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1	FEDERAL TRADE COMMISSION
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3	In the Public Hearing on:)
4	COMPETITION AND INTELLECTUAL)
5	PROPERTY LAW AND POLICY IN)
6	THE KNOWLEDGE-BASED ECONOMY.)
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9	APRIL 9, 2002
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11	Room 432
12	Federal Trade Commission
13	6th Street and Pennsylvania Ave., NW
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15	The above-entitled matter came on for hearing,
16	pursuant to notice, at 9:35 a.m.
17	
18	WORKSHOP CHAIRPERSONS:
19	MICHAEL, BARNETT, FTC
20	MATTHEW BYE, FTC
21	JILL PTACEK, DOJ
22	MAGDALEN GREENLIEF, PTO
23	
24	
25	
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PANEL ON: "CROSS-INDUSTRY PERSPECTIVES ON PATENTS":

- 3 DEAN ALDERUCCI,, Walker Digital
- 4 LES HART, Harris Corporation
- 5 NANCY J. LINCK, Guliford Pharmaceuticals
- 6 MARY U. MUSACCHIA, SAS Institute
- 7 RICHARD STALLMAN, Free Software Corporation
- 8 TIMOTHY CASEY, Fried, Frank, Harris, Shriver & Jacobson

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PROCEEDINGS

2 MR. BARNETT: If we could go ahead and get started. 3 Good morning. My name is Mike Barnett. I'm a staff attorney 4 here with the Federal Trade Commission, and I'm joined by 5 Matthew Bye, also a staff attorney here at the FTC.

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I would like to welcome you to this morning's hearing
on cross industry perspectives on patents. This hearing
represents one of several business related hearings dedicated
to various high-tech industries in the fields of
biotechnology, pharmaceuticals, software, the Internet, as
well as various hardware and semiconductor related
industries.

This hearing differs from prior business related hearings in that prior hearings have separately dealt with issues related to particular industry groups, whereas today's hearing combines these industries in an effort to explicitly determine how these industries' intellectual property concerns differ and how they are alike.

Joining me today are my colleagues from various government agencies, and I would like to introduce Jill Ptacek from United States Department of Justice and Magdalen Greenlief at United States Patent and Trademark Office.

Gathered with us are representatives from various companies and the legal community to provide us with their insights and experience in patents, competition and

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1 innovation within their business or field and hopefully, in 2 turn, their industries in general.

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

6 With that, I think we should begin. We will start by 7 briefly introducing each panelist, and following their 8 introduction, they will provide a brief explanation of what 9 their companies do or their area of expertise, to provide us 10 with some perspective toward their relationship in the 11 industry.

Following these introductions some of our participants have graciously offered to provide brief presentations to introduce us to ideas and issues that they find particularly relevant and important to the issues at hand, at which point then we will begin the moderated discussion portion of the hearing.

To my far right we have Leslie J. Hart. Les Hart is Vice President of Intellectual Property for Harris Corporation, an international communication equipment company with operating divisions serving a variety of communication markets.

23 Mr. Hart has spent 25 years with Harris 24 Corporation. 20 years were as Vice President, General 25 Counsel of the semiconductor sector of the business.

Les?

2 MR. HART: Yes. A few words on Harris Corporation. 3 Harris is 106 years old, started out as a printing equipment 4 company in Cleveland, Ohio. Today it's about at \$2 billion a year, 5 annual sales, in communications equipment ranging from 6 sophisticated communications equipment primarily sold to the 7 U.S. government, particularly the Defense Department, to 8 television transmitter equipment.

9 We're a leading supplier to TV and radio transmitter 10 corporations in the United States, and the first to introduce 11 high definition over the transmitters, also microwave 12 communication equipment, telecommunications test equipment. 13 So that, generally, is Harris.

14 Two years ago we were in the semiconductor business 15 and sold that business in 1999, but prior to that we had been 16 in the semiconductor business for 30 plus years.

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MR. BARNETT: Thank you.

18 Next we have Richard Stallman. Richard Stallman is the 19 founder of GNU Project launched in 1984 to develop the free 20 operating system GNU. Today, Linux-based variants of the GNU 21 system are in widespread use. There are an estimated 20 million 22 users of GNU/Linux systems today.

He is the principal author of the GNU Compiler Collection, a portable optimizing compiler which was designed to support diverse architectures and multiple languages. The

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compiler now supports over 30 different architectures and
 seven programming languages.

Richard?

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4 MR. STALLMAN: I am not a lawyer. I'm a software 5 developer, at least I was before I became the leader of a 6 political and social movement. In our movement, we develop 7 free software, free as in freedom, which means that you, the user, have the freedom to study what the software does, 8 change it to suit your needs, distribute it to other people 9 10 and thus form a community where you are allowed to 11 cooperate.

You don't have to do these things yourself. If you're a business, say, you could hire a skilled person to do it for you. So, these freedoms are vital and important and useful for everyone who uses computers.

16 Now, this gives us unfortunate experience with the 17 patent system.

18 MR. BARNETT: Thanks, Richard.

19 Next we have Nancy Linck. Nancy Linck is Senior Vice
20 President and General Counsel for Guliford Pharmaceuticals,
21 Incorporated, in Baltimore, Maryland. Nancy has been with
22 Guliford since late 1998 when she resigned her position as
23 Solicitor at the United States Patent and Trademark Office
24 where she served as Solicitor for four years. Prior to that she
25 was partner with the law firm of Cushman, Darby & Cushman. She

has also taught at both Georgetown Law Center and George
 Washington School of Law as an adjunct professor.

Nancy?

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MS. LINCK: Thank you. Guliford Pharmaceuticals is a publicly traded proprietary drug company, as you were told, in Baltimore. It employs 280 people, approximately. It changes every day, and we have more than a hundred U.S. patents.

9 Guliford at this time has one commercial product 10 which is used to treat brain cancer, and we have products to 11 treat Parkinson's disease, diabetic neuropathy, and ovarian 12 and lung cancer.

As yet, Guliford is not a profitable company. Therefore, we have a burn rate of approximately, I believe it's \$60 million a year, so in order to stay afloat, we depend very heavily on investment in our technologies and on partnering primarily with larger drug companies. Thanks.

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MR. BARNETT: Thanks, Nancy.

19 Now to my far left we have Dean Alderucci. Dean 20 Alderucci is the Chief Counsel of Intellectual Property for 21 Walker Digital Management, a business-solution invention and 22 development company. He directs the creation and patenting 23 of software products and participates in commercialization 24 efforts. He has previous experience as an attorney in an 25 intellectual property law firm and is a software engineer.

Dean?

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2 MR. ALDERUCCI: Good morning. For the past eight 3 years, Walker Digital has invested in patent protection for 4 those of its inventions that are more readily copied by 5 others.

6 Walker Digital certainly owns approximately 150 7 issued and 300 pending patents in a variety of fields. We're 8 well known for the invention of business methods and systems 9 widely associated with priceline.com, but our portfolio 10 covers a wide range of inventions designed to deliver value 11 to customers and businesses.

12 Walker Digital commercializes its products primarily 13 through joint venture development and also through licensing 14 to third parties. Accordingly, we have an enormous stake in 15 the patent system with a strong review process which uses 16 high quality patents.

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MR. BARNETT: Thanks, Dean.

18 Next we have Mary U. Musacchia. Mary is Counsel to 19 the President, Government Relations and Public Policy at 20 SAS. As Counsel to the President, Mary helps SAS formulate 21 and represent its public policy views to government officials 22 and handles special projects for the president.

23 Previously, she worked eight years as General Counsel 24 for SAS coordinating legal services for the company and its 25 more than 30 subsidiaries around the world. She has also served

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previous tenures as a senior attorney for GTE South Incorporated
 and as Assistant Attorney General of the Missouri Attorney
 General's antitrust division.

4 Mary?

5 MS. MUSACCHIA: Thank you. I need to speak up. 6 Founded in 1976, SAS is the largest privately held software 7 company, with its world headquarters in Cary, North Carolina --8 part of the RTP area. We have revenues in excess of \$1 9 billion.

Our core technology was developed in the 1960s at NC State University. We like to describe our company as one that takes data and turns it into knowledge which then can be used to create business intelligence. We have a software product that has been used, that is currently used, by more than 90 percent of the Fortune 500 companies.

16 SAS has over 8,000 employees and over 202 offices 17 worldwide. Our software is used by more than 38,000 businesses, 18 governments, universities sites, and over 118 countries 19 around the world.

In the year 2000, SAS invested more than 30 percent of its income in research and development. SAS is proud of the fact that it has only a 5 percent or less turnover rate in its employee base in an industry that exceeds somewhere between 17 and 20 percent turnover rate.

25 We're routinely identified as one of the best places

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to work by groups such as Working Mothers and others.

2 MR. BARNETT: Thanks, Mary.

Finally we have Timothy Casey. Tim Casey is a partner from Fried, Frank, Harris, Shriver and Jacobson where he's Chairman of the firm's intellectual property and technology transactions department.

Prior to joining Fried, Frank, Mr. Casey was Chief Technology Counsel, Senior Vice President and Assistant Secretary of WorldCom, Inc., where he headed all legal aspects of the worldwide technology, intellectual property operations of WorldCom and Express MCI Communication Corps.

He has also held tenures as Director of Intellectual
Property at Silicon Graphics, Incorporated, and as Divisional
Patent Counsel at Apple Computer Corporation.

15 Tim?

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MR. CASEY: Thank you. That helps explain a little bit as to probably why I'm here in that I've only recently gone back into private practice after a long time of being in-house in the computer software and telecommunications industries, so hopefully I'll bring somewhat of a perspective from a number of different industries into this discussion today.

MR. BARNETT: Thanks, Tim.

24 We'll now begin with the presentations. Dean, would 25 you like to start?

1 MR. ALDERUCCI: Mr. Chairman, members and staff of 2 the Federal Trade Commission and officials of the Department 3 of Justice, Walker Digital, like countless other companies 4 and individual inventors, has experienced difficulties due to 5 inadequate PTO funding.

6 We have consistently supported an increase in PTO 7 funding because our business depends on a timely and quality 8 examination of patent applications. Unfortunately, 9 inadequate funding hinders both.

Financing for PTO operations has not kept up with increases in patent filings, despite the fact that all of our patent laws, and in fact the very theory behind the patent system, are predicated upon an agency that examines patent applications efficiently, accurately and in a timely manner.

During these hearings, a substantial portion of the testimony has referred, directly or indirectly, to PTO fee diversion, and to the resulting scope of patents issued in the United States. Fee diversion is a real issue. Business is paying for a better PTO and not getting it. Unlike FDA fees, which have reduced examination time frames, PTO fees often go straight into the general treasury.

This may help balance the budget, but we all pay the price when hundreds of millions of dollars in PTO funding fail to be spent for their intended use.

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Some testimony has also been critical of the patent

system and its effect on industry, while other testimony has
 indicated that the patent system is essential to
 competition. Some testimony has been conclusory and
 unsubstantiated, and some has been accompanied by extensive
 references and statistics.

6 To quote from Professor Lerner's testimony regarding 7 our patent system, "the issues are complex, and sometimes 8 difficult to understand. Simplistic claims frequently cloud 9 these discussions."

I propose that much of this testimony may be reconciled, whether it comes from critics or proponents, from academics, practitioners, industry or organizations.

Both sides agree that the current administration of the patent law is not optimal. The proponents of the U.S. patent system have requested that the PTO be adequately funded. The critics of the U.S. patent system have denounced the consequences of the PTO's shortcomings.

18 Specifically, the criticism regarding overly broad 19 patents, and the ensuing problems that such patents create, 20 is ironically largely a similar condemnation of the 21 inadequate resources of the PTO.

So where does the debate diverge?
The differences between proponents and critics lie in
their tacit assumptions regarding the PTO's shortcomings.
Proponents generally believe that the shortcomings are from

inadequate funding, and consequently more funding would
 ameliorate conditions at the PTO.

On the other hand, the critics tend to assume that the state of PTO operations is constant. For the critics, past problems in the administration of patent laws serve as an excuse to demand changes to those laws, rather than improve the administration problems.

8 To the best of my knowledge, the critics have rarely, 9 if ever, addressed whether their arguments would hold if the 10 PTO operated efficiently. It is interesting that the 11 criticism invariably ignores what would happen if the PTO 12 were properly funded, managed and operated. In my opinion 13 this represents an inexcusable gap in the policy analysis of 14 U.S. innovation and competitiveness.

Take the problem of overly broad patents. To the extent that these may be issued, better resouces, properly applied, would help eliminate the problem. There's no substitute, and far more resources will help that. Critics should also not ignore the fact that legal reviews also operate to deal with failures in the examination process.

I define an efficiently operating PTO as one which would, for the vast majority of patent applications, find the most relevant prior art, render cogent decisions on enablement and definiteness of claims, and issue high quality patents in a timely manner.

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I note in passing that a mere increase in funding, without also requiring substantial operational changes, rarely results in significant improvement of any organization. It could be demonstrated that an efficient PTO would cure the shortcomings denounced by critics. Then the critics and proponents would presumably agree to realize a common goal -- implementing this efficient PTO.

However, I regret that I have never seen an empirical 8 analysis of the competitive benefits of an efficient PTO, nor 9 10 any estimates of the cost to implement such a PTO, nor any 11 conclusion regarding whether the cost would outweigh the 12 competitive benefits. I am furthermore unaware of any quantitative research that predicts the reaction of businesses 13 14 to such a new environment. Regarding this lack of empirical 15 data, Judge Michel of the U.S. Court of Appeals for the Federal Circuit has recently complained that many of those who advocate 16 17 patent reforms offer no support for their claims that there are significant problems and that fundamental reform is 18 19 needed.

It is reasonable to assume that as the quality of patents increases and the time to patent issuance decreases, businesses would gradually but inevitably alter their strategic behavior in a variety of ways. For example, not only would business alter the amount of resources devoted to acquiring patents, but they would also tend to devote more

1 attention to how they acquire patents.

2 One would expect more meticulous patent drafting and 3 prosecution by businesses, for example. In other words, if 4 low quality patents were unlikely to issue from the 5 PTO, fewer business would even bother filing low quality 6 patent applications because to do so would be a waste of 7 their resources.

8 In summary, those that condemn our patent system have 9 rarely employed such a forward thinking analysis with 10 empirical data. Perhaps this is because many critics lack a 11 thorough understanding of PTO operations, the patent laws, 12 and Federal Circuit case law.

In conclusion, I would like to say that most proponents have advocated for a halt to the diversion of funding to PTO. I propose that this should only be the first step. The U.S. should spur competition in innovation by significantly investing in its patent system. Currently, the patent system, and thus competition in general, is penalized by the diversion of funds.

20 We should determine how best to implement and fund an 21 efficient PTO. This would satisfy many critics and 22 proponents alike and restore confidence to the patent system. 23 Thank you.

24 MR. BARNETT: Thank you, Dean.

25 Next we'll hear from Richard Stallman.

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1 MR. STALLMAN: Many people assume that it's sensible 2 to have a patent system in software, and they question only 3 details, such as how many patents, which kinds, how broad and 4 so on.

5 This is, I believe, because there is an emotional 6 attachment to the idea that a system such as the patent 7 system must be a good thing, but in other areas, we're quite 8 capable of looking at a government program that was designed 9 to achieve a certain goal and questioning whether it does 10 achieve that goal, whether it makes any sense at all.

11 Now, I am a software developer. I don't have much 12 background in other fields of industry, and I don't have an 13 opinion about whether it's good or bad to have a patent 14 system in fields such as pharmaceuticals or automobile 15 manufacturing. I figure I'll leave the discussion of those 16 questions up to the people who know those fields, but I have 17 worked in the software field for a long time. I was in the software field when there were officially no software patents in 18 19 the U.S., and I've been in it since, and it's clear to me that 20 software patents are just an obstacle to the development of 21 software.

It's not a matter of the precise details. Yes, if you had a competent PTO -- I wouldn't call it an efficient and effective PTO-- there might be fewer stupid

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patents, but it's not only the stupid patents. It's not only

the ones whose validity might be questionable that cause obstructions to software development. Even patents covering ideas I would say are brilliant have caused tremendous obstruction in progress of software.

5 There is mathematical research now. I can't show you 6 statistics. I don't spend my time studying what the patent 7 system does. I spend my time trying to get software 8 developed, but I can tell you where to find mathematical 9 research showing how patents can obstruct progress in a field 10 where there's incremental innovation. This can be found in 11 www.researchoninnovation.org/patents.pdf.

12 What I can tell you about myself is my experience 13 dealing with the patent system. For instance, there was the 14 patented LZW Compression algorithm. I wouldn't say that was 15 trivial or obvious. It was patented not just once, but twice. That is to say, two patents were issued for the same 16 technique to two different people and owned by two different 17 companies. When this happened it made a free software 18 19 package called Compress impossible to use. That program had 20 been written while the patent was pending, and the developer 21 had no idea that he was stepping on to a land mine, but he 22 was.

23 So we sought somebody else to come up with another 24 algorithm that we could use for data compression, and 25 somebody came forward to us. We were a week away from

releasing that program when by chance I saw the New York
 Times patent column, and I didn't see that more than once in
 a year, and it happened to mention a new patent on data
 compression.

5 I sent away for that patent. It turns out that 6 program had just stepped on a land mine, too, and I wouldn't 7 say that other algorithm was trivial. I wouldn't say the 8 patent office made a mistake in that case. It's one of the 9 exceptions where they didn't make a mistake, but nonetheless, 10 that program was destroyed.

And by the way, there are two patents for that algorithm also, so we eventually found another algorithm which we released the program, which is now widely used under the names GZIP and WINZIP, but that was fine for programs whose job was data compression.

16 At the same time, though, people had started using 17 the same compression algorithm in the GIF image format. You 18 may have seen GIF files in the Internet. The problem is 19 it's a de facto standard.

20 Well, of course people took this new algorithm and 21 developed a format using this new algorithm, which is patent 22 free, but society had so much inertia invested in use of GIF 23 format that in ten years of trying, we have not been able to 24 get both the web sites and the web browser switched over to 25 this new format.

So even finding a better algorithm, which supposedly the patent system is supposed to encourage people to do, even if you find one, that may not help at all. And when there are patents that cover a whole field such as the patent on public key encryption, that can lock up the whole field of activity for decades.

Now, people have the naive idea if you develop a new product, there will be one patent for it and you will "get the patent" and therefore the patent system will benefit you, the developer, of this innovative product.

In some fields maybe it's like that, or more or less like that, but fields vary tremendously in how much they are like that. Software is at the opposite extreme.

14 If you look at a word processor, you'll see maybe a 15 hundred features. Well, each of those features is something 16 that might, in principle, have been patented by somebody 17 else. It might be patented by someone else. A combination 18 of two features might be patented by someone.

And the result is if you want to develop a word processor, even if it has some innovative improvements, you're at tremendous risk of running into patents belonging to others that may make it impossible for you to develop the program.

24 Standards that you want to comply with may be covered 25 by patents. Even official standards may be covered by patents,

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1 which may not matter much in other areas of industry where 2 products are made by factories and where you could buy a widget 3 that implements a certain standard whose manufacturer licensed 4 the patent, and all you have to do is use it.

5 It's not like that in software. These licenses are 6 referred to as reasonable and nondiscriminatory, both are 7 false. They discriminate against free software that we 8 develop, and I think that's not reasonable. Many other 9 people do too.

People are starting to object when standards organizations propose to adopt such standards. We are now in danger of being unable to implement free operating systems that will talk to a new generation of scuzzy disks because those disks do have the ability to talk directly over the Internet.

And the protocol you have to use for the security to make sure somebody else doesn't talk to your disk drive, which you wouldn't want, but it's covered by several different patents belonging to different companies, and we're afraid we won't be allowed to support that protocol at all in free software.

Finally, I should say I have a lot more examples I could site, but I don't have time now. I have had at least two patentable ideas in my life. I know this because they were patented by others afterwards. One of them is the probably

well known British telecom connecting to the machine through a
 telephone line and traversing hyperlink patent.

3 MR. BARNETT: Thank you. Finally, we're going to hear
4 from Mary Musacchia.

5 MS. MUSACCHIA: Thank you. On behalf of SAS, I 6 commend the Federal Trade Commission and the Department of 7 Justice for seeking the views of the business community 8 through these hearings and welcome the opportunity to appear 9 today to present our perspective. My comments will focus 10 exclusively on the controversy surrounding business method 11 patents, or BMPs as they're commonly called.

12 SAS is concerned that the public perception of the patent system has suffered with the introduction and rapid 13 14 growth of the filing and granting of business method 15 patents. Whether it is a patent on a Dutch auction, a oneclick shopping experience, or techniques to pictorially train 16 17 "cleaners of facilities," the public eye has been turned in the direction, and the question asked, what is the value of a 18 19 patent system that grants monopolies on such innovations?

The historical justification of patents, as set forth in the Constitution, empowers Congress to create a system to promote the progress of science and useful arts by securing for a limited time to the inventors exclusive rights to their respective discoveries.

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In exchange, the inventor makes full disclosure of

the invention. The economic theory of patents is that the disclosure of the innovation will stimulate competition and further innovations. By virtue of disclosure, society is invited to invent design-arounds and further technological advances are made, augmenting the storehouse of human knowledge.

7 In industries such as manufacturing and electronics, history proves that this is so. For every new microchip or 8 carburetor, the disclosure of the new invention spurs 9 10 competition to design improvements. It is also recognized that in some industries, such as pharmaceuticals, a financial 11 12 recovery incentive may be required because of the expense 13 associated with the original discovery. Society's value to 14 granting this limited monopoly thus must be based upon either 15 a disclosure that would encourage subsequent innovations or encourage expenditures for discoveries by creating a 16 17 plausible payback mechanism.

It has been in the last several years that the scope 18 19 of patent protection has been enlarged, resulting in a 20 dramatic increase in the number of patents, both filed and 21 issued. Certainly, not an insignificant portion of that 22 growth can be attributed to BMPs that have emerged from the 23 use of the Internet by businesses. These hearings are 24 valuable because they will seek to look at the impact of this 25 change on the economy and as a matter of public policy.

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1 Many business method patents simply take a commercial 2 brick and mortar business process and articulate it as an Internet or electronic application. Having minimal or no 3 4 physical component, business method techniques cross the line 5 into abstractions, mere shadows of innovation. And while mechanical processes have been patented, BMPs are not in 6 7 keeping with the historical and publicly held belief that patents have an innovative technical character. 8

9 For example, when an electronic device is patented, 10 the disclosure of the new circuit in the text of the patent 11 is expected. With a business method, since the business is 12 already active in the marketplace, there's no incentive to 13 the filer to disclose within the patent.

14 In many instances, the business process, by its very 15 nature, is already public. Most typically, the underlying technology that is used in the process, the actual lines of 16 17 code, is not part of the patent filing. What is seen most often is a broad, non-illuminating description of already 18 public techniques. Thus, without information on the 19 20 technical mechanism, the disclosure of a business method patent fails to augment public knowledge. In effect, there 21 22 is no longer a quid pro quo, the creation of intellectual 23 property right and its protection in exchange for public 24 disclosure.

25

In the marketplace, business methods are developed

not in a research laboratory in a series of sequential 1 2 improvements upon past technology, as in the manufacturing and electronics, nor in repeated breakthroughs, as in the 3 pharmaceutical industries, but in an arena of competition. 4 5 Iterative emulation, such as Internet advertising and commerce, transferring brick and mortar techniques to the 6 Internet or systematizing human processes and human 7 transactions, appears to be the focus of business method 8 changes. 9

10 A competitive marketplace between similar or only 11 slightly different businesses is all that is truly necessary 12 to spur improvements, not the carrot of the monopoly power. 13 Ignoring this quality of business methods leads to a failure 14 to achieve the proper balance originally contemplated as part 15 of the patent system.

Some argue there is a need for patents, including BMP's to prevent free riding. To the extent free riding acts as a disincentive to innovation, this could be the basis for government granted monopoly power. However, in the area of business processes, does this position really hold up?

Traditionally improved business methods are their own reward. They depend in strong measure on the social structure within a company utilizing them, on compensation schemes, lines of reporting, supervising policies and other business factors, both internal and external. In addition,

the first-mover advantage is a strong incentive, in many cases ensuring adequate returns to compensate for the cost of the implementation of the process. The government does not need to intervene where the market works.

We live in a world that is growing increasingly 5 6 smaller. It's been the practice of the USPTO to work with 7 its counterparts in both Japan and Europe to harmonize the patent laws. We agree that harmonization is necessary, but 8 as harmonization would apply to BMPs, the United States should 9 10 move toward the European Patent Office and the Japanese Patent 11 Office approach, not the reverse. Neither the EPO nor the JPO 12 grant patents on business methods per se. Instead, the EPO 13 requires that an invention have an industrial application, and 14 the JPO requires an invention be industrially applicable.

15 Recently, the EPO evaluated its position on software patents, business method patents and industrial application. 16 17 A proposed directive makes clear that the EPO stands on the requirements for patentability, and calls for the additional 18 19 requirement that an invention have a technical contribution. 20 For example, the invention must contribute to the state of 21 the art in the technical field concerned. Thus, a computer 22 implemented invention in which the contribution to the prior art 23 does not have a technical character would be considered 24 unpatentable. Last spring, the United Kingdom e-minister, 25 Patricia Hewitt, announced her government's decision not to

recognize business method patents, stating, "Our key principle
 is that patents should be for technological innovations."

3 The JPO requires that an invention be industrially 4 applicable, and further limited by the requirement that 5 inventions liable to contravene public order, morality or 6 public health shall not be patented. These two requirements 7 have resulted in the JPO refusing to grant patents for new medical treatments, methods of typhoon control and business 8 methods. According to the Japanese, the systemization of 9 10 existing human transactions would not be deemed patentable because it would be obvious to a person in the ordinary skill 11 12 in the art.

The industrial application requirement in both the 13 14 EPO and JPO, along with their requirement that patentable inventions have a technical character, limits the extent of 15 patent protection that may be received for inventions of an 16 17 economic nature, a BMP. By explicitly including industrial 18 application as a prerequisite to even entering the realm of 19 patentability, the possibility of protecting processes solely 20 involving economic or personal utility, such as a method of 21 the training of a janitorial staff or the swinging a golf 22 club, is significantly reduced.

In a global marketplace, business method patents may also introduce an artificial constraint on the competitive process and should be evaluated for possible impact to the

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1 U.S. Economy. Query: If the JPO and the EPO continue their 2 restricted approach to recognizing BMPs, will patent seekers 3 flock to the United States to obtain a protected monopoly, 4 constraining behaviors in the U.S., while leaving the rest of 5 the global marketplace free of impediments?

6 The dynamics are probably too new to really know how 7 this will play out, but it's certainly worth consideration and 8 study. If history provides a basis for judgment, there's 9 little to suggest that the previous lack of monopoly protection 10 for business methods, on any significant scale, hurt the growth 11 of U.S. business from the time our Founding Fathers authorized 12 Congress to create the patent system over two centuries ago.

13 Throughout the course of these hearings, numerous 14 suggestions have been made as regards BMPs. SAS has been a 15 proponent of full funding for the USPTO. This will help improve the quality of the work, benefit those that use the 16 17 system and cease to be an indirect tax on inventors who have contributed the most to the U.S. economy over the last two 18 19 However, full funding should not be considered a cure vears. 20 to a fundamental flaw that exists by granting patents for 21 business methods.

It has been suggested that reducing the life of the patents for BMPs to three years would be desirable. While this would be an improvement on where we stand today, it again does not address the underlying public policy issue.

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If BMPs have been defined clearly enough, they can be defined 1 2 clearly enough not to be granted.

3 Whatever action may be considered, it should be 4 conducive to harmonization on a global basis. There are no 5 borders, and careful consideration should be given to moving 6 towards the positions of the EPO and the JPO on this 7 subject.

I thank you for affording SAS the opportunity to 8 9 participate.

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MR. BARNETT: Thank you, Mary.

With these ideas in mind, I would like to begin the 11 12 discussion portion of the hearing. Let me start with just, 13 more or less, some rules of the game. If during the course of 14 discussion during the panel, you would like to contribute, 15 just take your nameplate and stand it on end like this, and that way we can call on everybody in turn, and nobody has 16 to waive their arms or anything along those lines. 17

18 I think at that point then we should start. I might 19 go ahead and start by asking either Les or Nancy or Tim if 20 they have any comments based upon what they've heard from the 21 various presentations? Since they elected not to give a 22 presentation in this case, if they had any particular 23 comments based on what's been said?

2.4 Sure, go ahead, Nancy.

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MS. LINCK: I do have one general comment. There's

been a lot of discussion about improving the quality of examination in the Patent and Trademark Office, and I used to be a huge proponent for doing so, but on reflection and talking to a number of folks who have testified earlier at these hearings, I've come to the conclusion that we're getting a pretty good examination as it is.

7 The office is under tremendous pressure. There's a huge turnover. I don't know if it's a money thing as much as 8 just being able to get quality people and keeping quality 9 10 people. In an age when the unemployment rate is so low, 11 salaries are very low in the PTO compared to private 12 industry. I know when I went to the PTO to become solicitor, I took a 50 percent cut in the salary, and one of the reasons I 13 14 went back was to go back to the salary I had when I went 15 there.

16 Given all those challenges, I think we actually get a 17 remarkably good examination, given that the office issues about 200,000 patents each year. Of the 200,000, 200 per year 18 19 roughly, rough numbers, are put into litigation. Therefore, 20 the conclusion to be drawn is, of all the patents that are 21 examined and issued, very few really are extremely valuable 22 patents, and so I think the best solution in fact is to have 23 a better reexamination system.

The one we have right now is very one-sided in that a third-party or challenger to a patent is really in a

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difficult situation if they try to go to the office and get a 1 2 patent reexamined. There's pending legislation -- HR 1856, 1886, and Senate Bill 1754 -- that would go a long way to fixing 3 4 the reexamination system we have now. That way we could 5 focus funds on fixing bad patents that get through the system -- and they do get through, it's inevitable -- rather 6 7 than focusing so much on trying to make every single patent that the office examines a high quality patent. I just think it's 8 not really possible. We could hope for it, but I just don't 9 10 think it's possible.

MR. BARNETT: Thanks, Nancy. I think Tim had acomment and then Les.

MR. CASEY: Yes. First, I have to clarify that I'm not here speaking on behalf of anybody. This is just on my own, so my views don't represent any views of a particular client or that necessarily of the firm, just of myself.

17 I would like to address a couple things that came up 18 as a result of the prepared presentations, and that 19 is Mary's comment about the disclosure function of 20 the patent system. It is a good one, but in many ways, in 21 response to Richard's comments regarding software 22 patents, if you had an example where development was being 23 done on a data compression technology, and you had a 24 disclosure of that patent, then a lot of time wouldn't have 25 been wasted developing it, possibly because you would have

1 had a disclosure of that information.

Now, if you never disclosed the information and all the patents or all the software were maintained as source code that wasn't being disclosed and object code which was made available to people, there's some question as to whether or not you would have a very adequate disclosure of the technology that was underlying that.

8 So part of your ability to be able to figure out that 9 you were actually doing something that somebody else had 10 already gotten a patent on was somewhat dependent upon the 11 fact that the patent disclosed the technology that was in 12 there in the first place.

13 Part of the problem at that point in time was that 14 patents weren't published until they were issued. We now 15 have an 18 month publication period, although it's somewhat disturbed by the fact that we have -- is a patent application is 16 17 only filed in the U.S. and somebody opts out of the disclosure system, then it won't be disclosed until or if a 18 19 patent issues. But there is something to be said for earlier 20 publication, opinion application, so that people have an idea 21 of what is coming along the line.

The other thing that's interesting is there's a lot of talk about whether or not there's any benefit to software patents or patents in any particular field that comes along. You can go back 200 years, in fact, even before the

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development of the current patent system in which states
issued their own patents, and look at some of the disputes
that arose as a result of the fact that we didn't have a
federalized system. And so you had a lot of disputes between
different states issuing different patents to people on roughly
the same inventions. There's a big story about steamboats and
patents being issued on different steamboat designs.

And in part, the federal system rationalized that, 8 taking common law perspective and putting it into a 9 10 common scheme that was utilized across the board. And that had some fairly significant benefits, but even back then 11 12 people complained about patents. They complained they weren't being adequately examined, and in fact for a period of time they 13 14 weren't examined at all. They complained they were inhibiting 15 the industry, yet we seemed to have developed anyway.

16 In fact, ten years ago I was in a panel with Richard 17 where the PTO was having a number of hearings about software 18 patents. One of the panels was in San Jose, and his 19 argument at the time was roughly the same as it is now, that 20 software patents are going to destroy the software industry. 21 But other than a few isolated examples where patents were 22 issued on stuff that perhaps they shouldn't have been issued 23 on, it's hard to see how the software industry has been 24 destroyed.

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So you leave some question as to whether or not the

arguments that were made by the railroad industry or the steel industry or any of a number of other industries along the line about how deplorable the patent system was going to be and all the problems it was going to cause, whether or not it ever actually did.

6 And from my own perspective, I've had the opportunity 7 to sort of see both sides of that fence in that when I was in-house with Apple and Silicon Graphics, these were 8 emergent players into the computer industry, whether it was 9 10 the personal computer or the work station industry. And as 11 emerging players, we had to face a lot of other companies 12 that had been there long before us and had very well established patent portfolios and for whom we had to 13 14 negotiate licenses.

And that costs companies a significant amount of money and arguably that money could have been used to fund other research and development. It could have been used to do any of a number of things. Could it have been returned to the shareholders? Hard to say, but one thing it did cause companies to do is get serious about attempting to protect its own technology.

And much of the way in which we went about doing that was to file patents on software, and so Apple developed a lot of significant patents on software. SGI also did the same, and many years later, both companies saw the benefits of that

because back when Apple stock, back in 1987, was trading roughly at just under \$10 a share and the company was having a very difficult time, it announced that it had entered into an investment and patent cross licensing agreement with Microsoft, causing the stock to jump up to over \$13 per share the next day.

And if you go back and you look at a five-year table of the stock, other than one dip in between, it's roughly gone up since, until the recent industrial collapse. But you can pinpoint this, going back to when that announcement was made, and what did that do?

12 It allowed them to get funding at a time when they particularly needed it, and it gave them an opportunity to be 13 14 able to get a restart on where they had been. The same thing 15 was roughly true with SGI. If you look at SGI in October 22, 2001, it was trading at under a dollar a share. It also 16 17 announced a license agreement with Microsoft, and some \$65 million or so in revenues as a result of that license, and its 18 19 stock tripled the next day and has roughly continued to increase 20 since then.

Now, it's still not high. It's \$4 and change I think, but the fact is that it gave the company an opportunity to kind of get back into the marketplace.

24 So it's hard to say would they have been in that 25 position if they had not gotten patents on this, and

1 Microsoft is one of these companies that it has been able to 2 license this technology out to, or would they have never been 3 in the sort of economic position they were in at the time 4 that they entered the license had they never had to pay for 5 licenses from other people in the first place and spent money 6 on a patent development program? It's impossible to say.

7 But what you can do is you can look at the data 8 that's there. You can look at when these announcements were 9 made, and you can track the progress from those particular 10 dates, and there is at least some evidence that there was a 11 benefit to it.

MR. BARNETT: Les, do you want to comment?

MR. HART: I would like to comment on all the patents coming out of the patent office. At one end of the spectrum, to litigate a patent day, it's fairly complex. You're talking \$2 million in legal fees, so at the far end of the spectrum, you would think, "Well, it's very dangerous and very expensive to have obviously invalid patents out there."

But let me suggest that from my experience where I have licensed semiconductor patents for 20 years, both licensing mine and being the object of infringement claims by others, that reasonable business people negotiating patent licenses are not going to run the risk of getting involved in a \$2 million per patent litigation.

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If a patent was being asserted against me or I'm
1 asserting it against someone else and someone comes up with 2 prior art, clearly if it anticipates those claims, the basis 3 of one or two reasonable people withdraw those patents from 4 consideration. They're dead. They know it, and no one is 5 going to risk a \$2 million per patent litigation over that.

6 So there is a screening process that exists in the 7 real world that I have experienced that says, sure, some 8 patents are going to slip by. I've seen it where it appears 9 to be an immature examiner who just missed some classes that 10 he should have searched in, but in my experience that hasn't 11 happened very often.

12 MR. BARNETT: Thanks. Richard, you had a comment? 13 MR. STALLMAN: Yes. I feel that you have 14 misrepresented what I said both in San Jose ten years ago and 15 what I said today. First of all, you've been very convincing in arguing that owning patents has been beneficial for the 16 17 companies you've worked for. I'm not surprised. I wouldn't arque against that, but you gave me some advice in a rather 18 19 condescending way. In order to give someone advice, you 20 really should study the scenario first.

This program I was talking about was written about a year after someone saw an article in a journal, so even with today's practice of sometimes publishing patent applications after 18 months, he still would have been blindsided, and the later program that was destroyed, well, it wouldn't have

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helped us at all. We were getting ready to release it, and a
 week before release, we saw that a patent had just been
 issued.

Now, there may be some other circumstances, it's true, for the ultimate GZIP program, we looked at all the issued patents. The developer studied them. He studied them not to get any hints for what he could do but only to learn what he couldn't do, so the fact that a patent existed did not in any way help him.

10 It only hurt him. It just showed him, "Here are a 11 bunch of solutions you can't use, and you had to work harder 12 to get to the same place that he would have been in with the 13 LZW algorithm," and then finally, as I explained, even though 14 our algorithm worked a little bit better, we couldn't even 15 get people to switch to it because society's inertia.

Now, when a company is big enough, it can make something a de facto standard just because it wants to. Look at Microsoft, say with .net. Microsoft is saying they have patents covering .net, and with their 30 or so billion dollars, they have a lot of resources to get people to switch over, and if they get people to switch to a standard that we are not even allowed to implement, then we're in big trouble.

I would like to ask you a question. When you talked about these companies having to get licenses, did they include any cross licenses? Did you license your patents to

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those companies as well?

2 MR. CASEY: Most of the time that's the way they work 3 out, absent cross licenses.

4 MR. STALLMAN: Right. What this shows is your patent 5 didn't even protect you from the big companies that might 6 have wanted to compete with you.

7 MR. CASEY: That's because there weren't very many at 8 the time. You cross licensed, but you didn't cross license 9 very much. That gave you an impetus to develop more, so you 10 weren't quite so one sided.

11 MR. STALLMAN: I'm sure it gives an impetus.

MR. BARNETT: We might step back for a moment, and one thing that we're interested in, I think, is the role that patents play in a company's innovation decisions. In other words, why are companies innovating and where does the decision to patent fit in with all this?

I might open this up to the panel. That question is, intuitively patents are arguably spurring innovation, but where does it fit in with the company's framework or the inventor's framework? Does anyone have any

21 thoughts? Dean?

22 MR. ALDERUCCI: I would like to note that the 23 innovation spurred by the patent system is really two 24 components. One is the incentives that flow from 25 protecting your intellectual property, but the other, which is

rarely talked about, I found is the ability of anyone to
 review the public disclosures in issued patents or published
 patent applications.

And to the extent that it's a patent and it's expired, you're free to use anything that is claimed or disclosed, obviously, and to the extent it's disclosed and not claimed, you're also free to use that technology as well.

8 I'll speak to my original experience with this, which 9 was when I was an attorney in a law firm. We had a client 10 that was very patent savvy, and this client would routinely 11 send me or other attorneys to the files of patents related to 12 its relevant technology, and it would basically give us basic 13 problems to solve. It would say, "See what kind of disclosure 14 is relevant to solving this or that kind of problem."

In this way the company basically had a lot of free research. They had to pay for the attorneys, and quite frankly, knowing what I know now, they could have paid other people to do just as good a job at a lower billing rate, but there's really a tremendous amount of information that is not taken advantage of by a lot of different people in industry.

Now, in my current position at Walker Digital, we do the same thing. We review the disclosure of issued patents and pending patent applications. It's been my experience that you can find disclosures relevant to certain technology areas in the middle of a patent that on its face, by reading the

1 title of the abstract, might not deal with that technology 2 area.

For example, I remember a patent that dealt with a vending machine. It was basically a very simple vending machine. In the middle of the patent, seemingly out of place, was a very helpful description of revenue management technique. If anyone who knows what revenue management technique is, it's basically a way to alter your prices so you can optimize your profits.

10 It really wasn't expected in the middle of a patent 11 regarding a vending machine which allowed the user to reach 12 in and take the food product themselves, which was part of the 13 innovation. But my point is, when you look at the disclosure 14 that the public patent system provides and you take advantage 15 of that disclosure, then you're much better off, and it tends 16 to increase your ability to innovate.

17

MR. BARNETT: Les, did you have a comment?

18 MR. HART: I'll use Harris Corporation as an example 19 of innovation and the part that it plays in management of the 20 company. Harris got in to the semiconductor business in the 21 early '60s, like many other companies like Intel and many 22 others, and once you started having sales, the first patented 23 company that would approach you would be Western Electric, 24 AT&T, Bell Laboratories, because they had the patent on the 25 transistor.

1 That started the process at Harris of, say, you 2 went from the point where you had no patents and you were 3 building infringing product. You went from there, you 4 migrated from there to the point of saying, "We better get 5 some patents because the next time we have to deal with 6 Western Electric five years from now we better have some 7 patents that hopefully are infringed by Western Electric."

From that point you migrate even further, and if 8 you're really in a hurry to get patents, you might even 9 10 consider buying them from other companies, and that's 11 happening with an increasing frequency today, not so much 25 12 or 30 years ago. But in the migration path of innovation, 13 you're at the point now where you get patents for defensive 14 purposes, to defend yourself from somebody else with more 15 patents who comes after you.

16 Time marches on, and in the migration of the 17 importance of innovation, most of these companies in the semiconductor industry are spending 12 to 15 percent annually 18 19 of their sales on R&D. You finally get to the point in the 20 migration of this where instead of being defensive, your 21 accumulation of patents may put you in a position that you 22 can license them actively and get a return, monetary return, 23 so that you can use that money to make further R&D 24 investments.

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It migrates even further, and I think there are parts

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of companies like Harris that have been in all four of these 1 2 things. At the same time, that migrates further, where your decisions in the future on where you would invest in R&D 3 4 would be keyed on your ability to look at the world, the patented world out there, and say, "Where is a place I could go 5 6 that isn't heavily patented?" or you could say, "This area is 7 heavily patented and I think I want to go in this direction, but this company has those patents." 8

9 You might make a decision based on that, "Why don't I 10 acquire that company?" all of which I suggest is some very 11 competitive environment. But companies do, whether they 12 realize it or not, go through those four stages. Not many 13 companies are in that fourth stage now, but companies are 14 migrating that way.

15 As an example, we acquire businesses, and we have acquired businesses where the company had no product, had no 16 17 sales. They had 85 or a hundred very bright electric engineers that had some pending patent applications on some 18 19 really important stuff. We spent an awful lot of money and 20 what are we buying? We're just buying the patents and the 21 ongoing engineering capability because there were no sales. 22 They hadn't developed a product.

23 So innovation and patents I think are very important 24 to a high-tech company's decision on what they do.

MR. BARNETT: Mary?

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MS. MUSACCHIA: The question that you proposed was, "How do your companies look at patents or innovation, how does it impact your planning?" and for SAS it does not, and it never has. We've historically had a process where we've gone as high as over 35 percent of our gross income going back into R&D.

7 We've been around since 1976. Patents were not a 8 part of that calculation in terms of, "We are going to do this 9 development so we can obtain this patent." It didn't impact 10 those decisions. We actually have a very market driven 11 philosophy as to how we do our development.

We go to our users at annual meetings and we say, "What is it that you want? What features do you need?" and we actually will come back and take a look at it, prioritize it and develop our evolution based upon where we see the market will take us, not upon a view that if we go in this direction or in that direction, we will be able to get a patent.

I think some of the comments that you hear, and I 18 19 appreciate very much, Mr. Hart, what you just said, because a 20 lot of times, and what was said earlier, you see this original 21 development. In some cases it comes about in a defensive 22 basis. We didn't think we were going to, and I think I 23 understood you to say that for SGI and Apple, they didn't 24 originally plan to patent, but all of a sudden they said, 25 "Gee, I better go get some patents so that I can play with

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1 other people in this park."

2	That to me doesn't say it's stimulating innovation,
3	which is what I think the framers were originally looking
4	for. That was just a sign of quid pro quo. Let's move
5	forward, and if you don't get that, then you have to really
6	say, "Is the justification to strictly protecting my
7	intellectual property, my economic well-being as an
8	individual company, was that the original purpose?"
9	I don't believe it was, and I think that's the danger
10	that we're falling into with some of these things. If we
11	cannot go back this is where what I tried to suggest in
12	our paper we would really hope that some real, solid,
13	scholarly work would be done to see, are we really creating
14	innovation in doing this? If we are not, then what is the
15	government doing by extending the patents into an area that
16	at least in the totality of time, it's been fairly recent,
17	last couple of years, last decade or two for SAS, it's not a
18	factor for us.

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MR. BARNETT: Tim?

20 MR. CASEY: The impact or relevance of innovation is 21 highly industry dependent, so you have to look at which 22 particular industry you're talking about at the time to 23 determine whether or not it's a determinant. To say that 24 patents drive innovation is only partially true in that 25 innovation, more often than not, drives patents because you

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obviously can't file a patent on something until it's been invented, so clearly the innovation has to come first.

3 The only way in which patents primarily relate to the 4 level of innovation that a company may partake in is where it's 5 driving people to have to develop something different. So if 6 you look at a particular industry where there's very little 7 distinguishment between companies that are offering products in the personal computer industry, for example, most of the PCs 8 that are out on the marketplace, especially at the lower end, 9 10 don't have a whole lot of innovation per se in them because you can't afford to do a lot of innovation in a product that's 11 12 selling for under a thousand dollars.

13 So there isn't a lot of incentive in that particular 14 industry to create a lot of newness because of market 15 factors, but not so because of whether or not you can get a 16 patent on it. I'm sure you can get patents on things that 17 are being incorporated into many of these devices, and I'm 18 sure that Compaq and Dell and HP, et cetera, are all getting 19 patents on as many little different things as they can.

But those aren't really patents on significant innovations as much as they are just playing the game, as Mary mentioned earlier, but it's a very different thing when you talk about the pharmaceutical industry, for example, where a patent is pretty much everything to whether or not a product is going to have any significant economic return for the company.

1 We represent a lot of investors. They're making investments in pharmaceutical companies, and in doing due 2 diligence and trying to help those investors analyze what it 3 is they're getting into, most of the time the investment 4 5 decision rests upon how strong a patent protection that they've 6 been able to develop or the potential for that patent 7 protection based on pending applications that the company's been able to develop, and that alone is a primary determinant 8 valuation in what kind of investment they're going to make. 9

10 So if you throw that away, you throw the patent 11 system away. In that particular industry, and that industry 12 is not alone, but it's a good example, you question whether 13 or not anyone would be investing in these pharmaceutical 14 companies and whether or not they would actually be driving 15 the new development of new drugs to cure other diseases 16 and other issues.

17 So you have to again look at what industry you're 18 talking about as to whether or not it makes any significant 19 difference. Les's suggestion that in some cases this may drive 20 companies to actually make a purchase, often plays out quite 21 frequently.

We were representing General Semiconductor, which had a hostile bid made by Deutsche. They turned it down, and Deutsche sued them for patent infringement. The litigation went on for a period of time, the ultimate result of which

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was Deutsche increased its price to a point where General
 decided it was worth doing the deal after all. They went ahead
 with the merger, and there went the patent litigation.

So the patent litigation in that instance was a tool that ended up being used more by General than Deutsche because Deutsche filed it, because it gave them an opportunity to help to increase the price the shareholders were getting for the company.

9 Does that really have anything to do with patents?
10 Not necessarily, it's just another tool in industry
11 manipulation in corporate development.

MR. BARNETT: Nancy, I was wanting to hear your comments on that, coming from the pharmaceutical industry as well as PTO, but what are your thoughts in particular in addition to any others, on the notion that different industries are different from a patent perspective?

MS. LINCK: I think they are different, but maybe more in their stage of evolution. I mean, Tim is absolutely right. For proprietary drug companies and even for generics, patents are absolutely critical. We do not move forward for developing a drug for which we don't have patent protection, that is a given. We can't bring in investor funds.

As I explained earlier, that's critical to our company right now. Unless we have a big patent estate, a strong patent stake, we can't patent with big pharma unless

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1 we have a strong patent stake.

When I was the solicitor, I worked actually on the software guidelines, and we did a lot of research on whether or not software should be patentable, and initially we took the position that it shouldn't be. We wanted to take the <u>In Re Lowrey</u> case up to the Supreme Court and see if we could get the Supreme Court to reverse the Federal Circuit.

And it was actually someone in the antitrust division of the Department of Justice that convinced me that software should be patentable, but if antitrust thinks software should be patentable and the PTO thinks it shouldn't be, there's something wrong with this picture.

13 Going back to the importance to different 14 industries, I think it's absolutely clear today, but when we 15 were looking into whether or not we should patent software, the hope was that while the software industry was making 16 17 little tiny steps advancing its art, perhaps by providing more 18 meaningful protection through patents rather than copyrights we 19 would see more significant inventions being made in the 20 industry.

And, frankly, once we started patenting software, I haven't studied that issue, and I don't know whether that has happened, but certainly that was one of our rationale for moving forward.

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I think also those who work in the intellectual

property area, patents specifically, for the most part believe strongly that different technology should not be treated differently. They have not been treated differently for several hundred years and our system continues to work very well.

6 And while there have been times when there have been 7 questions about patenting different technologies such as life, the Chakrabarty case, we've moved forward with saying that 8 inventions in that field should be patentable. I think before 9 10 we change that, before we treat different technologies 11 differently, we should really move very slowly to make sure that 12 that's not going to negatively impact the way our system works. MR. BARNETT: Richard? 13

MR. STALLMAN: What we've seen here is a recommendation that there's no need for caution before you impose the patent system on a field that hasn't had it before, but there is a recommendation for caution in not making that change.

Why in the world should all fields be treated alike? It seems like sort of a religious assumption when you can easily see that the relationship between patents and products is very different between different fields, and that means the effect of having patents is very different in different fields. Never will the software field evolve to be like pharmaceuticals. What it takes to develop a pharmaceutical, to find a

pharmaceutical that will work and then to test it is very, very different from what's involved in developing a program. Many drugs are polypeptides. They are proteins, essentially. Do you know how many amino acids typically appear in a large protein drawing or how many atoms would appear in a drug that is not a protein, an order of magnitude even?

7 I would guess thousands of amino acids or maybe 8 thousands of atoms in something that is not a protein is the 9 limit of what humans can do. Now, this is because that field 10 is terribly hard. I'm not saying that those people are not 11 smart. I'm saying that the field, what they have to do, is so 12 hard.

13 For us, what we have to do is much easier, so a 14 program with a thousand components in it, a thousand 15 operators, that's trivial and you can write that in a week. Hard programs have maybe millions of operators in them. 16 You 17 might have 20 operators to choose from, just as there's 20 amino acids vou could choose from in a protein. 18 So what this 19 shows is how different the jobs are that we have to do.

20 And then you get these fairly simple designs that are 21 terribly hard to develop and test, and then you get a patent 22 on the whole thing. In software, if a patent covered a 23 single entire program, it wouldn't cause any trouble, so 24 patents affect and relate to products very differently 25 in these two fields. I think these are the obvious candidates

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1 for being treated differently.

2 MR. BARNETT: I might ask Dean and Mary, because 3 they're both in software related fields, what their thoughts 4 are, and then we might go to a break after that.

5 MR. ALDERUCCI: I would like to clarify that software 6 is provided for the more commonly assumed software that is 7 developed for PCs or services. There's also invented software. 8 There's software that goes into very low tech devices, and I'll 9 give one specific example.

10 Software is now used in cash registers. The industry likes to call them point of sale terminals, but most people 11 12 would probably call them cash registers. By development, I mean 13 the ability to replicate a process that has been demonstrated to 14 work on, for example, a cash register might be very simple. It 15 might be the case that once a given piece of software is proven to work very well in an environment, in a business environment, 16 17 then it might be a very good business decision to copy it.

Now, it might also be true that even though this software was very simple to develop, it was very difficult to prove that it would work. Now, what I mean by work is that it would actually have a net benefit to the business, that it would, for example, increase the sales of whatever business is running the software.

24 So you can see in a certain type of industry that 25 wouldn't be very open to innovation -- let's say it's an

1 industry in a subsegment of retail that's not very

open to innovation -- if you had to convince this business that it was going to interact differently with its customers in order to increase a profit, the natural reaction is going to be reluctance.

6 You might have to expend significant resources in 7 testing and prototyping to prove that this new interaction 8 with customers was actually going to be a benefit for the 9 industry. You might also have to significantly test it 10 across a variety of different retailers in that industry.

11 Only after you had successfully proven that the new 12 process was in that benefit, that it did increase sales and profits for that industry, would it be a very viable business 13 14 option for others in the software field and particularly in the 15 field of making software for cash registers to copy that system that had already been proven, and perhaps it would take tens of 16 17 millions of dollars to prove that it would work in this 18 particular industry.

This is the type of situation the patent system is designed to protect: the simple innovation that can be easily copied, but yet significant investment goes into the development of innovation.

Now, significant investment doesn't necessarily go in the physical operation of how the process flows from start to end in the interaction with the customer; the development is

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in the testing. The development is in the prototyping on various industries, collecting the statistics, tweaking what works and doesn't work.

And I'll note along these same lines, Mary made a comment that business methods are not developed in a sequential testing and research manner, and that's just completely untrue, at least in the business segments that I've been involved in.

9 MR. BARNETT: Mary, I'm curious on your thoughts, 10 particularly from the standpoint of your comments earlier 11 about SAS's approach to patenting, but also just in general.

MS. MUSACCHIA: I think that what I've tried to do is articulate, in the business method arena what you begin to see is really an effort by businesses to take events that are already known in most cases, process that for the most part. I think it's a phrase out of the Japanese phrase, it's the human transaction that already exists, and you now systematize it.

You put it in, and you make it electronic or you add a piece of software to it, and now we have something that is new. I think you can see it in a host of ways so from our perspective, we don't see that that overall adds to the collective effort in terms of adding new technology, new information, new design. These things for the most part for the business methods already exist. So that is the point

1 that I'm trying to direct it to.

In terms of the laboratory reference, the suggestion there is that again in most places people have studied the marketplace in a lot of these business methods that I'm discussing, and they just look at what exists out there. They see what is happening, whether it's in the financial industry, whether it's in the food service industry, whatever, in the janitorial industry.

9 I still struggle with that one every time I've read 10 that patent, claims and all, and I sit there and say, "Oh, I 11 could look at a human process and you've written it up, 12 you've put it in the proper format, and now you have turned 13 it into a patent."

We believe they not only do not add to innovation, they can actually hamper it. Nancy's comment that we need to look at all areas, and you cannot distinguish, I too get concerned as a lawyer to say that we are going to take a system and pull one group out, but I do not believe that we have to, and I think the word that Richard used was "slavishly" following this.

I do not believe that just because it is difficult, that you do not question it and you do not turn around and say possibly that all areas are not the same, that you do have to treat them differently. Tim, you made that point as well.

24 So it's something that needs to be done. It needs to 25 be looked at. Certainly there are other places in the world

that feel you can do this and they are doing it right now, so that is again where we come back and say, "Take a look at what is going on in Europe and Japan and other places, particularly as it relates to this category of patents and let's move in that direction." That's our fundamental position. That's where we believe it needs to go.

Finally, just one other point, an intellectual property right such as patent isn't like the right to breathe. It isn't like the right to live. It is something that is created by man in the Constitution. So when we talk about protecting it, that is something again where we're talking about protecting the original concept that was created by all of us that sits in our Constitution, and we have evolved.

14 Congress evolved it. The Courts have evolved it. 15 There is nothing wrong with going back and taking a look and saying, "Was the original purpose still being served?" and I'm 16 17 not a constitutional scholar, don't hold myself out to be one, but I certainly think it is again an issue that was 18 debated at the time. It's debated now, and we don't believe 19 20 that we really are adhering to some of the original precepts 21 which is the quid pro quo for society.

22 What do we get? Do we really spur innovation? Is it 23 something we need to protect?

24 MR. BARNETT: Just as a quick follow-up, would you 25 have the same thoughts with software patents that are

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1 arguably not business method patents?

2 MS. MUSACCHIA: Some patents that are not business method patents, SAS would take the position that we also, had 3 we had our druthers, we would not have software patents. 4 5 That is water that has gone so far under the bridge of over the past more than two decades. That is a discussion that we 6 7 think, while we would have loved for it to have happened and for there never to have been software patents, we think 8 that's probably something that cannot be reversed, whereas 9 10 business methods is one that is so new the die is not so 11 irretrievably cast that it cannot be pulled back, and that's 12 why our comments are very heavily focused on the business 13 method arena.

14 MR. BARNETT: We might go with Dean, Richard and then 15 Tim.

MR. ALDERUCCI: I'll be very quick. I just want to say, Mary, a large part of what you just said was basically business systems that already exist in the public knowledge should not be patented. I agree 100 percent.

I know for a fact that's why there's a Section 102 and Section 103 in the patent statute, but I also note that the division or the way to categorize a business method is not well defined. As far as I know I've never seen a definition put forth that basically says a business method invention is one which is a copy of something being done in

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existence, but now it is in electronic form. That is clearly
 not patentable, and there's clearly a remedy.

3 I'll just mention in passing, and I'll go to Richard who has been waiting patiently, we, through our subsidiaries 4 5 and joint venture partners, have been on the receiving end of overly broad patents. People have asserted certain patents 6 7 cover certain operations that we were performing or contemplating performing, and it was a fairly straightforward 8 exercise for our research department to investigate the 9 10 relevant prior art and therefore obviate any further discussion on the matter. 11

Now, it does take a bit of research, and our average is around -- last time we did an average was several months ago -- 26 hours of priority search per patent, when you want to be completely sure you're not going to infringe someone's patent. For example, when you're presented with someone else's patent, you do a little bit more, but really in the scheme of things it's not that much to invest.

MS. MUSACCHIA: Richard, if you'll let me add one thing before we move on to you. Again this is why we have pushed so hard that we look over at, for example, what's going on in Europe because -- nobody has had a monopoly on brilliance, and I think all of us would agree --Europe at least has three tests they look at regarding your patent. That invention, it has to have a technical field. You

have to solve a technical problem, get into a technical field,
 enough to have technical features.

They do have criteria that they look at that help you get to the definition of what can be a business method patent, something that they can use to help articulate that. So again it's why we continually urge because we believe in a world without borders. For all practical purposes, in most business, harmonization is important.

9 Look at what they're doing in Europe. Look at those 10 combinations of criteria that they use, and then implement 11 that, take some of that and put it together. You can do 12 the same thing in Japan, and at that point you have the three 13 largest patenting bodies together: EPO, JPO, and USPTO, and 14 that's where we all need to move.

And why force in these harmonization discussions -why send our U.S. patent office representative over there and constantly tell them to move in the direction, move in that direction, come to the U.S. Why not for once throw them a carrot and go in their direction?

20

MR. BARNETT: Richard?

21 MR. STALLMAN: Many distinctions are made by lawyers 22 which are not presented to you clear-cut. For instance, 23 there's a law against driving while intoxicated by alcohol. 24 There's no place you can draw the line between drunk and 25 sober. In fact, there's a continuum stretching from cold

sober to drunken unconscious, and there is absolutely no
 place to draw a line that's any better than any other, so an
 arbitrary line was drawn.

4 It's better than treating the two of them alike. 5 This idea that makes it seem hard is something that people do 6 when they don't want the job to be done. They try to 7 discourage from trying by making it seem impossibly hard.

8 Now, Dean -- is it? -- presented us with one scenario 9 full of maybes: maybe this might happen, maybe that will 10 happen, and the result might be an innovation in, say, point of 11 sale terminals.

12 Well, I'm not sure we should pay much attention to a 13 scenario with so many maybes on it, but supposing it did 14 happen, the biggest part of their work would have been in 15 establishing relationships with customers.

16 So this company which had invested so much effort in 17 establishing these relationships would get a very direct 18 benefit from doing so. They had an idea which probably took 19 a second, wrote a program which might have taken a few weeks 20 or maybe even a few months, and then spent a lot of resources 21 developing these relationships.

22 Well, then why shouldn't I be able to spend an equal 23 few weeks or few months and then try myself to develop such 24 relationships with some customers?

25

Now, there are two possibilities here. Either I'm a

big established company, and I've got a lot of patents that I made them cross license me anyway, in which case their patent is not going to do any good against me, or I'm so newcomer and I haven't got a ghost of a chance of selling to those companies unless I've got some other big advantage.

6 Why should the government create a secondary monopoly 7 for them to pile on to their relationship that they built with 8 these customers?

9 Anyway, this scenario may be a possible one. 10 It could be one way in which society could develop and put 11 into use such improvements in point of sale terminals, but 12 there's another way it can happen. Somebody who makes point of sale terminals could put in the feature they think is 13 14 better and put that in their competition with other companies 15 that make such terminals, and then another company can see that and say, "Well, gee I don't think that's guite so good, I 16 17 think I can do it better," and they could tweak it 18 differently.

Just because you can show a scenario whereby with a patent system companies could take advantage of that, that doesn't mean society needs it to create monopolies in order to get these things done at all. There are other ways that things like that have happened in the past and can still happen today.

25

MR. BARNETT: Tim and then Dean, and then we'll take

1 a break.

2 MR. CASEY: I had two things I wanted to bring up. One was that there is little value in complexity per se in 3 many cases. Richard made a comment earlier about nothing 4 5 would patent a complete software program, and he's right 6 because it's too complex and in that complexity, it becomes 7 very easy to be able to get around it. So you don't try to patent things that have too much complexity because it's too 8 easy to avoid and therefore you really get no protection. 9

10 The result of that is that technology focuses on 11 the simplest, and so does patent protection. You try to get a 12 patent on the simplest, most basic form of an invention as you 13 possibly can, and in many ways technology often tries to find 14 the simplest way to be able to do something.

The question was asked earlier about the molecular weight of certain pharmaceutical drugs, and one of the things pharmaceutical companies attempt to do is to develop drugs that have the lowest possible molecular weight because they're easier for the body to process them and you have greater efficacy.

In the same sense, technology tries to be simplified as well. If you look at the user interface in any computer operating system, you can develop an incredibly wonderful and horribly complex operating system that nobody will use. The valuable ones are the ones most simple, and the same way,

the protection on those interfaces is going to be the simplest. That is then, the more valuable it's going to be because it's going to be utilized by other people.

You have to have some levels of complexity, but where the real value comes in is where you create a simple interface between the human whose attempting to interact with the technology and the technology itself.

8 The other thing that I wanted to touch on is I don't 9 think it's so easy to define what exactly is technology. 10 What is a technical field? Where exactly did you have a 11 technical problem?

I'm an electrical engineer by original training and practice. I look at a lot of patented inventions or things people are interested in protecting, and I think it's very difficult to be able to define exactly where the technology stops and something else starts.

17 It's perhaps like Richard's example of when you're 18 drunk or when you're sober. Although I think there was some 19 empirical data of when you were impaired or not impaired. They 20 did test that a little bit, although maybe they made it 21 up. I don't know.

But I think drawing that line between where does technology start and stop is also very similar. We would have to do it on a guess, and whether or not that guess is correct is hard to say.

MR. BARNETT: Dean, and then we'll take a break.

2 MR. ALDERUCCI: I'll briefly comment. Mary has an 3 excellent suggestion regarding harmonization between the 4 Europe and Japan, and I'm a big proponent of harmonization 5 for other reasons, but I would note that there are several 6 recent court decisions in New York regarding what the 7 technical effect is.

1

There's an excellent book by an associate of mine 8 named number Keith Ferrisberg who is a European patent 9 10 attorney. He's written a book of software patents in 11 Europe, and he has several examples of that -- and if you'll 12 call him up, he'll be glad to give you more -- but there are several examples of what a technical effect is and there are 13 14 a few recent ones that say a sufficient technical effect is, 15 for example, to increase user friendliness to increase profit 16 and sales. So I think the Europeans are actually divergent to 17 more of a U.S. viewpoint.

18 MR. BARNETT: I'm sorry, I thought you were19 finished. Go ahead.

20 MR. ALDERUCCI: I wanted to say, Richard, "maybe" is 21 a lawyer's way of saying "I'm bound by confidentiality to say no 22 more, at least for the time being," so my "maybes" were 23 really based on something that was actually a product, 24 something that's actually been tested and something that, 25 yes, tens of millions of dollars were spent before it was

1 finally accepted as something that has been sufficiently
2 tested to work for the industry in question, at which point a
3 copier emerged.

So I'll also say that establishing customer
relationships really wasn't what the testing was about. It
was testing whether or not sales increased overall. Customer
relation was something you couldn't test in that particular
circumstance. Customers came and went.

9

MR. STALLMAN: Bullshit.

10 MR. ALDERUCCI: It's not really bullshit.

MR. STALLMAN: You've misrepresented what I said to attack it. I didn't say you were testing customer relationships, but you were building them as a by-product.

14 (Discussion off the record.)

MR. BARNETT: On that note why don't we take a break.

17 (Break in the proceedings.)

MR. BARNETT: Okay. We're back now. 18 I think we're 19 going to try to shift gears for a moment, and from some of 20 the testimony that we've had earlier, we talked about when 21 patents begin to infringe with one another. One thing I 22 think might merit our discussion is what happens when they're 23 infringing each other and the impacts that patent litigation 24 can have and the process that gets underway from there. 25 Nancy, you had mentioned a reexamination process, and

I think I would like to hear your thoughts on reexamination
 versus litigation and why reexamination isn't used more.

MS. LINCK: Thank you. Obviously for a small company like mine, litigation is really not an option, so that's one reason why I'm stressing the importance of a strong reexamination system.

7 The system that presently is in place, at least the 8 *inter partes* system, began as legislation back in 1990 or so 9 that would have, in fact, provided us with a system that would 10 have been useful to address bad patents rather than 11 litigate.

12 It provided for a right of appeal to the Federal 13 Circuit for patent challengers or third parties, and it also 14 did not have the estoppel provision that ultimately ended up in the legislation that now kicks in the minute that a 15 16 third-party files a reexamination. That third-party cannot later raise issues that either were raised or could have been 17 raised during reexamination later in litigation if that party is 18 That patent, of course, if it makes it through reexam, 19 sued. 20 it's not strengthened legally, but in fact, in the eyes of the 21 jury or the eyes of the Court, if it's been through the process 2.2 twice, it's considered to be a stronger patent.

23 So once a third-party goes into reexam, they need the 24 right to be able to take that reexam all the way up to the 25 Federal Circuit and out of the Patent and Trademark Office,

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and they need the ability to be able to raise issues later on in a court action, if they don't ever get into Federal Court. I think it's fair that once a third-party takes a reexam into Federal Court, then they should be estopped from raising issues that they raised or could have raised.

6 Right now, there is legislation pending, as I 7 mentioned, that would provide third parties with the right to 8 appeal to the Federal Circuit. The estoppel provisions that 9 kick in the minute reexam is filed would not be corrected by 10 the pending legislation, and I would urge the FTC and DOJ to 11 support the pending legislation that would fix reexam, but 12 also to urge Congress to fix the estoppel provision.

13 There's also another problem with the reexam as it is 14 today. When I was a solicitor, a case came down, <u>In Re Portola</u> 15 Packaging, where the court said that any patent that was before the patent office as prior art during the first 16 17 examination could not be relied upon during reexamination, that there was a presumption that, in fact, the office did its 18 19 job and considered every single piece of prior art, not only 20 alone, but in combination with every other piece of prior art 21 that had been cited during original reexamination, and that 22 is just not realistic. The office is very limited on its 23 time to examine patent applications. Oftentimes there will 24 be hundreds of references cited.

25

The present pending legislation would fix that

problem, but would legislatively overrule <u>Portola Packaging</u>, and therefore the art that was in the file during original examination could be considered during reexam. And I think that's extremely important because oftentimes that's the best prior art that can be cited against a patent, and the office frankly just cannot consider it in the detail in which the court said it could at the time.

8 So I'm a real big advocate for reexam. It's been 9 suggested that an opposition system would be another solution 10 or an alternative solution an opposition system such as 11 what's used in objective. I don't know if that is a good 12 one, but I don't think it's an alternative to reexam.

13 Reexam is an alternative, a fast alternative to 14 litigation. Oppositions go on for years and years and years 15 so even if we decide to go forward with an opposition system, 16 we need to fix reexamination as an alternative to litigation, 17 particularly for small companies, but I think big companies 18 would also use it.

19

MR. BARNETT: Tim?

20 MR. CASEY: Yes, I would like to address the reexam 21 issue because I've had to deal with it quite a few times, and 22 it's been a real impediment to an effective alternative solution 23 to litigation.

24 One of the comments you often hear is even an invalid 25 patent is worth a million dollars because that's pretty much

1 what it's going to cost you to defend yourself against it, so 2 there is a real cost to having invalid patents out there in 3 that if someone is actually asserting them and they bother to 4 file litigation, then you have to go ahead and deal with that.

5 It would be wonderful if we had an effective 6 reexamination process that provided you with an alternative 7 to having litigated against these patents, and I think some 8 of the solutions that Nancy's mentioned would go a long way 9 in getting us there, but I'm still not sure that it's enough, 10 and there's a number of reasons for that.

11 One is, I don't know that the system even, as 12 proposed, necessarily encourages people who have art to come 13 forward with it, and I'll give you an example. Years ago 14 when we had the pure ex parte system. We instituted a reexamination where we had like nine different references 15 16 that we felt were all good references against the patent. But we didn't want to come forward with all of them at one time 17 because if you throw them all into it and the Patent Office 18 looks at it and they go ahead and issue the patent over 19 20 those, over the prior art that you made available, then 21 your chances of ever being able to present any different 2.2 arguments in litigation related to that prior art pretty much 23 go out the window because you've got a presumption then that 24 the patent office considered that art and decided that the 25 subject matter was patentable anyway.

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1 So we filed a reexamination with three of the 2 references. Because it was an *inter partes*, and we had no right to object to the arguments that were made by the 3 4 patent owners, we then had to wait until the office issues its response to our first filing. At which point we filed a 5 new reexamination with the next three pieces of art so that 6 7 we had an opportunity to respond to what was said in the first case. 8

9 So that was the system where luckily we had a lot of 10 art and ultimately the patent got knocked out. In fact, we 11 did this three times, but if you only have two references, then 12 you may have to go forward with both of those in order to be 13 able to have what seems like a more fair process.

14 It's important to recognize why the process isn't necessarily fair because the ownership of the patent, in 15 16 responding to the reexamination issuance by the patent office, can make a lot of different arguments. Most of 17 the time what they do is go in, slightly modify the patent 18 claims to respond to the reexamination, narrow them -- and it 19 20 somewhat turns out to be a fairly insignificant way to maybe 21 get around the art -- and they end up with actually stronger 2.2 claims coming out of the reexamination than they had going 23 into it, because now they've improved how the claims read on 24 technology that other people are utilizing.

25

They've removed prior art as reference, and as a

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result, they have a patent that's even easier for them to be 1 2 able to litigate, so you don't improve the situation at all. You only make it worse. Making it an inter partes 3 4 proceeding where the party that's filed it has at least the opportunity to argue their case other than the one-time shot 5 6 when they file their reexamination application would be a 7 long step in fixing that, as would be the appeal process because the practice had been in the past at least to assign 8 9 the same examiner to the question of whether or not to reexamine 10 patent.

11 Well, the examiner has somewhat of an embedded 12 interest in not having been wrong in the first place. The 13 patent office has gotten away from doing that, and I think 14 that was a great idea but I think there still could be a special unit that's designed to just deal with these reexaminations that 15 16 can change from technologists in different parts of the office and who don't have any interest at all in seeing that you have 17 18 a very appropriate reexamination process that people can 19 actually have faith in, which is going to result in a good 20 outcome.

I think the estoppel issue, though, still sort of plays into this. Do you really put all your art forward because once you've made your argument, you're estopped from being able to utilize it later? So I think it still somewhat encourages people from necessarily making the complete

1 argument that they could make because of the opportunity that 2 they would lose it if they then lose the reexamination and 3 they ever need to rely on that later on.

I think perhaps one of the last things would be -- I'm 4 5 not quite sure how you would do this -- stop the process of allowing someone to be able to modify their claims during the 6 7 reexamination process. I think you have to go into the reexamination with the claims that you have, and that's it. 8 If you want to then subsequently file a reissue answer of 9 10 your patent and seek to have the claims modified according to 11 that process, then maybe that would be appropriate, but I 12 don't think that should be a way in which you respond to the 13 rejection that's been presented by the panel.

MR. BARNETT: Les, what were your thoughts on this? MR. HART: My thoughts were similar to Tim's. 10 or 15 years ago, we were in a patent litigation as a defendant under about half a dozen patents, and we were at a crossroads in this litigation. Do we file for reexaminations under all six of them because we felt we had found a lot of prior art that would invalidate these patents?

21 On balance, we did go ahead and do that but we were 22 relying a lot more on summary judgment motions in the 23 litigation for invalidating these patents than we were at 24 that time because it was *ex parte*. We just knew that the 25 patent attorney was going to find a way to argue away his

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prior art and come out with a patent that seemingly was more valid than it was when it went in, and fortunately the case was settled.

4 Summary judgment motions were never ruled on, but 5 notwithstanding litigation being more expensive than 6 reexamination, we were having a lot more faith in the *ex* 7 *parte* proceeding in the litigation by way of summary 8 judgments motions than we were in reexaminations.

9

MR. BARNETT: Nancy?

I wanted to make one comment on what Tim 10 MS. LINCK: 11 said which I think he well stated the ex parte reexam and 12 inter partes, if we could have a system that's being 13 proposed. On the estoppel issue, if a party is worried about 14 estoppel, of course they could always stop at the Board of 15 Appeals. If the party felt that if estoppel doesn't kick in 16 until that point and a party felt they didn't have a good 17 chance before the Federal Circuit based on the record before the Patent and Trademark Office, they could stop at that 18 19 point and estoppel would not be an issue.

20

MR. BARNETT: Richard?

21 MR. STALLMAN: The phenomenon of a patent becoming 22 more dangerous after reexamination is something I've been 23 worried about too, and it calls to mind a phenomenon I've seen 24 that as the context of activity changes, then what you have 25 is that basically the same idea would take a different form

1 in some details today from what it would have taken say 15 2 years ago.

3 For instance, today many people develop web based interfaces to do various jobs talking to a server. Client 4 servers in the 1980s programs, where there was a specific 5 6 client developed along with a specific server and they were meant to talk to each other, and somebody -- there may be a 7 8 patent today on doing something in a web based interface, and 9 you might find prior art, which whether it's prior art 10 either is a question.

But you might have found an example of doing the same job, communicating the same kind of information through a client server program, and this is the kind of situation where it's possible to patent today's incarnation of the same idea because of the low standards of interpreting the term unobvious.

And this is the kind of case where that danger would 17 be very real. If somebody had a patent which covered the 18 19 client server implementation and you found such a thing documented from the 1980s, he would then rewrite the claim so 20 that they only cover the web based interface, which is what 21 people really want to do today, and because the context is 2.2 23 being shaken up constantly by other changes, you can expect 24 this phenomenon to always continue.

25

But I have a question; this is not a rhetorical

question like many of the others I've asked. I'm wondering,
if you change to having a reexamination where both parties
are present, would that in and of itself reduce the danger
that the patent holder would simply rewrite the claims to
stand up and gerrymander the claims, basically, or would you
need other changes in the system to prevent that?

7 MR. CASEY: That's why I'm proposing that you would 8 need additional changes because right now, they have the 9 ability to go in and amend the claims here in the process in 10 order to defend any argument presented.

MS. LINCK: You have to have a basis in the specification so if it's something that's newly developed like the web based server that you were speaking of, they couldn't just add that to the claims unless it's supported by the specification written ten years earlier.

MR. STALLMAN: We're miscommunicating. I am imaging a patent issued in the 1990s, when there already were web based applications and that would have covered both, and the scenario is that the defendants dig up prior art which involves a client server application prior art from the 1980s, not that it's a patent from the 1980s.

22 MR. CASEY: Just to address that issue, I think it's 23 an open question as to whether or not you can do that. The 24 Federal Circuit just came out with a new case, <u>Johnson &</u> 25 <u>Johnston</u>, and they dealt with the issue. Even if you've

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disclosed it in the specification but you didn't write claims to cover it, you're now going to be barred from being able to go back and reclaim the material that was disclosed.

I'm not guite sure whether it's even a great result. 4 That's a doctrine of equivalents case. 5 MS. LINCK: 6 MR. CASEY: Right, you're not going to be able to arque through the doctrine of equivalents that you have a 7 right to that material, but would you be able to go back? 8 And 9 they said in part of it that your solution is to go and seek 10 a reissue of the patented claim material that you hadn't previously claimed. But if that's barred by doctrine of 11 12 equivalents, then there's got to be some question as to 13 whether or not it's really appropriate to go back and claim 14 stuff through the reissue process when people out in the 15 public thought it was part of the disclosed material in the 16 first place.

17 So you're still going to have a lot of uncertainty 18 related to what someone can cover in the specification long 19 after the fact.

20

MR. BARNETT: Nancy?

MS. LINCK: As far as going back and recapturing the material by reissue, you certainly cannot broaden your claims after two years in any way that would capture something that would not have been captured under the broader claims, so I think that's part of --

MR. CASEY: Right, but you can narrow it any time.
 MS. LINCK: You can narrow the claims, yes.
 MR. CASEY: It doesn't take a lot to narrow the
 claim. It may be one word.

5 MS. LINCK: If you narrow claims, then the original 6 alleged infringer was already ensnared by the original --

7 MR. CASEY: See that's my point, and I'm kind of 8 following along with Richard, not necessarily. If you had a 9 client server and a web based disclosure in the 10 specification, but you didn't claim the web based one, you 11 only claimed the client server one, what's to stop you from 12 subsequently going back and claiming the web based one in a 13 narrow fashion.

MR. STALLMAN: No, we're actually talking about two different scenarios which may both be relevant scenarios to discuss, but we should separate the discussion so that we have an intelligible discussion of both.

18 The scenario I had in mind was a claim that covered both the web based implementation that people would want to 19 20 use today and a client server implementation such as people would have used in the 1980s. In other words, if it were a 21 2.2 claim that didn't talk about web based or client server, but just said what data was being exchanged and what job was being 23 done by exchanging this data, and then you find that there was 24 25 prior art from the 1980s, which happens to have been a client

server type implementation, they could then narrow their claim to gerrymander it around that prior art, so it's not a matter of broadening in any sense of the word.

4 It's a matter of making it immune, basically 5 withdrawing from whatever little islands the actual prior art happens to be in, so that they can defend everything else. And 6 because of the constant change in surrounding 7 8 technological context, you can just be sure that what people 9 actually want to do today is different from what they actually wanted to do in the 1980s, which means that 10 narrowing to withdraw from the specific prior art of the 11 12 1980s is always possible while still having what people want 13 to do today.

14 Always is an exaggeration -- very, very often. Once in 15 awhile there's a living fossil.

16

MR. BARNETT: Dean?

MR. ALDERUCCI: I merely want to make sure I understand -- for my own edification I want to understand your example -- so are you saying that the claims that would cover both web and client server embodiments, that was a valid claim, and it was supported by the original specification that was filed in the '90s or it's invalid? MR. STALLMAN: I'll not sure which sense of valid. It's

invalid because you then find prior art from the 1980s, so in that sense if looked at on its own without the possibility of

1 narrowing it would be invalid.

2 MR. ALDERUCCI: But the portion of it as it were --3 not that you can have partially valid and partially invalid 4 claims, but the portion of it that was web based was not in 5 the prior art, is that part of the example?

6 MR. STALLMAN: Well, if you believe that that's 7 really a separate idea, if your threshold for what 8 constitutes an invention is that low that just using a web 9 based communication technique instead of a specially written 10 client server program would really make an invention, indeed 11 by that low standard the web based one would be an 12 invention.

Now, I don't think that's true. I think that's a foolish way to look at it, but as long as the patent system looks at it that way, you will have this phenomenon that by narrowing the claim to just the particular details of the way people would do it that would be most useful to do it in today's context, they can get a valid claim emerging to replace the invalid one.

20 MR. ALDERUCCI: I see. The claim was directed to --21 one embodiment was clearly invalid because it was not new and 22 because it was obvious.

23 MR. STALLMAN: I would say it should be obvious from 24 the previous one, but in fact the way the patent system seems 25 to judge the issue of obviousness, their threshold is very,

1 very low. You have a phenomenon where prior art becomes like 2 American soldiers in Vietnam. They cover the ground that 3 they stand on, but they don't project their force to any distance because the distance to which they project their 4 5 force is measured by the threshold of unobviousness when that Essentially whatever examples you find from the 6 is very low. past make no difference at all. 7

8 MR. BARNETT: We night step back a moment, and one 9 thing I'm interested in, in lieu of a reexam system, I quess 10 when in doubt, litigation is the only other option. I'm interested to ask, Les, we've heard testimony at least in the 11 12 semiconductor industry and you had mentioned earlier this 13 notion of an escalating number and more and more people are 14 patenting and conceivably that leads to cross licensing 15 situations, but I'm curious if you can let us know sort of 16 the math that goes on, or compare and contrast litigation 17 decisions when you're dealing with a competitor or participant in the market who has a patent in litigation versus a patent 18 19 holder who is not a participant in the market?

I'm curious if there's a difference there or if you have any thoughts on that. Could you pass the microphone over to Les, please?

23 MR. HART: First of all, in my experience, probably if 24 you're trying to license your patents, I would say 80 percent of 25 the time you're going to come to an amicable resolution of this

1 with the party that you're negotiating with.

2 So we're dealing with the other 20 percent where your 3 choices are about three or about two. You can forget it; go 4 away mad, but go away; or exercise the only other option you 5 have and that is to go into court. Of those 20 percent, in 6 my experience, probably 80 percent of the 20 percent settle 7 very quickly after the litigation has started.

8 It might start some discovery, but in the cases I have 9 seen, very few cases seem to go through trial, verdict and 10 judgment.

11 So for the vast majority of the cases of semiconductor 12 cross licenses negotiated as part of the settlement, you get 13 a far better result because a judgment in a patent litigation 14 only is dealing with past damages. And whether or not you're 15 going to get an injunction going forward or settling the 16 whole thing on the cross license basis covers the future, 17 covers both sides' patents.

18 It covers the issues of the patents you're going to 19 get on inventions in the next period of the term, which 20 typically in our industry has been five years. So settling 21 these things is a lot better than litigating, but when you do 22 litigation, the settlement is a lot better than what you 23 would get with a judgment because it's far more all 24 inclusive.

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MR. BARNETT: I might ask a follow-up. I guess in

some of the prior testimony, we heard concern that with the increasing frequency of patenting in the semiconductor industry, there is a situation with a lot more patent holders who aren't interested in cross licensing and are more, for lack of a better term, strictly rent seeking, and if you noticed, is that an increasing trend and if so, what your thoughts were?

7 MR. HART: Yes. Just give me a little more 8 clarification. It was not clear to me exactly what you're 9 getting at. Rent seekers are new entrants in to the field 10 that do not have a patent position?

MR. BARNETT: Rent seekers being someone who does have a patent but who is not a participant or not an entrant into

14 the market and so they're not interested necessarily in a 15 cross license and more just a return on the patent.

16 MR. HART: Well, in a sense, there are companies in the semiconductor field that have been both from the sense 17 they've been rent seekers. And even Harris Corporation has 18 19 been that in the sense that we acquired a large patent 20 portfolio from General Electric in 1988, and they had all of RCA's semiconductor patents, and we found a large number of 21 2.2 those patents were infringed by semiconductor memory, and 23 Harris did not make memories.

24 So in that sense we were rent seekers, but I would 25 say, so what? We own the patents. What, in fact, we did was

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to license them, and the money we got from that, we invested in the R&D that we otherwise couldn't afford to do in the business line that we wanted to be in.

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MR. BARNETT: Tim?

5 MR. CASEY: Going back to one thing that we haven't 6 addressed, and it seems to relate to this, arguably patents have caused this to happen in the marketplace in the first place, and 7 8 in the context of licensing, if you at least start with the 9 premise that patents exist at least in certain industries -- I'm 10 not going to get into that argument -- and will continue to exist in those industries for some period of time, and the 11 12 unlikelihood that we're simply going to get rid of them, then 13 you have a couple of scenarios that you can follow.

14 One is when someone asserts a patent against you, what do you do? Well, you can hope it goes away. Sometimes 15 16 that works. You can seek to license it, either through a 17 cross license or through the payment of money or through the trading of services. I think that factor gets underlooked 18 19 a lot, that everyone assumes that every patent asserted 20 results in someone having to pay money for it and that's 21 often not the case. They trade things. I've traded all sorts of things in patent license agreements that weren't money per 2.2 se, but that enabled the company that I was working with to 23 24 enter into a market that it wasn't in, to develop those product 25 lines that it didn't have, all by virtue of being able to

1 utilize the patents as leverage. That enabled us to be able to 2 get someone to pay attention to us who may not have otherwise 3 wanted to do so.

And in some cases, where the opposing party is someone who has a large portfolio of patents, you can get a freedom to operate. And that gets underlooked in terms of the value that that brings forward in many cases because a lot of companies, because of the existence of these patents, spend a lot of time and a lot of resources trying to avoid infringing on somebody else's patented technology.

And many times that time and resource is wasted 11 12 effort that could be better spent if they had a license to 13 the patents that that company has and no longer had to worry 14 about whether or not they were infringing and could in fact 15 actively seek to utilize them. In a number of cases where 16 we've entered into patent licenses that ended up costing us much 17 less than we ever thought that they would, when we analyzed it from a damage perspective -- what's the potential risk we have 18 19 here? -- and we found we were able to get a license for pennies 20 on the dollar, compared to what we thought the risk was, that we 21 then had the freedom to be able to utilize the patented 2.2 technology.

And we would go through, look at the portfolio, and figure out what groups in the company might be able to make use of it. We make those patents available to them and say,

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1 "Use this stuff, go through here and see anything you want, and you're now free to utilize it, " and that's actually had 2 3 some very positive benefits in terms of the product changes and innovations that the company has been able to come 4 forward as a result of that. 5

The other thing is, patents will also prompt people to 6 seek a way around them, and I think that's very important to 7 8 remember as one -- what I always thought, whether or not it 9 really was is hard to say -- motive behind the patent 10 system in the first place.

If someone has a patent on something, you can either 11 12 pay them for it, stop using it or find a way around it, and 13 perhaps the most significant way in which patents promote 14 innovation is the fact that sometimes they force people to find a way around it. Well, how do they find around it? They have 15 16 to invent something else. They have to come up with something new that enables them to avoid that. 17

18 It may be a very small change, but in other cases it may be something that's quite significant. So you have to look 19 20 at that aspect of what are patents adding and I think that's 21 fairly substantially significant.

MR. BARNETT: Les and then Richard? . 23 MR. HART: On the notion of designing around patents, there's an added danger in doing that versus paying what it 24 25 takes to get a license. And that is, if you're going to design

2.2

around, you better do it well because if you are in litigation and you don't have a good legal opinion that the course you did take did avoid the patent or if you don't have a good legal opinion that says you don't need a license, as you all know, you're faced with the prospect of being unlawfully infringing.

And I bet in cases like that, there's an in-house 7 counsel during the course of the year, you can get -- I'm 8 sure Tim knows this too -- you can get a very large number of 9 10 charges of infringement from people that are out there. Ι just think of college professors being one of the more 11 12 typical examples where you'll get a letter saying, "This 13 patent we think you're using" and the business you're in, you 14 get a lot of them. To send every one of those out to an 15 outside counsel to get an opinion that you're not infringing 16 a valid claim can be very, very expensive.

17 So you rely on in-house counsel to do a preliminary 18 check to see whether or not you have a problem or not. And 19 again, if you're in litigation, you're relying on in-house 20 counsel's opinion that you've done it well enough to avoid 21 a unlawful infringement.

22 So there's a root example of why you may be very well 23 off just taking a license and getting the free use, or 24 thereafter the incremental free use, of all of these patents 25 rather than just trying to avoid it and run that risk of

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1 willfulness.

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MR. BARNETT: Richard?

3 MR. STALLMAN: I have a comment about licensing and a comment about avoiding patents. The discussion of licensing 4 5 often takes for granted something which may be true in most industries -- in most fields I should say because calling them 6 industries is making the same mistake -- namely, the assumption 7 that everything is being done by various more or less large 8 9 businesses that have to set up factories and can have 10 negotiations about patent licenses on the side because compared with the cost of all the rest of what they have to 11 12 do, that's just a small fraction.

And many fields are like that -- certainly pharmaceuticals, making semiconductors, as far as I know are like that -- but software is not like that. Software doesn't have to be developed by large companies.

In fact, it doesn't have to be developed by companies at all. In the free software movement, we have developed large programs, often with zero funding, by volunteers, in some cases thousands of volunteers. Sometimes we get funding to pay some people to work on parts of the program after it's going.

For us it's a completely different situation. I appreciate that a company would want to get the freedom to use the ideas that have been patented by some other company.

I think they should have that freedom. I would like to have
 that freedom too, but I can't get it the way they do.

I think we should all have that freedom because there should be no patents in the software field -- that would solve the problem clearly. And for everybody to argue that the patent system is good -- like getting some patents, you could get a cross license, and then you can get free to use the ideas that have been restricted by patents -- is basically trying so solve the problem you're creating.

Now, with regard to avoiding a patent, it's true that one of the nominal ideas of the patent system is that it encourages people to invent a new better way of doing something so they can bypass something someone else patented. This doesn't always work. I've heard that there was zero progress in electric lighting for 17 years after the invention of the first light bulbs.

The reason was that Edison had no interest in trying to invent a better one, and neither did anybody else. They wouldn't have been able to get permission to make their better light bulbs because Edison's patent was broad enough that it would have covered it anyway.

Now, in some cases even a rather narrow patent is hopeless to invent around. I gave you one example already, LZW. Yes, we found another compression algorithm that's even better, and we can't get society to shift to use the better

compression algorithm instead of LZW for their images. That's
 not the only example. There's an Apple patent covering font
 hinting in true type fonts.

Now, we might be able to come up with another way of doing font hinting, but it would do us no good, so the result is in our community we can't have good looking fonts. To redevelop all those fonts would be a gigantic job.

8 Little by little that may be what we have to do, but 9 simply developing a better technique to do the job that this 10 patent covers a way of doing wouldn't help us at all. You have 11 to look at the effects of patents in the structure of the feed 12 to see what they're really doing.

13 If Microsoft has patents on aspects of .NET, then 14 first of all we might find a better way of doing it, but if 15 that isn't 100 percent compatible with the applications users 16 write for .NET, it won't do us any good at all. It might be technologically superior. Hell, there might be things that 17 we already know that are technologically superior that everybody 18 19 knows aren't patented. It still won't do any good at providing 20 users a practical alternative to Microsoft.

21 MR. BARNETT: Thanks, Richard. At this point I think 22 we're getting close in time.

I might open the floor for any closing comments, but one I think I am interested in in the context of that and perhaps combine them or whatnot, is we talked a lot about the

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impacts of patents on innovation, and I'm curious if anyone has any thoughts on sort of the flipside of that, how competition affects innovation.

MR. ALDERUCCI: I'll comment that Richard apparently has standards which are technologically inferior, but are still entrenched in the industry, and it's not because of their patent position that it's so entrenched. It's presumably because of their market position. Is that true?

9 MR. STALLMAN: Well, yes, that's true. They get it 10 entrenched. They can make it. They can entrench it because 11 of their market position, and then they use the patents to 12 prevent us from doing any effective competition to it.

MS. MUSACCHIA: I want to add something on the LZW because I think one of the things with compression algorithms is that there's a huge debate in the software field about that particular patent. I always find it very interesting that Richard is citing it because there are a number of companies and literature about compression algorithms.

And so some people have argued, and you can read it in the literature -- have argued that the LZW patent and compression actually snuck up on somebody because they were off using compression algorithms that they had themselves created, but because of the way it was written and drawn it was also a somewhat not broad.

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And I'm out of my depth of field a little bit, but

there were people that were concerned about whether or not they did or did not infringe such a patent because you could go into the literature and find from innumerable places discussion in actual formula on a compression algorithm.

5 And so that is one of those cases where there was quite a bit of debate and probably still remains so. 6 The other issue, in terms of Richard's comment, that people didn't 7 move for some societal reason, a lot of times compression 8 9 algorithms are very, very deep in product so it's not merely 10 a matter of saying we're trying to persuade somebody to change. A lot of times it's very difficult to make a change 11 12 once something is already embedded in a piece of technology, 13 embedded deep in a product, so this is something else to be 14 recognized.

On a closing comment basis, the only thing I wanted 15 16 to say is that again going back to the position that we have 17 been advocating about Europe, and I very much appreciate Dean's comment, the European system is one where while the 18 19 EPO will go ahead and grant the patents, the cases that the 20 gentleman may have been referencing were possible interpretations by the various countries because the 21 2.2 enforcement is done by the individual nations within the 23 European Union.

The European Union, though, has within the last six months come in order and said in their push within the union

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1 itself to get more harmonization and bring all the countries 2 in line so some of the judicial interpretations where you may 3 have found an individual country or court in a country coming in 4 one direction or going in another, if you read some of the 5 public statements, and there's been articles in the Wall Street 6 Journal recently on this very point.

7 The Europeans take it on the chin from the U.S. 8 companies as they come to us and complain about the fact that 9 we are going to have stricter standards. And that is the 10 direction that at least the European Union Commission is 11 talking about pushing when they harmonize even in their 12 judicial settings within the European union.

Again I appreciate very much when you have cases where you're going to find courts in some of the countries going in different directions but that's not where the actual union is going.

17 And so the last point I wanted to make is my summary comment. This is an industry where there are a large 18 19 number of small significant inventors. I'm on the Board of Directors in NCEITA, North Carolina Electric and Information 20 Technology Association. They did a study in North Carolina --21 just call NCEITA, they'll give it to you -- and they found in 2.2 23 North Carolina we have in excess, I think, of 4,000 small high 24 tech companies in the information technology field of which 25 less than 10 percent have more than 15 employees.

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Well, when you begin to think about it, that means there are an awful lot of companies out there that are coming out of the University of North Carolina in Charlotte, people that are being spun off out of University of North Carolina at NC State, NC state campuses.

These companies are small, and yet they're 6 They are the ones that are creating a lot of new 7 innovative. 8 technology. So I would recommend anybody, again if you want 9 to see where some of the small companies are, look at the local trade associations that exist within those states and 10 11 start asking them how many members do they have? How many of those companies are small? What are their sizes? And then ask 12 13 what their business is? How many of them are developing 14 technology in the security field? How many of them are 15 developing technology of one type or another? And I think you 16 will find a lot of interesting information. They're not going to be litigating. They may not even be patenting 17 because they can't afford it. 18

19 They can't get the attorneys' opinions because they 20 don't have the money. They're still looking for angel funds 21 and VC funding, the idea of finding the money to do the 22 other, but this is where that innovative heart is coming 23 from.

And again as you look at it, please go out in the field to some of these small technology trade associations

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and see who is out there and what they're actually doing as opposed to what some of the larger people who can afford to send me up here for a couple days are doing.

Thank you.

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MR. BARNETT: Tim?

It's an interesting thought. The patents 6 MR. CASEY: are a form of competition in and amongst themselves. 7 We often look at patents in terms of how it's affecting 8 competition in other areas, but clearly just based on what 9 10 you've heard today, there's any of a number of people out there who are competing solely on the basis of patents, and 11 12 that is the competition, and in fact that is the industry.

13 So sometimes I think we view patents in the context of 14 the industries in which they are around, but they are a form of 15 competition amongst people in industries or in technology much 16 the same way as companies compete for employees or capital or 17 customers or any of a number of other things.

And in terms of barriers of entry into that particular field, a barrier of entry into being able to compete in the patent field is significantly less than it is in many other areas. In fact an inventor can write their own patent application.

The patent office provides directions and will help pro se applicants in trying to put together a patent application without utilizing an attorney, although it's not

necessarily always the greatest idea. Especially if you think you have something that's very valuable, you might want to get some professional help, but there is the ability to be able to do that.

5 The price is relatively low if you go about it that 6 way. But even if you use an attorney, your fees may range 7 from \$10,000 to \$30,000 to get an application on file and 8 prosecute it through the patent office, which is significantly 9 less than the billions of dollars that it might cost you to 10 build your own semiconductor fab, so certainly the barrier to 11 entry in that market is quite a bit different.

12 And in fact, there's nothing stopping anybody from 13 patenting anything that they may develop and entering the 14 market whenever they want to. You may not be able to build 15 the market, but you can certainly build things having to do 16 with semiconductors and have a patent on it and actually have 17 a say in the marketplace as a result of that that you may not 18 otherwise have as an individual.

19 MR. BARNETT: Thanks, Tim.

20 Richard?

21 MR. STALLMAN: I don't know whether to cry or laugh 22 at the idea that people can compete using patents. It's 23 true, of course, once you have patents you'll get people 24 competing just to get patents, and they will have a say in 25 the marketplace and a negative kind of say, so I can't

dispute any of the facts that you've just said. Whether this
 is a good thing for society, though, is a different question.

Now, it may not matter so much with regard to making semiconductors. You say it costs a large amount of money to set up a fab line, and those that have that enough money can afford to deal with the patent system. For them it's a side issue.

8 But for a lot of us, free software developers don't 9 spend ten thousand dollars and if we had to, it would be 10 crippling. That's the thing that gives free software its 11 strength. It doesn't take any labor, just their labor. 12 That's what makes it possible for us to develop a spectrum of 13 software that covers the whole range of things people want to 14 do and do it so well.

So we are in danger of being crushed. If it costs as much to develop a software package as it does to build a fab line, the situation would be very different.

18 MR. BARNETT: Thanks, Richard.

19 Nancy?

MS. LINCK: In the drug industry we have essentially two kinds of competitors. We have other proprietary drug companies, and then we have the generic drug companies. And with respect to the proprietary drug companies, we try very hard to develop our drugs so that they don't fall within the claims of another competitor. But in fact, if we have strong

patent protection for our drug, developing a drug to cure a disease is such a difficult process that our primary focus is moving that drug forward, and we will find a way to market that drug.

5 I don't know of any drugs that have been developed 6 that would treat diseases that have been kept off the market 7 by a competitor's patents. Maybe that's because I've only 8 been in the drug business for three and a half years, but I 9 think drug companies work together to make sure that drugs that 10 can help people get on the market.

With respect to generic drug companies, they are growing rapidly and taking over more and more of the pharmaceutical sector, and I believe the average life of a patent once you get approval for a drug is about 11 years, not the full term of the patent.

So we try very hard during the drug development process to get follow-on, I believe you call them sequential or follow-on patents to the formulations or to the dosages or to different indications, in an attempt to get more of our patent life before the generic can copy what we've done and move quickly into the market.

And I think there's been some criticism of that practice, but in fact that practice is absolutely necessary for a drug company to recoup the investment which I believe now, again for one commercial product, is \$802 million

1 according to a Tufts survey, so that's how we deal with 2 competition.

Thank you.

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MR. BARNETT: We'll finish with Les.

5 MR. HART: Regarding patents and competition 6 between big companies and small companies, the small company 7 that would get a patent on its innovations early on has a 8 tremendous amount of leverage against large companies later 9 on, if that high gear becomes part of the mainstream of 10 technology.

The big companies really fear those small companies 11 12 because the IBMs and the Motoralas -- and those companies know 13 that an early patented invention that is really good by a 14 small company that becomes part of the industry because of 15 their exposed sales -- they are really at a tremendous 16 disadvantage to the small companies, so it really can be 17 advantageous for those small companies to get early patents on that innovative work, and if they're successful, they have 18 19 a tremendous amount of economic power vis-a-vis the big companies. 20

21 MR. BARNETT: Well, I think that concludes our 22 hearing for today. I would like to really thank our enters 23 for coming and dock this. Thank you.

24 (Time noted: 12:10 p.m.)

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