to

get adjudicated.

MS. GREENE: Now, even though it's five, I want to give everybody the opportunity to have a last comment, so we're going to just keep going. Rick.

MR. NYDEGGER: Yeah. I think one thing is worth noting here in terms of this whole issue with respect to patent quality. I think that in a sense in fairness to the PTO, if there is a question here, an issue -- and I again, I don't think we ought to necessarily jump to that conclusion too quickly -- a lot of the evidence seems to be anecdotal in nature. But I think it's worth noting that the PTO deserves an opportunity to probably have access to the resources it needs to do its job properly and then to see if that results in improved quality at the outset. It's no secret that over the last five years Congress has diverted a half-billion dollars of user fees paid to the PTO for other purposes that Congress deemed to be more important than patent examination.

What's worse, uncertainty and increasing pendency that results from that uncertainty, or trying to decrease that pendency, those both can have implications in terms of potential anti-competitive effects. I personally think that the uncertainty that comes from increasing pendency can perhaps be a larger problem.

The PTO has struggled mightily to keep that down. In that same five-year period, for example, the pendency has gone from 20.8 months to 24.7 months. They're doing a good job of staying paced but that's putting pressure obviously on the PTO in terms of its resources. The number of filings in that same period rose by 71 percent. Their staffing, on the other hand, rose something like 34 percent, or half the pace. How many corporations do we know of that could handle those kinds of increases in demands on their output or production with essentially staying level or at half the pace? That's a tremendous burden for any agency to bear, so perhaps if there is an issue that's the starting point for solving the issue it is to give them a fair chance to fight with both hands instead of one hand tied behind their back.

MS. GREENE: Greg.

MR. AHARONIAN: I'll agree to some extent with Robert and David that, as much as possible, keeping up government agencies is always a good thing. I firmly believe that a very effective and reasonable, and sometimes undue, burden of costs affects that industry itself, but working with the PTO can solve a lot of these problems.

At the same time, as John kind of jokingly

pointed out, every industry for the last hundred years has had this problem, and he said that eventually we resolved it and moved on. At the same time, that means for the last hundred years this country has been unable to anticipate how to deal with the next thing. We keep on screwing it up every generation. You'd figure at least one time we'd say, "Hey look, ten years from now we're going to get another headache. Why don't we get ready for it now." So in a sense we've been kind of screwing this up repeatedly for the last hundred years; and I say screw up because, in the engineering sense, this is something that can be fixed.

And as the data I like to toss out all the time shows, industry really isn't doing enough, I don't think. In that case, where industry refuses to take these problems seriously over a long period of time, good or bad, let's bring in someone else. I mean, they might not make it any better or worse, but we've blown our opportunity and it's time to shake it up a bit.

MS. GREENE: Thank you. Luis.

MR. MEJIA: Yeah, I'll make it very quick here. I just wanted to follow up on Professor Shapiro's comment about settlements most likely being between competitors.

The university is rarely a competitor with a

company in which we find ourselves in litigation. Just for illustrative purposes, the university has only sued three companies in thirty years. So we do this very rarely and most of the time hesitantly when we do do it, because that's really not what we're about.

The point I wanted to make was that in my experience with the process, and having only very limited experience in this realm, there is oftentimes great pressure to settle, and the pressure seems to come from, again from my limited experience, from judges that don't want to handle patent cases. And then we have to take a look at the possibility of, you know, being overturned and all of the down sides of not settling.

So the point is that I think from the university standpoint I think our avenues are somewhat limited because we don't find ourselves in direct competition with companies in which we can cross-license and have a standard type of a settlement. So I would just throw that out as something to think about. I know it's beyond my experience really to go into any great detail on that, but I do know that from my limited experience that there are some issues there that do tend to be problematic.

MS. GREENE: Thank you. John.

MR. LOVE: I thought I was through but I have

one more comment in response to Greg.

MS. GREENE: We'll end on a note of Love -- what can I say.

MR. LOVE: What I meant by saying we've been through this before is the cycle of what we call emerging technologies where the patent activity due to the nature of the technology the grants are very broad in nature, and I think that's part of what the system is all about. You have emerging technologies, you have pioneer inventions, the inventors are entitled to broad claims. But then the developments come along, patents are issued to improvements, and you know, at the end of the cycle you have several companies that are competing and seem to be doing very well. And again I'll say there are many examples of that over the last 20 years and to me that's one of the benefits of the patent system.

MS. GREENE: Okay.

MR. LOVE: Thanks.

MS. GREENE: I lied because I did say everyone could have their last comment, so Bob.

MR. TAYLOR: I just wanted to say that it's been a great privilege to be part of this group, it's a very distinguished and thought provoking discussion and I've enjoyed it immensely.

MS. GREENE: I couldn't end it better myself.

Thank you all so much.

(Whereupon, at 5:05 p.m., the workshop was adjourned.)

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

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

HEARING DATE: FEBRUARY 27, 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 8, 2002

KENT ANDREWS

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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