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ENSURING CONTENT PROTECTION IN THE DIGITAL AGE

HEARING

BEFORE THE

SUBCOMMITTEE ON TELECOMMUNICATIONS AND THE INTERNET

OF THE

COMMITTEE ON ENERGY AND COMMERCE

HOUSE OF REPRESENTATIVES

ONE HUNDRED SEVENTH CONGRESS

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ENSURING CONTENT PROTECTION IN THE DIGITAL AGE

THURSDAY, APRIL 25, 2002

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ENERGY AND COMMERCE,
SUBCOMMITTEE ON TELECOMMUNICATIONS
AND THE INTERNET,
Washington, DC.

The subcommittee met, pursuant to notice, at 12:30 p.m., in room 2123, Rayburn House Office Building, Hon. Fred Upton (chairman) presiding.

Members present: Representatives Upton, Barton, Stearns, Gillmor, Deal, Shimkus, Fossella, Davis, Bass, Terry, Tauzin (ex officio), Markey, Eshoo, Engel, Green, McCarthy, Luther, Harman, Boucher, and Sawyer.

Also present: Representative Walden.

Staff present: Jessica Wallace, majority counsel; Linda Bloss-Baum, majority counsel; Will Nordwind, majority counsel; Hollyn Kidd, legislative clerk; Andy Levin, minority counsel; and Brendan Kelsay, minority professional staff.

Mr. UPTON. Today's hearing is on ensuring content protection in the digital age, and while our inquiry starts with the important question of how this impacts the transition to digital television, our subcommittee's interest is, of course, much broader.

The DTV transition deadline of 2006 is fast approaching. So time is of the essence. This hearing follows on the heels of several lengthy DTV roundtables which Chairman Tauzin held with myself, Mr. Dingell, and Mr. Markey, at which representatives of the major, relevant industries discussed, sometimes fiercely debated, the obstacles which stand in the way of a successful and timely transition to digital television and how we can overcome those obstacles.

Many issues, such as cable compatibility and must carry, have been touched upon in our roundtables, but perhaps the one issue that has dominated the agenda has been content protection. Clearly, this issue needs to be addressed if we are to succeed with the transition.

I truly believe that the best solution is a private sector solution. Yet inter-industry agreements have been elusive to date. I know, through over 8 hours of roundtables, that these issues are complex both legally and technologically. But if we can put a man on the moon, then I am optimistic that, with the right amount of pressure from Congress, the industries, and consumers, which have the best

engineers and minds in the world, we can do anything that we set our minds to.

So the questions I have are these. How long can, or should, we wait for those deals to be struck in light of the impending deadlines on the transition to digital?

Do the industries have the right processes in place to come up with a fair plan to all, including consumers, and one that will not stifle technological innovation in the future? And what, if any, is the proper role of government?

We have heard that three content protection issues have been identified in apparent order of degree of technical difficulty. From easiest to hardest, they are: (1) the broadcast flag; (2) the analog hole; and (3) peer-to-peer.

Earlier I mentioned putting a man on the moon, and I am reminded of how our Nation achieved that objective. President Kennedy laid out the first challenge. Then the engineers came about solving the problem. First, we put chimps into orbit and, once that was done, we put men into orbit, and after that we finally put a man on the moon. The point is that it was not all done in one step. It was done step by step.

In today's context, the question becomes: If we can get the broadcast flag done and maybe the analog hole, will that be enough, for the sake of the DTV transition, to unleash the content as we continue moving forward on the other content protection issues? And will, or should, Congress or the FCC be needed to ratify any such deals to ensure consistent compliance amongst all manufacturers?

In all of this, we cannot lose sight of the fact that this is about the consumer. The consumer wants to continue enjoying great American movies, whether it be "Saving Private Ryan," "Lion King," "Band of Brothers," but if that content is continuously ripped off and illegally transmitted with one click to the rest of the world on the Internet, then we will see a decline in the studios' ability to make them.

Consumers also enjoy great home entertainment equipment and certain expectations regarding "fair use" rights, and we, as Members of Congress, must vigilantly guard those rights as we make our way through this important debate.

It is a delicate balancing act, but one which is as old as Article I, Section 8 of the Constitution itself. I am confident that even Ben Franklin, as he was exploring science with his kite and his key in the thunderstorm, never could have dreamed of the digital technology, let alone motion pictures, DVDs, the Internet, Morpheus, and the like. Hence, fast forwarding to today, it is this Congress' burden to help sort out how to rationally protect content in the digital age, and that is what I hope can be accomplished someday, if not today.

I look forward to hearing from today's panel of witnesses to help us through these issues, and I am excited that our subcommittee will be the first to use our committee's latest technology to hear from one such witness remotely, Mr. Chernin of News Corp all the way from Los Angeles. I tip my hat to Chairman Tauzin and Ranking Member Dingell for their foresight in bringing our committee room into the 21st century.

I yield to my friend and colleague, the ranking member of the subcommittee, the gentleman from Massachusetts. I am sorry we are not going to put up the Orioles-Boston game up here, but you can watch the Cubs at some point later on. The gentleman is recognized.

Mr. MARKEY. I thank the gentleman very much, and that digital technology is so sensitive that we actually have to put black screen up there so that people know that it is not broadcasting some other more sensitive piece of information.

I want to commend you, Mr. Chairman, for calling this hearing today on a variety of issues related to digital rights management. Today's hearing will enable the subcommittee to explore policy questions related to the digital television transition, and will also raise other issues regarding consumer rights related to the recording data, transferring data from device to device, and whether consumers will have the ability to upload information and transmit it on the Internet.

Both of the general topics to be raised at the hearing today are important, and both probably warrant a series of hearings on their separate sets of questions, implications and possible solutions. Hopefully, by throwing them together today, we can get a quick check on the status of various industry segments as well as what other broader consumer implications exist.

First, I want to talk about the digital television transition. It is readily apparent to even the casual observer that the DTV transition remains largely stalled, and even where progress is being made, it represents marginal progress at best. We are already a number of years into the transition with, frankly, little to show for it.

It is clear that, if we keep up the current pace of transition, we are also years and years away from the digital denouement of this industrial policy for television, and I think that it is a key element of the transition simply acknowledging that it is, in fact, industrial policy, whether we want to say those words or not.

We gave the broadcasters' spectrum worth billions of dollars for free. We linked the industry an additional six megahertz for a transition period, and we set benchmarks for when they had to get their stations up and running. After the transition, we expect to receive back spectrum from the broadcasters.

Having embarked upon this policy, policymakers have not put in place the relevant and necessary rules to ensure that the transition is both timely and successful. As important as it is to exhort the industry to do more, and as welcome as it is to call upon industry leaders for voluntary efforts, such hortatory rhetoric is no substitute for real action, because voluntary efforts alone will not achieve our important policy objectives.

That is because, at its core, the DTV transition represents a government driven policy, not a purely market driven phenomenon. Therefore, it is imperative that government do more to create the conditions and environment for policy success. Failure to do so is unfair to consumers, taxpayers, and to the various high tech industries with a stake in the future of television.

With respect to the other half of today's hearing related to digital rights management generally, I welcome today's glimpse at some of

the issues raised by the increased digitalization of content and the repercussions raised by the success and growth of the Internet. Content creators have not only an understandable interest but also a right to the protection of their creative works from theft and infringement. Our society has long recognized and respected this right.

In the post-NAFTA, post-GATT economy, we have made an economic decision as a country that, as the many low wage, low tech manufacturing jobs migrate abroad, we should compete for high end, high tech, knowledge based jobs and markets in a global economy. Because such products are often ephemeral, we must protect such content from piracy, because our economic future depends in part upon such protection.

When content creators and owners are fearful of putting content into digital form and distributing it for fear of infringement and theft, the marketplace is unnecessarily depressed, and consumers either pay far too much for such content or can't receive it at all. Reassuring content creators and owners that the risk of such illegal conduct is minimal will help make such digital content more available.

We must recognize, however, that not all consumers are potential pirates, and not all subsequent use of digital content by consumers represents infringements. I think it is important to underscore the principle of fair use, and note at the outset that it is called fair use, not home use.

If I have a right to record information consistent with the fair use doctrine, I would hope that, for purposes of education especially, we ensure that information for the classroom and for academic research is not so encoded and locked up that libraries or schools cannot utilize such material efficiently to educate and enlighten.

I also hope that, while technologists work on broadcast flags or other content protective measures, we anticipate and construct a policy that is Internet friendly. If the digital era of the future will permit me to record certain content in digital form on a digital disk, it will seem quaintly analog to tell consumers that they then cannot use the broadband Internet to transmit that information instantly to a brother-in-law out in Seattle. Instead, they will have to put that disk in a FedEx envelope and spend $15 to get it out overnight.

The broadband Internet of the future should not be envisioned solely for commercial downloads. It must be interactive, and it must permit law abiding consumers the right to speak and communicate digitally as well.

I understand that current technology may not yet permit such a policy, but current discussions should not close the door on such Internet friendly, copyright respecting conduct and conduit. We must put faith in technology to solve some of the problems that technology itself poses.

I thank the chairman very much for allowing me the opportunity at a little extra length to make my opening statement.

Mr. UPTON. Recognize the chairman of the full committee, Chairman Tauzin.

Chairman TAUZIN. Thank you, Chairman Upton. Let me deeply express my appreciation to the witnesses today who will again help us to understand the gaps that still need to be closed in resolution of the very serious and complex issues of protecting digital content in this new age.

I want to particularly thank Chairman Upton, Mr. Dingell, Mr. Markey, and Mr. Boucher who has been participating with us, for their assistance in the roundtables. I think it is important that I go on the record and explain what we have been doing in these roundtables.

These roundtables have not been an opportunity for people to come and tell us what they think we ought to pass into law, quite the opposite. The roundtables have been our effort to help facilitate a discussion over the many disciplines involved in this transition to a digital television age to see if, in fact, we can encourage and help frame some of the debate going on in the marketplace where the agreements have to be reached and the technologies have to be developed and the standards have to be agreed upon and the actual industry-to-industry conversations need to occur if, in fact, many of these thorny issues are going to be settled outside of Congress having to mandate technologies and standards.

The roundtables have been extraordinarily successful, and I thought it was time, as did Chairman Upton, that we go on the public record to talk about just how much progress has been made, how close we are to finding resolutions on some of these thorny issues in the marketplace rather than through legislation, with the notion that, if agreements can be reached, if understandings on content protection and simultaneously protecting the right of consumers, who happen to be our constituents, in the exercise of their fair use of digital products in the same, although the vague way, they appreciate their capacity to copy products in the analog world and to use them in their home systems, etcetera, and that we can reach agreements on interoperability standards and agreements on transmission of the new digital signals in a way that when consumers buy these products, they are not going to wake up to find out that everything has been down-res'ed, which is an interesting term meaning intentional degrading of the resolution of the signal.

If consumers can be assured that, when they purchase equipment, they can plug it in and play it anywhere in America and that it is interoperable, whether it is a satellite system or a cable system or a telephone system or wireless broadband system that is delivering the signal, and the signal will reach them in the same quality form it was being produced—If all those agreements can be reached and we are left with the simple task of codifying some agreements, where necessary, and/or providing enforcement for those agreements so that all the players agree to live by the terms of those agreements, that will be the ideal best world.

The worst world will be if progress at these roundtables stops and the interdisciplinary, inter-industry discussions end without agreement, and we are asked instead to legislate on standards and technologies and content protection agreements.

The roundtables have been successful to date. They have been successful, because they have allowed members of industry to challenge one another and to do it in front of their own peers. They

have had to explain why they have yet to reach agreement and why they can't come to agreement, and why perhaps their agreement is holding up others from making their agreements and for this process to work.

I can tell you two things that are absolutely certain. We are determined to stick with our schedule. Congress mandated the broadcasters to be in the digital world by the year 2006. We are going to do everything in our power to meet that schedule. Second, we are going to do everything in our power from this committee level, and I know in the Congress, to make sure that consumers are the big beneficiaries of this transition.

As we enter this digital world where incredible new products are going to be made available, not just through the PC modems but through the empowering and enabling the television set in our homes to become conduits for this massive amount of new information, entertainment, education, commerce, even health care and who knows what else, that consumers will be the big winners and we take them through this transition in a way that doesn't burn them, doesn't unnecessarily cost them. We must ensure that they don't have to constantly purchase new equipment and new technology because we have suddenly made last year's model obsolete by some decisions we made here. That is going to be pretty critical.

The thing I most want to avoid and I suspect all of us on this panel most want to avoid, is a situation where those of you who have already committed yourselves so well to this process, who are beginning to make the big investments, the cable companies who are making the investments and upgrading their systems, the broadcasters who are putting out the digital transmission equipment and beginning to do high definition content, the studios that are beginning to do more and more high definition, digital content—I want to applaud CBS in particular because of the great efforts they have made, and urge the others to follow suit in creating and airing quality through high definition content.

I would hate to see those of you who are beginning to do that suddenly say that I had better stop, because progress has not been made on the other important issues about distributing these programs and making sure that technologies and electronic equipment are all designed around the agreements made to both protect content in a digital age and protect consumers' legitimate rights of fair use.

Those are tricky, thorny questions, but I am delighted you have all come to share the progress you have made. I have asked Chairman Upton and the members of our committee to make sure that this hearing does not drive you further apart but brings you closer together, and that everything we do accommodates the constant dialog that must occur if all the various elements of this tricky transition will come together in a way that consumers benefit and we stick to this timetable.

That is a healthy agenda, but I thank you for coming to help us work it out. Thank you, Mr. Chairman.

Mr. UPTON. Thank you, Mr. Tauzin. I would note for the record that any member that is not here, their statement, if they prefer, be entered into the record under unanimous consent. I know Mr. Dingell is one of those.

Recognize for an opening statement Mr. Boucher.

Mr. BOUCHER. Thank you very much, Mr. Chairman. I appreciate your focusing the attention of the subcommittee today on the co-equal need to protect copyrighted material against piracy and to respect and to reaffirm the time honored fair use rights of the consumers of that same material.

With the arrival of content in digital form and with a deep penetration of Internet usage, the striking of a reasonable balance between the rights of copyright owners and the rights of the users of copyrighted material has become both more urgently needed and more difficult to achieve.

This hearing evolves from our earlier discussions on facilitating the digital television transition. An element of those discussions was the need to protect from unauthorized copying and from uploading to the Internet the digital TV transmission of high value programming. It is essential that this protection be provided so that program originators will release their high value material for digital television broadcast.

The transition to digital television will never be truly effective if the most desired programs are not available. So copyrighted programs must be protected, but there is a co-equal need. The time honored fair use right of the consumers of digital material to make recordings for noncommercial personal use and for personal convenience must be respected and must be specifically affirmed.

The fair use right of consumers to convey digital material they have lawfully acquired among a wide range of digital devices in the home setting and beyond the home setting to other personal spaces, including the car and the personal office and anyplace to which that consumer of digital information may travel, must also be respected and observed.

This committee, Mr. Chairman, is an excellent forum for addressing these challenges and striking the essential balance between copyright owner rights and user rights that are so essential in this digital era. There is a right way and a wrong way to protect content in digital TV transmissions.

The right way is to look to the affected private sector entities for a technical solution, and on that front truly impressive progress is being made. The Broadcast Protection Discussion Group of the broader Copy Protection Technical Working Group is comprised of digital equipment manufacturers and the major motion picture studios.

The Group has already developed a standard for the protection of digital television signals that arrive in the home by means of cable TV or by means of satellite. These signals pass through a set top box that can both protect the content from unauthorized copying and allow home recording for personal use in appropriate, clearly defined circumstances.

That same Working Group is now very close to agreeing upon a standard broadcast flag for the protection of programming that is delivered by digital television broadcast over the air to be received by antenna or by rabbit ears.

That standard would also honor the fair use right of television viewers to make copies for personal use, and work is continuing by another group to address the problem of the so called analog hole

through which a highly technical and cumbersome process can provide an avenue for uploading of material to the Internet by means of the digitization of analog content. A watermark standard to close the analog hole is in development by another working group.

I want to take the opportunity of this hearing today to congratulate the Working Group companies on the impressive successes that they are achieving. I also commend them for respecting the fair use rights of television viewers as the various technical standards have been developed and approved by the Group.

The Working Group approach is the right way to proceed, and it is achieving solid results. I will be interested to learn from witnesses today and in other future forums the extent to which the protection of content delivered over cable and satellite, which has been achieved, and the protection of over-the-air delivered content, which the Group is on the verge of achieving, is sufficient to persuade the studios to release their highest value content for digital television transmission.

The wrong way to proceed is for Congress to act prematurely, and I am concerned by all of the conversation that has been directed in the last month to an approach recommended in the Senate, which would clearly have the Congress act in a premature fashion.

Legislation has been introduced in the Senate that would have the government develop technical content protection standards. The fair use rights of consumers would not be guaranteed through that measure.

There is every probability that a government standard would impede the functionality of digital receivers, players and recorders. This is clearly the wrong approach, and the progress being made by the private sector Working Group renders that approach not only inappropriate but also clearly unnecessary.

After private sector standards are developed, there may be a role for the government to assure that devices employ the standard. At that time, we can be assured that the functionality of players, receivers, and recorders will not be impeded.

We can be assured that consumer fair use rights will be protected, and that copyrighted material will be safeguarded. Mr. Chairman, I suggest that we not act until we have received those assurances.Thank you again for conducting this hearing, Mr. Chairman, and a warm welcome to all of our witnesses.

[The prepared statement of Hon. Rick Boucher follows:]

PREPARED STATEMENT OF HON. RICK BOUCHER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF VIRGINIA

Thank you, Mr. Chairman for focusing the attention of the Subcommittee on the co-equal need to protect copyrighted material against piracy and to respect and reaffirm the time honored Fair Use Rights of the consumers of the same material.

With the arrival of content in digital form and with a deep penetration of Internet usage, the striking of a reasonable balance between copyright owner rights and the rights of the users of copyrighted material has become both more urgently needed and a great challenge to achieve.

This hearing evolves from our earlier discussions on facilitating the digital television transition. An element of those discussions was the need to protect from unauthorized copying and uploading to the Internet the digital TV transmissions of high value programming.

It is essential that this protection be provided so that program originators will release their high value material for digital TV broadcast. The transition to digital

TV will never be effective if the most desired programs are not available. And so, copyrighted programming must be protected.

But there is a co-equal need. The time honored Fair Use Right of the consumers of digital material to make recordings for non-commercial personal use and convenience must be respected and specifically affirmed. The Fair Use Right of consumers to convey digital material they have lawfully acquired among a wide range of digital devices in the home and the extended personal setting including the car, the personal office and places to which the person may travel must be respected and observed.

This Committee is an excellent forum for addressing those challenges and striking the essential balance between copyright owner rights and user rights in the digital era.

There is a right way and a wrong way to protect content in digital TV transmissions.

The right way is to look to the affected private sector entities for a technical solution. And on that front impressive progress is being made. The Broadcast Protection Discussion Group of the broader Copy Protection Working Group is comprised of digital equipment manufacturers and the major motion picture studios.

The Group has already developed a standard for the protection of digital TV signals that arrive in the home by means of cable TV or by satellite. These signals pass through a set top box that can both protect the content from unauthorized copying and allow home recording for personal use in appropriate defined circumstances.

The same Working Group is now very close to agreeing upon a standard broadcast flag for the protection of programming delivered over the air to the home for receipt by an antenna or by rabbit ears. That standard would also honor the Fair Use Right of TV viewers to make copies for personal use.

And work is continuing by the group to address the problem of the so called analog hole which through a highly technical and cumbersome process can be an avenue for the uploading of material to the Internet by means of the digitization of analog content. A watermark standard to close the analog hole is in development by the Working Group.

I congratulate the Working Group companies on the impressive successes they are achieving. I also commend them for respecting the Fair Use Rights of TV viewers as the various technical standards are approved by the Group.

The Working Group approach is the right way to proceed and it is achieving solid results. I will be interested to learn from our witnesses today the extent to which the protection of content delivered over cable and satellite which has been achieved and the protection of over the air delivered content which the Group is on the verge of achieving is sufficient to persuade the studios to release their highest value content for digital TV delivery.

The wrong way to proceed is for Congress to act prematurely. A measure has been introduced in the Senate which is premature. It would have the government develop technical content protection standards. The Fair Use Rights of consumers would not be guaranteed.

There is every possibility that a government standard would impede the functionality of digital receivers, players and recorders.

This is clearly the wrong approach and the progress being made by the private sector Working Group renders it not only inappropriate but also unnecessary.

After private sector standards are developed, there may be a role for government to assure that devices employ the standard. At that time we can be assured that the functionality of devices will not be impaired, that consumer Fair Use Rights will be protected and that copyrighted material will be safeguarded. We should not act until we have those assurances.

Mr. UPTON. Thank you. Recognize for an opening statement Mr. Stearns, the vice chairman.

Mr. STEARNS. Thank you, Mr. Chairman, and I want to congratulate you for holding this hearing to examine content protection in the digital era.

Of course, I want to commend Chairman Tauzin for his tireless leadership in conducting several TV roundtable groups. As he has pointed out, they have been very helpful.

As we discuss content protection in the digital era, the groups with the most to gain and lose from the digital transition are copy-

right holders of digital content and manufacturers and information technology companies that facilitate such content.

For instance, the average cost of making and marketing films is now about $80 million a film. Collectively, however, the copyright industry generates almost $80 billion abroad, and such investments certainly need protecting. As such, intellectual property laws give creators the incentive and protection they need to make their works available to consumers.

Mr. Chairman, in passing the Digital Millennium Copyright Act, Congress updated U.S. copyright law for the digital age by affording copyright owners protections, while establishing fair use for technology in a digital environment. Digital media also creates a new opportunity for new forms of copyright infringement, and new concerns about fair use of copyrighted works and other long established copyright principles.

A recent article in a Wired magazine, May 2002, highlights a man named, "Lord of the Borrowers." He used the Internet and peer to peer applications to accumulate nearly 2,500 movies, video, and software titles, and in turn contributing to the illegal transfer of copyrighted works, including 3,000 songs and movies such as "Harry Potter" and "A Beautiful Mind." Such actors are no different than those who walk into Blockbuster's movie rental and steal merchandise.

In this article it talks about this man in his home. He has music piped into his bathroom, his living room, his kitchen. Every corner of his home has music, with a 28-speaker stereo system that cycles 3,000 songs ranging from 200 from Elvis Presley tunes and all the early Beatles to classical, hip-hop, blues and concert, all that he bootlegged, even Axl Rose doing "White Christmas."

He says, "I had enough music to run a radio station," he brags. "I could let it play for weeks and weeks, and it would never run out." He hasn't spent a dime, and his only real connection comes in the form of a cable modem—"Lord of the Borrowers."

Mr. Chairman, I would like unanimous consent to put this article in the record.

Mr. UPTON. Without objection.

Mr. STEARNS. As a result, the prevention of unauthorized copying of digital work has grown in importance in such technologies being continually developed and improved upon by media and electronic industries. However, there remains several outstanding issues regarding technology, technical industrywide solutions.

The parties appear close to reaching agreement pertaining to broadcast flags in order to prevent broadcast programs exhibited on over-the-air TV stations from being redistributed without authorization. Additionally, protecting digital content in the analog format, or plugging the analog hole, serves as a means of protecting intellectual property.

While these two issues appear to be imminently resolved—immediately resolved, the parties seem far from reaching consensus on how to treat peer to peer applications which allow for distribution of files across the Internet without the need of a centralized server.

Nevertheless, as pointed out by the chairman, we have the opportunity to solve these problems, and I think the private industry is the best way to solve these at this point, and not have mandates

from the Federal Government. As so often happens, the Federal Government sometimes strangles innovation.

Finally, Mr. Chairman, while we are quick to protect the investment of content owners, we must balance it out to be doubly sure we protect the rights of consumers. It is imperative that all parties continue to recognize consumers' rights to personal, noncommercial use of the legally purchased copyrighted materials.

Additionally, neither Hollywood nor manufacturers would be profitable without consumers. As such, we need to respect consumers' investment in such technology and ensure that their investments are not made obsolete with efforts to protect content.

Mr. Chairman, I again commend you for your hearing.

Mr. UPTON. Ms. Harman.

Ms. HARMAN. Thank you, Mr. Chairman. I have a statement for the record, but just want to summarize with a few points.

First of all, the issues we assess today have a huge impact on the digital world, and I am trying very hard to wrap my aging analog brain around them. Second, this is an excellent panel and a stellar group in the first row right behind it, and their spectrum of views is most welcome.

Third, what we do and, just as important, what we do not do really matters in this case. We have had a few hearings lately that I thought mattered a bit less than this one. This one will really make a difference.

So I would just set out a few principles we ought to think about. The first is that government should do no harm. That has been said often, but here we are in a position to do a great deal of harm if we do the wrong thing.

The second is that the transition to digital is not just a question of supply. It is a question of demand, and the demand will not be there if high value content is not there, and high value content will not be there if we don't protect intellectual property. So we had better get that part right.

The third point is that the private sector has a great deal to offer here. There are market mechanisms and, as we have heard, cross-industry mechanisms that can do a lot of the hard work, and perhaps do it better than we can do it.

Fourth, government has a tendency to operate with a sledge hammer. In this case, operating with a scalpel is absolutely required.

So I look forward to the testimony today. I have got some questions for some of the witnesses. This is going to take hard work. We are going to earn our pay getting this thing right, and I look forward to being a part of the bipartisan solution on this committee. Thank you, Mr. Chairman.

Mr. UPTON. Thank you.

Mr. Shimkus.

Mr. SHIMKUS. Thank you, Mr. Chairman. I know this is a tough issue. I am going to listen to the panel. I just remind people who have been before this committee before, my first experience is with my wife, who is a church organist, when she went through the reams of music and took out all the Xeroxed copies of music and threw them in the trash can because she wanted to respect the intellectual rights of the folks who wrote the music.

It was not a positive thing for the members of the church to see, but it was the right thing to do, because those people who write the music, who prepare that, need to be compensated if we continue to want artists to flourish. But this is a hard issue. You all are the experts. We are going to ask a lot of questions. We look forward to your testimony.

I yield back my time. Thank you.

Mr. UPTON. Mr. Green.

Mr. GREEN. Thank you, Mr. Chairman. I want to commend you for holding this hearing today, but I want to start out by commending Chairman Powell and the FCC for their recent action on the HDTV transition. His letter outlining voluntary steps to broadcasters, cable companies, and consumer electronics folks each need to take—and the steps each need to take was crucial to speeding the digital transition.

The subcommittee, I think, can and will impose a mandatory solution to move the digital transition forward, but I hope we do not have to go down that path. For all parties interested in the DTV transition, I fully support the goals outlined in Chairman Powell's letter. Then I want to see the goals implemented in a timely manner through good faith and cooperation, hopefully, of all the parties. However, if these goals cannot be reached on a voluntary basis and there is continuing dispute, then I would share in any action initiated by Chairman Powell.

Mr. Chairman, now I want to talk about the public policy purposely excluded from the Powell letter. The missing component was anything to do with digital rights management or DRM. DRM is the protection of digital content that flows to computers, high definition TVs, and various home entertainment systems.

Why is DRM important? Because without it, we have no protection for copyrighted works. Creative minds should be able to profit from their creations through the copyright system. Many American consumers, though, feel that digital is free and can be obtained through the many peer to peer sites operating around the world.

The idea that this digital content is free or should be free will be a difficult mindset to break. However, it now goes directly to the heart of the DRM problem. My constituents have now placed a value on this type of content, and that value is free. Rightly or wrongly, declining music CD sales seem to indicate that consumers are no longer willing to pay $12 for a CD. So how do we work this consumer preference into the context of DRM?

One approach is the Hollings bill, and I oppose that approach. It is overly broad and penalizes consumers who have never or will never obtain illegally copied digital content. Piracy is a serious issue, and it should be addressed, but I am very hesitant for Congress to get too involved.

My hope is the broadcasters, content providers, and consumer electronics folks will move to develop a solution among themselves. It must be targeted, and it must only be in response to the new content distribution methods from the movie and the music industries. The software industry is already marketing their products over the Internet with full DRM protection, and they should be the model.

Mr. Chairman, at the end of the day, it is the consumer who has to benefit from any changes or agreements on this issue, and I hope to support legislation that has broad industry support and a tightly defined focus.

Again, I thank the chairman for this hearing today.

Mr. UPTON. Thank you.

Mr. Bass.

Mr. BASS. I thank the chairman for holding this hearing, and I also want to make note of the fact, this is actually my first hearing on this subcommittee, and it is a real honor to be here, especially with my friend from Massachusetts. Now we have a chance of really bringing a well deserved recognition to the Red Sox and the Celtics and the Bruins and, of course, our Super Bowl Patriot champions.

Indeed, Mr. Chairman——

Mr. UPTON. With a Michigan quarterback, I want you to know.

Mr. BASS. I am also pleased to be participating in this hearing because of its significance. Digital content protection, as many have said before, is not a simple issue. It is not going to be resolved through a formula or a Federal law or regulation that will resolve this issue.

I think, although it is best that it be left to those who have created and those who will employ the digital infrastructure, content protection and so forth, and understand the complexities best, I also feel that Congress needs to ensure that excess consumer costs and unreasonable inhibition on personal use are kept to a minimum, as has been said by other members of this subcommittee.

These are very complex, and I am looking forward as the newest member of this subcommittee to gaining a better understanding and being an active participant in the resolution of these issues, and I yield back.

Mr. UPTON. Mr. Luther.

Mr. LUTHER. Thank you, Mr. Chairman, and I also want to thank you for holding this important hearing. As has been mentioned, the crux of the issue before us is really twofold. First, do market forces provide adequate incentives for the private sector to form constructive partnerships between content providers, the information technology industry, and electronics manufacturers to develop commercially viable encryption technology where the property rights of content providers are adequately protected, or do market forces make it difficult for all of the relevant industry players to come to some sort of meaningful consensus?

Of course, were market forces sufficient, then Congressional action would be largely unwarranted. I am interested in reviewing the perspectives of our panelists on this issue.

Second, if in fact market forces are insufficient in creating incentives for such technological innovations, the next question becomes exactly how forceful of a nudge does the private sector require from Congress? In this regard, I think we need to better understand to what degree a Congressionally mandated technological standard would inhibit the high tech community from adapting to a rapidly and ever changing digital environment.

Do the various parties require only strict government enforcement of existing copyright law or should the government step in

and involve itself in determining the actual baseline standard by which digital technology must abide?

It goes without saying that our deliberations today should ultimately serve the American consumer. After all, we are trying to aid the development and promise of digital television and facilitate the application of high speed data services, both of which should ultimately benefit the average citizen.

As long as keep the public in mind and avoid focusing on potentially factional disputes, I believe that our committee can be helpful in ushering in the promise of the digital age.

Thank you, Mr. Chairman, and I yield back the balance of my time.

Mr. UPTON. Mr. Davis.

Mr. DAVIS. I am eager to hear the panel. I ask unanimous consent my statement go in the record.

Mr. UPTON. All members have that right. Thank you.

Ms. McCarthy.

Ms. MCCARTHY. Thank you very much for holding this hearing, Mr. Chairman, and I would ask unanimous consent that my statement be placed in the record, so we can get on to the substance at hand and the panels that have come before us today.

Mr. UPTON. Extra credit. Thank you.

Mr. Terry.

Mr. TERRY. I will submit my statement, since I have an eight o'clock flight.

Mr. UPTON. Tomorrow or today?

Mr. Sawyer.

Mr. SAWYER. I will submit mine as well, Mr. chairman.

Mr. UPTON. Ms. Eshoo.

Ms. ESHOO. I am not leaving until 7:30 tomorrow morning.

Thank you, Mr. Chairman, and first of all, welcome to our very impressive panel that is here today, and most especially to Joe Kraus, who is the founder of Excite.com. He is from Palo Alto, which is the heart of the most distinguished Congressional district in the country, and he has made significant contributions to the Internet age through his companies and now through the organization that he founded, DigitalConsumer.org. Thank you for being here, and we are proud that you are a witness.

This hearing gives our committee the opportunity to discuss the status of protection and distribution of digital content. Various technology associations have called for a national broadband policy with goals of having broadband in 100 million homes in 10 years. If we are going to achieve these lofty goals, we need to examine what the barriers are that prevent consumers from getting the content they prefer.

At times, the promise of broadband and digital television seem really farther off than we would have hoped. I wish myself I had at least a quarter for every time we have had a hearing here on digital TV and have all the reports from the industry, but we can attribute at least part of the lagging pace, in my view, to the complexities that are associated with protecting content.

So finding a solution to this problem, in my view, is not going to happen quickly, and I think that it really necessitates the concentrated efforts of all the affected industries. If there was ever a

market that would force companies to come together and find a solution, I think this is it.

Content creators lose hundreds of thousands of movies to illegal downloads over the Internet, and the software industry loses $11 billion annually to piracy. So there is one heck of an economic incentive in this for people to come together. This is a huge problem, and the industries, obviously, have a vested interest in solving it.

The economic impact has resulted in the formation, as several of my colleagues have pointed to, of working groups that have used the combined expertise of many engineers to find methods of protecting digital content. I think the government should be monitoring that progress very closely from the sidelines, rather than inserting itself into the process.

Legislation that could result in a single technological mandate brings with it numerous problems. First, it will stifle, in my view, the progress made by the inter-industry working groups by imposing unnecessary bureaucratic procedures and injecting the Federal Government into engineering decisions. We are not good at that. We don't know how to do that.

Second, once a particular technology is selected through this process, it could create a single point of vulnerability, making it susceptible to hackers and cumbersome to correct.

Finally, rather than finding a workable market solution, an imprudent mandate could require millions of dollars in engineering changes that, in the end, would obviously be passed on to consumers.

So let me say last that I think that Mickey Mouse and Silicon Valley have to create a yellow brick road to hold hands and walk down together, and I look forward to the testimony that we are going to hear today. I think it is going to be very, very important for us to, obviously, take into consideration as we look to see what policies, if any, the Congress should be making in this area. Thank you.

Mr. UPTON. Thank you. That concludes the opening statements. You can tell, because of the interest—appearance of the members as well as the length of the statements, the keen interest on this topic, and we are delighted to now let the witnesses speak.

[Additional statements submitted for the record follow:]

PREPARED STATEMENT OF HON. TOM DAVIS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF VIRGINIA

There were two salesmen driving around in the country when their car broke down. It was late in the evening, so they decided to walk over to a nearby farmhouse and ask if they could spend the night. A recently widowed woman answered the door. When they told her of their plight, she told them it would be inappropriate to let them sleep in the house since she had just recently lost her husband. However, she did offer to let them sleep in the barn.

About a year later, the two salesmen were driving in the same vicinity when one turned to the other and asked, "Do you remember the time that widow let us sleep in the barn?"

His partner replied that he did.

"Did you sneak up to the house that night?"

His partner, now blushing, replied that he had.

"And did you give her my name?"

Once again, the other partner confessed his guilt. "Why do you ask?" he replied.

"Well," said the first salesman, "she died last week and left me $1 million."

The moral of this story: take credit for your work. That is the central issue we are discussing today. The creators of music and video products are struggling to

maintain a system where they receive just compensation for their products in a technological environment where that task is increasingly difficult. Digital technology has made it extremely easy to "share" these files via the Internet. I have been shown a plethora of peer-to-peer sights on the net where one can go and download content for free. Obviously, this poses a severe threat to the recording, movie, and broadcasting industries.

At the same time, digital technology holds great promise for consumers. In our efforts to protect content, we must be careful not to throw the baby out with the bath water. I will admit my first reaction to proposed legislation that would have the government step in with a solution was not favorable. However, this is a complex issue, and I want to ensure that we maintain an environment as conducive as possible to innovation. I do not have the technological answer to the question of how to best protect digital content. However, I do not want to take steps that prevent those with the ability to create such a solution from doing so.

I am looking forward to the testimony today, and I am thankful to Chairman Upton for calling this hearing to give the industry stakeholders an opportunity to present their case. This afternoon will be an educational experience for us all, and will hopefully guide us in the right direction for any necessary legislative action.

PREPARED STATEMENT OF HON. LEE TERRY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEBRASKA

Thank you Mr. Chairman and thank you for holding this hearing today.

It is well understood that as we move forward into the digital age, consumers will want the latest and greatest forms of technology and the content to go with it. Digital content has become the content demanded by consumers. DVD['s are one of the most popular segments of the entertainment industry and are considered to be the fastest growing consumer electronics product ever. Digital TV and HDTV programming are starting to role out and become available to consumers in many markets. As consumer demand for Digital TV and HDTV increases, it is imperative that their content be protected from piracy. I think this can best be done with a type of technology that is not selected by the Government.

There will always be men and women who feel that all content should be free and who will spend their time doing their best to hack the most sophisticated encryption programs. I believe that the people who hold this belief will never change this view. That is why all the industries affected by the need for DRM solutions must come together to sort out their problems and find ways to solve them. The revenue lost from content piracy is staggering, and losses increase annually. I have heard loss figures ranging from $10 Billion to $15 Billion. This is money that deserves to be in the hands of those who produce the content, not of those who steal it.

I am a firm believer in free markets and as such I also feel that industry experts can make better decisions on how to protect their goods from piracy than the Federal Government can. The Government should not pick winners and losers. We should not mandate a technology that could be obsolete within a year of our mandate.

Chairman Tauzin, you should be commended for bringing industry together for round-table discussions. These discussions are very important to finding the solutions to the transmission of free, over-the-air broadcasting, the analog hole, and peer-to-peer file sharing. Through these discussions, the solution to these problems can be found. If the Government were to mandate a solution, there could be no fruitful discussion that might lead to better ways and different forms of technology that would be best to protect the content providers from piracy.

I cannot believe that IT companies or the IT industry would support piracy. They have as much to lose as anyone else. Furthermore, I have seen these IT companies in action, and have witnessed their desire to be at the table to discuss the problems facing each industry and the various solutions that can be given to solve their problems.

There are also a host of companies that are spending their time and capital trying to solve the Digital Rights Management problem. Each one should be commended for their efforts. Companies like SealedMedia, who work to provide Digital Rights Management technology for organizations requiring persistent control for digital Internet content. SealedMedia's solution is unique, as its DRM technology is being developed to support multiple media formats. However, if the Government mandates a technology, we might be hindering SealedMedia's ability to innovate and come up with solutions that the Government and affected industries have not considered. The type of thinking that is needed to find a solution to the DRM problem is one that provides a series of different solutions in the short term with the capabilities

to provide additional protections in the future. Any thinking that moves towards mandating standards today, while well intentioned, is shortsighted.

DRM solutions and innovations should not be frozen by Governmental mandates. DRM solutions should protect content and the distribution of digital media in all forms. In addition, DRM solutions should be allowed to flourish in as many forms as necessary to accomplish the end goal of ending piracy. The Digital Rights Management issue cannot be solved with a one-size-fits-all approach. What works well for protecting content on a DVD might not work well for protecting broadcast content. These affected industries should be left to solve the DRM problem with minimal Governmental intervention. Rather the Government should focus on giving the DRM solutions all the enforcement protections they might need.

I thank you Mr. Chairman and I look forward to the testimony from our witnesses today.

PREPARED STATEMENT OF HON. ELIOT L. ENGEL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. Chairman—I want to thank you and the panelists for holding this hearing. It is vital for the Congress to do a better job of understanding the nuances involved in technology and the law. Before us today is literally what the future of copyright protection should be.

There has been a great deal of discussion regarding legislation introduced by Senator Hollings. Some have said that it specifies a standard, but this is not true. I have reviewed the legislation and does no such thing. It does authorize a federal agency, the FCC, to do so. I'd like that point to be clear, because agencies can change regulations far easier than Congress can change laws.

The need for standards is so important, so evident, and so prevalent, that we often do not see it before our very eyes. In 1901 Congress created the National Bureau of Standards, which today is the National Institute of Standards and Technology. One of the very first challenges the Bureau of Standards faced dealt directly with health and safety of every citizen within the United States. The need for standards was dramatized in 1904, when more than 1,500 buildings burned down in Baltimore, because of a lack of standard fire-hose couplings. When firefighters from Washington and as far away as New York arrived to help douse the fire, few of their hoses fit the hydrants. The Bureau of Standards had already collected more than 600 sizes and variations in fire-hose couplings in a previous investigation and, after the Baltimore fire, was a key figure in setting a national standard.

Today we are concerned about the standards to protect the intellectual property of movies and music. This doesn't rise to level of importance of universal fire-house couplings, but it is nevertheless important. Though a person's life is not endangered by piracy, harm nevertheless occurs. What your job—and I speak to the panelists now—what your job is today is to try and convince us whether or not the Congress or Administration needs to intervene.

I have heard good arguments on both sides and I have heard some bad arguments on both sides. So this is your opportunity to educate me and influence my opinion.

PREPARED STATEMENT OF HON. JOHN D. DINGELL, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

The transition to digital television is, without question, one of the thorniest issues this Subcommittee has had to deal with. Its success hinges on the actions of a disparate group of industry players, many of whom historically make their living competing against one another. Now these companies must find a way to work together for the good of the whole. It is a very tall order, as we've learned from the DTV roundtable discussions led by Chairmen Tauzin and Upton, but I remain hopeful it can be done.

Some believe the transition will not succeed unless more high value, high definition television programming is produced by the broadcast and cable networks. Others say that the key to success lies in making sure broadcasters meet the digital TV buildout deadlines. Still others say cable and satellite systems must be made to pass through high definition content when it is available, and that these distribution systems must be compatible with any television display. And, of course, there remains a statutory conversion date by which this great experiment must be completed.

In my view, all of these claims have merit. But, in the end, success will be measured in terms of whether consumers ultimately enjoy a higher value television product than they do today. And I am convinced that day will come. It may not happen

magically on December 31, 2006. In fact, consumers may be watching digital television signals reconverted to display on their old analog sets for many more years beyond that. But eventually, consumers will migrate to digital sets, so long as they perceive value in doing so.

So where does the value come from? I believe you need to look no further than the many hearings we've held on this subject over the past twenty years. High Definition Television, or HDTV, was part and parcel to this digital experiment. That idea didn't originate with me or the other Members serving at the time. It was the simple commitment made by the broadcast industry when it pitched the idea of receiving a second channel. In fact, as recently as 1996, the National Association of Broadcasters (NAB) maintained that TV stations "will use this spectrum for HDTV, pure and simple."

It is true that the 1996 Telecommunication Act permits flexibility to offer ancillary video, data, and other non-high-definition services on this digital channel. But my sense is the tide may be turning on these plans for a number of reasons. First and foremost, there is a glut of digital channels out there, both on satellite TV and digital cable. Simply adding more to the mix may not make good sense if few people are watching.

Instead, broadcasters may need to distinguish their programming. One way is by telling better stories. But another way is to make their content look, sound, and feel superior to other programming available to viewers. They certainly have the tools to do the latter, and I hope they're beginning to see the wisdom of that. Several networks are already putting more and more HDTV on the air, and competition from cable networks like HBO, Showtime, HD-Net, and Discovery will only increase the competitive pressure to do so.

Now it is true that more HD programming does not necessarily mean the viewer will automatically see it. Cable and satellite companies must carry the programming, and do so in a way that is compatible with any and all digital television displays.

But, on this point, broadcasters may hold the keys to the kingdom. If they put on more HDTV, differentiating their programming, the signs point to tremendous consumer demand, and cable systems will be forced to respond. Some have started to negotiate carriage agreements in earnest, and the pressure from satellite will be very important as well. We're already seeing DirecTV putting more HD programming on its system. In fact, I understand they're adding Showtime HD this month at no additional cost to subscribers, and that trend will likely continue.

The hurdle, of course, to putting on more high value, high definition digital programming is the very real concern of content owners over piracy of their works. We've been down this road many times before as technology evolves. And it's pretty clear that the best result occurs when competing interests in industry work together to find the right solutions. I am not convinced that government has the tools or the expertise to make the right judgments on these matters.

Certainly there are some in the industry who would prefer a legislative approach. And I note that Senator Hollings has introduced legislation that brings this debate into sharper focus. But the bill as drafted is unbalanced, stunting the growth of one industry in order to protect the growth of another.

Imagine if the motion picture industry had won its fight against the VCR in the early 1980s. At that time the industry believed VCRs would provide the death knell to first run motion pictures. Now, of course, sales of VHS tapes actually exceed box office receipts each year. But if that notion had prevailed in the Supreme Court, the VCR would have been outlawed and the benefits to *both* the film industry and the consumer would never have been realized. As the industry learned then, the answer is not to limit technological advances. Rather, it is to embrace them and adapt business strategies to exploit their inherent value.

While I believe the industry is best poised to negotiate the technical details of digital rights management, the government certainly does have an ongoing and important role in protecting consumers. That means making sure reasonable consumer expectations are met. That goes for recordability and playback on a variety of devices throughout the home. But, *just as important* are reasonable consumer expectations about the functionality of the new equipment they already have bought. Over $5 billion of high definition equipment has been sold to date, and that number is projected to soar to $9 billion by the end of this year.

This equipment was bought with the promise of delivering high definition pictures. In my view, the proposals made by some industry players to downgrade the resolution of programs delivered to this new equipment are unfair, counterproductive to the transition, and possibly unlawful. Consumers should not be left holding the bag. Content owners and equipment manufacturers should find technological solutions to close the analog hole and address "in the clear" transmissions—

and the sooner the better—so the industry's exposure to piracy is limited *going forward*. But to do so in a way that makes obsolete, or even degrades the functionality of, existing products should be a nonstarter.

Mr. Chairman, again I commend you for tackling these difficult issues today, and I look forward to continuing our work together to meet the challenges they present.

Mr. UPTON. This is a first that we are actually going to have a video conference in this hearing room, and our first witness will be Mr. Peter Chernin, President and CEO of News Corporation, who is actually in Los Angeles, to be followed by Mr. Richard Parsons, Co-Chief Operating Officer of AOL Time Warner, Dr. Paul Liao, Chief Technology Officer of Panasonic/Matsushita, Mr. Larry Blanford, CEO of Philips Consumer Electronics, Mr. Larry Jacobson, President and Chief Operating Officer of RealNetworks, Mr. Assaf Litai, Founder and Acting CEO of Vidius, and Mr. Joe Kraus, Co-founder of DigitalConsumer.org.

We will start long distance with Mr. Peter Chernin. Peter, welcome. Thank you for appearing. All of your statements are all made part of the record. If you could also try to abide by the 5-minute rule, that would be truly appreciated. Thank you.

Mr. Chernin.

STATEMENTS OF PETER CHERNIN, PRESIDENT AND CHIEF OPERATING OFFICER, NEWS CORPORATION; RICHARD D. PARSONS, CO-CHIEF OPERATING OFFICER, AOL TIME WARNER INC.; PAUL F. LIAO, CHIEF TECHNOLOGY OFFICER, PANASONIC/MATSUSHITA ELECTRIC CORPORATION OF AMERICA; LAWRENCE J. BLANFORD, CEO, PHILIPS CONSUMER ELECTRONICS; LARRY JACOBSON, PRESIDENT AND CHIEF OPERATING OFFICER, REALNETWORKS; ASSAF LITAI, FOUNDER AND ACTING CEO, VIDIUS; AND JOE KRAUS, CO-FOUNDER, DIGITALCONSUMER.ORG

Mr. CHERNIN. Thank you, sir. Good afternoon, Mr. Chairman, Ranking Member Markey and members of the subcommittee. My name is Peter Chernin, and I am the President of the News Corporation. Thank you, Mr. Chairman and Ranking Member Markey, for inviting me to participate in today's hearing by video conference.

I would like to take this opportunity to applaud all of you for your leadership in seeking to ensure copyright protection for content providers in the digital age.

First, I would like to point out that, although some content providers have been accused of being backward thinking and anti-technology, I am proud to be aggressively pioneering this committee's brand new video conference technology.

As an industry, we are in a very exciting but challenging time. The rise of the broadband Internet and other digital technologies is providing us with tools of unprecedented flexibility that we are only beginning to fathom. News Corporation is already harnessing these technologies and distribution methods on an unprecedented scale.

For example, over 50 percent of United States television households are able to receive Fox programming in digital form, including the first ever all digital, wide screen Super Bowl earlier this year. We have released hundreds of Fox movies on DVD, and will soon be releasing Fox movies in the high definition digital DVHS

prerecorded format. However, we strongly believe that the great promise of broadband Internet and other digital technologies can be fully achieved only if protections are in place to safeguard our investment in the development and distribution of content.

Recently, we have seen more and more Napster-like programs, such as Gnutella and Morpheus, which facilitate the downloading of motion pictures and television programming without authorization or compensation to the copyright holder.

With the advent of broadband, it is only a matter of time before these file sharing technologies and other emerging mechanisms have a serious impact on the economic viability of the motion picture and television broadcast industries. However, I cannot emphasize enough that it will not be just the media companies that will be hurt economically if this piracy continues.

Rampant piracy will hurt all businesses and consumers and individuals that make their livelihood from the making, redistribution, and licensing of content.

We are working to solve the piracy problems ourselves by distributing our content through media that are reasonably secure. For example, pay cable, direct broadcast satellite, and DVHS are digital distribution channels to the home that provide a basic level of security for digital content.

In each of these areas we are able to protect our content either through contractual arrangements with cable and satellite providers or through a licensing process using commercially available digital rights management, DRM, technology for the Internet. However, I want to focus for a moment on the one major digital distribution method that does not currently offer adequate protection, digital over the air broadcast television or so called DTV.

Presently, cable and satellite have a competitive advantage over DTV due to the closed nature of cable and satellite systems that allow for encryption and, thus, for the protection of content. DTV, on the other hand, is not encrypted for public policy reasons and, therefore, does not enjoy these same protections. However, we have identified a technological solution that works without encrypting DTV.

It involves the insertion of a broadcast flag in DTV signals that can be detected upon receipt by DTV processing equipment. Once detected, the receiving device would protect the content from being redistributed on the Internet. However, this technology would have no impact on the ability of individuals to make personal copies of their favorite television shows.

Mr. Chairman, as you are undoubtedly aware, there has been an ongoing effort for the last several years to negotiate the protection of all digital audio-visual content delivered to the home network, including but not limited to DTV. These negotiations, often referred to as the 5C negotiations, have made substantial progress with regard to the protection of pre-recorded and conditional access delivered content such as pay per view, video on demand, and pay and basic cable, and we at Fox applaud that progress.

I am also pleased to note, Mr. Chairman, that over the past few weeks significant progress has been made between our industry and the IT and consumer electronics industries on solving the prob-

lem of protecting free, over-the-air digital TV broadcasts through the use of a broadcast flag.

I have described in my written testimony the details of the status of these negotiations. This positive movement could not have occurred without the substantial involvement of this subcommittee and other Members of Congress who have put pressure on all of us to solve this problem.

I would also like to praise Mr. Parsons of AOL Time Warner and Mr. Barrett of Intel for their joint statement on principles on copyright protection that specifically mentioned the need to fix the DTV copyright problem.

Private sector efforts such as these are important toward reaching our stated goals, and should be commended. However, even if we do reach a private sector agreement, which I am confident we will, targeted legislation will still be necessary in order to ensure a level playing field for all the parties.

Just as we are striving to protect our content when distributed by DTV, we are confronting two other mechanisms that still threaten the security of content. Into the foreseeable future, we will still need to deliver content to consumers in an analog form. After all, hundreds of millions of television sets can only accept content in that form.

Unfortunately, analog content can be easily converted into an unprotected digital form that can in turn be copied or redistributed without authorization. This is the so called analog hole. We are developing a plan to plug the analog hole. It includes harnessing watermark technology that will prevent such conversions from being used to avoid content protection obligations.

We hope to secure, again, inter-industry consensus on such a proposal, and we welcome your assistance in encouraging all relevant parties to make this happen. Once that consensus is reached, we would hope to have that solution quickly ratified by Congress.

Finally, we are diligently working on plans to stop the unauthorized viewing of content delivered via the Internet. It is a very difficult and complex problem to address, because there are so many ways unauthorized content can be distributed on the Internet. We are mindful of not overcorrecting the problem and burdening Internet appliances anymore than necessary, but we are confident that the problem can be solved. We know it must be.

It is reported that every day hundreds of thousands of copies of movies are being downloaded without compensation to their copyright holders, and this number is growing rapidly. The competition from pirated and, therefore, free copies of our movies and TV shows is the single biggest obstacle to developing a viable business model for offering consumers authorized versions of movies and TV shows on the web.

Again, we are optimistic that we can develop the technological solution to address this threat in a cost effective way, just as we have with DTV and will soon be doing with the analog hole. However, it is critical that Congress plays an active role in ensuring that the parties reach a consensus on how to solve this problem as quickly as it is technologically possible.

This is an Internet problem that needs to be solved at Internet speed. We need Congress and your efforts to continue to help make

that happen. As with the broadcast flag and the analog hole solutions, we will need Congress to codify this solution to the illegal download problem.

At the end of the day, Mr. Chairman and members of the subcommittee, if we do not find creative solutions to this real and growing problem, consumers will be the ultimate losers. While some may see a short term gain in obtaining free, unauthorized material from the Internet, the long term result will be less consumer choice and stunted American technological growth and development.

I thank you for the opportunity to present the views of News Corporation from a distance on this important topic, and I will be happy, whenever you would like, to answer any questions. Thank you.

[The prepared statement of Peter Chernin follows:]

PREPARED STATEMENT OF PETER CHERNIN, PRESIDENT AND CHIEF OPERATING OFFICER, NEWS CORPORATION

Good morning, Mr. Chairman and Members of the Subcommittee. My name is Peter Chernin and I am President and Chief Operating Officer of News Corporation. Mr. Chairman, I want to take this opportunity to thank the Subcommittee for inviting me to participate in today's hearing, and to applaud the Subcommittee's efforts to ensure copyright protection for content producers in the digital broadband age.

First, I would like to point out that, although some content providers have been accused of being backward-thinking and anti-technology, I am proud to be aggressively pioneering this Committee's brand-new video conference technology. It is not the first time the entertainment industry has pushed technological innovation to new levels. I hope that this will not go unnoticed by our detractors.

You have asked me to cover several topics in my testimony: first, to describe industry efforts to ensure that digital television content—particularly high-definition content—is protected once the transition from analog to digital television is complete; next, to identify the goal of the Copy Protection Technology Working Group (or "CPTWG") and its subcommittee, the Broadcast Protection Discussion Group (or "BPDG"). I will also discuss my company's involvement in the BPDG's efforts to address the broadcast flag technology solution; the process of evaluating alternative technologies capable of keeping free, over-the-air television programming from being redistributed on the Internet; the impact of content protection technology on consumers' ability to enjoy the full panoply of new and exciting digital equipment; and, finally, inter-industry efforts to close the "analog hole" and to resolve the broader, peer-to-peer file sharing problems, as well as the proper role of government in determining those solutions. I welcome the opportunity to provide you with my company's perspective on these important matters.

1. PRE-BPDG EFFORTS TO PROTECT DIGITAL TELEVISION

A. The CPTWG and the Identification of the "DTV Hole"

I will begin by giving you a few words of background on the CPTWG.

The CPTWG was founded in the aftermath of unsuccessful discussions in the mid-1990's among representatives of the content, consumer electronics and information technology industries regarding a legislative approach to protecting content in the dawning digital era. The CPTWG was created to be a non-exclusive, non-legislative, non-binding forum that would meet regularly to investigate and seek consensus on technological solutions for various content protection challenges. I think it's important to recognize that the CPTWG is *not* a standard-setting organization and has no authority to promulgate or even recommend particular technologies. Even where consensus on a particular technological approach has been reached within the CPTWG, implementation is always left to entities outside the forum.

From the outset of discussions within the CPTWG, there was widespread recognition that content delivered to consumers in encrypted form was easier to protect, from both a technological and a legal perspective, than content that was unencrypted, or "in-the-clear." As a result, CPTWG focused its initial efforts almost exclusively on the protection of content that could be delivered to the home in encrypted form—in other words, physical media like DVDs and cable and satellite programming distributed via conditional access. The idea was that once encrypted,

such content would be continually protected through secure links to the recording and transmission technologies of consumer electronic and computing devices in people's "home networks." Solid achievements grew out of these CPTWG efforts. These include the DVD protection technology CSS, the so-called "5C" output protection technology (known as DTCP) and the so-called "4C" technology to protect recordings on removable media (known as CPRM).

The problem is that free, over-the-air, digital television could not directly benefit from those advances. Under current FCC regulations, digital terrestrial television broadcasts and certain basic tier cable video programming are delivered "in-the-clear," or in unencrypted form. In other words, unlike encrypted digital media such as DVDs, or premium digital cable and satellite video transmissions delivered via conditional access, there is no technical or legal authorization needed to receive DTV signals. Thus, unprotected DTV content can be redistributed, over the Internet or elsewhere, without any authorization from copyright holders. The resulting "gap" in the digital content protection scheme is referred to as the "DTV hole".

B. The Role of DTV Protection in the 5C Negotiations

When the question of how to plug this DTV hole arose in 1999, Fox and other broadcast-oriented studios realized that the quickest way to resolve the problem would be to augment already-developed home networking protection technologies like DTCP. The initial idea was to require network entry, or "source," devices to detect and respond to a "broadcast" watermark by directing such content to a protected output of the device. However, 5C cited a number of legal and commercial reasons for its belief that it could not agree to impose such an obligation upon its licensees and as a result the 5C/studio negotiations, which involved a number of issues besides DTV, were delayed for most of the year 2000.

Progress from there was gradual. In November 2000, two studios elected to sign a Memorandum of Understanding with the 5C (later replaced by definitive agreements) that did not include protection for DTV. A month later all seven MPAA studios signed a letter to 5C supporting the amendment of the 5C license to impose broadcast watermark detection and response obligations upon 5C-licensed source devices. The DTLA and the other five studios then entered into discussions regarding such an amendment, which again proceeded slowly.

In 2001, two new technology proposals from the studio side intensified these negotiations. First, in the Spring, Fox's engineers proposed a mechanism for implementing broadcast protection in a less complex—and therefore less expensive—way than the original watermark proposal. The idea was to include in the technical standards for DTV a simple and voluntary "Redistribution Control" descriptor (colloquially, a "broadcast flag") indicating that the copyright holder desired to control redistribution of the broadcast signal. (This is the same proposal that was formally incorporated into the standards of the Advanced Television Standards Committee, or ATSC, earlier this month.) Fox also developed and presented to the 5C companies a technical proposal whereby this "broadcast flag," when detected in ATSC transport streams, would automatically direct the streams to the established 5C protection system—while acknowledging that the earlier "broadcast watermark" might continue to be useful as an alternative or replacement approach. The "broadcast flag" application was incorporated in a proposed MOU between the 5S studios and the 5C companies that was sent to 5C in July 2001 and discussed for the next several months.

Finally, at a meeting in October 2001, the 5C companies again declined to impose the Fox solution through the DTCP license. However, the 5C companies suggested that Fox's proposal form the basis for constituting a multi-industry group dedicated to protecting DTV against unauthorized redistribution. At that time—and later at an FCC staff "hoedown" meeting that November—the 5S studios expressed concern that such a multi-industry process might unnecessarily delay the actual implementation of DTV protection, but nevertheless agreed to participate. At the November 2001 CPTWG meeting, the individual 5C companies presented a slightly refined version of the Fox technical proposal, and recommended that a group open to all interested parties be formed for the purpose of evaluating the revised technical proposal. Later that day, 70 representatives of the consumer electronics, information technology, motion picture, cable and broadcast industries agreed to form the Broadcast Protection Discussion Group (BPDG). They have since been joined by representatives of various government bodies, public interest groups, academics and other private individuals.

2. THE WORK OF THE BPDG

A. BPDG Problem Statement and Schedule

A Work Plan for the BPDG was drafted and circulated in mid-December 2001 that described the problem BPDG was formed to address as follows:

> "A solution is needed to prevent unauthorized redistribution of unencrypted digital over-the-air broadcast content on a worldwide basis (including unauthorized redistribution over the Internet)."

The Work Plan also recommended a simultaneous effort to consider the policy and legal aspects of implementing the solution as follows:

> "A parallel discussion also should take place among representatives from the affected companies and industries to consider the policy and legal aspects of the solution, including with respect to what legally enforceable means might be available to mandate the use of the technologies or adherence to implementation requirements recommended by the technical working group". This effort should be organized promptly, so that work can begin once consensus begins to coalesce around a technical proposal."

The Work Plan proposed that the so-called "Parallel Group" (since renamed the "Policy Group") be organized in January 2002, and that March 31, 2002, be the proposed deadline for completing the BPDG's evaluation of the "broadcast flag" proposal.

> For Fox and the other 5S studios, at least, the March 31 deadline was a key factor in muting concern about the delay inherent in multi-industry open processes like the BPDG. As such, Fox is greatly disappointed that the March 31 deadline was not adhered to, even though we acknowledge the substantial efforts that were made to do so. We are equally disappointed that the Policy Group has barely begun its work on how to mandate adherence to the requirements developed by the BPDG. Every single day, new and perfectly lawful DTV receiver products are manufactured in the U.S. and around the globe without any built-in protection against unauthorized redistribution. As a result, every single day DTV's exposure to piracy increases. Fox calls on all BPDG participants to do their utmost to ensure that the requirements document is finalized as soon as possible, and that the Policy Group begin work immediately on ideas for implementing it through legislation, regulation and/or private licenses.

3. THE MPAA/5C/CIG AGREEMENT ON BPDG CONCLUSIONS

A. The BPDG Conclusions

Like any other multi-industry process featuring participants with diverse interests and agendas, the discussions of the BPDG have not been without controversy. But that does not mean that key participants have been unable to reach agreement. To the contrary, I am pleased to report that, thanks to marathon negotiations during the past week, representatives of the MPAA studios, the 5C companies and the Computer Industry Group (CIG) have reached agreement in principle on a comprehensive set of conclusions recommended for adoption by the BPDG. (A copy of these conclusions is attached.) The most important of them can be summarized as follows:

1. An approach based on a "broadcast flag" is technically sufficient for the purpose of signaling protection of all DTV audio-visual content.
2. The specific "broadcast flag" used for this purpose should be the ATSC Redistribution Control descriptor now set forth in the ATSC Standard.
3. Protection requirements should begin at the point of demodulation of the incoming ATSC signal.
4. Products covered by the compliance and robustness requirements must handle demodulated content in a "protected manner" unless—and until—the products screen for the "broadcast flag" and determine that it is not present. The parties have agreed on exactly how "protected manner" should be defined for various ways in which DTV is and might be transmitted and stored within and between covered products.
5. Where the demodulated DTV content has been screened and the "broadcast flag" has been determined not to be present, no further requirements or limitations should be imposed upon the handling or recording of such unmarked content.
6. Unscreened and marked content should be recorded by, or output from, covered products exclusively through the following permitted methods:
   a. Through certain legacy outputs and recording methods, including analog outputs and recording methods;
   b. Through certain non-legacy digital outputs that do not pose undue risk of unauthorized redistribution; and

c. Through non-legacy digital outputs and recording methods that provide adequate protection against unauthorized redistribution. The parties have agreed on three alternative "market acceptance"-based criteria and one alternative "just-as-good-as" criterion for determining which outputs and recording methods meet the "adequate protection" test (as discussed in further detail below). The parties have also agreed on certain recommendations to the Policy Group as to how to handle disputes and the "hacking" of authorized output and recording protection technologies.

B. The Impact of the Agreed BPDG Conclusions on Alternative Technologies for Protecting DTV from Unauthorized Redistribution

These are the pillars of the MPAA/5C/CIG proposal, a proposal that carefully balances the rights of content owners, of device manufacturers, of the proprietors of technologies currently available to protect DTV from unauthorized redistribution, and of the proprietors of such technologies that will become available in the future. As I've noted, the agreement provides for four alternative methods by which a particular protection technology can be proposed for inclusion on the list of approved technologies (the so-called "Table A") or added later. The first method requires agreements with just three content providers (of whom only two need be studios) by which such providers use or approve the particular technology. The second requires agreements with just two studios—as well as 10 device manufacturers. The third method is the "just-as-good-as" method, by which a proprietor of a new technology can get on the list without having had to get anyone to adopt the technology, merely by showing a neutral arbiter that the technology is "at least as effective" as an uncompromised technology already on the list. This fourth method enables protection technologies linked to technologies already on the list to also be added.

Some participants in the BPDG have argued that technologies should be candidates for inclusion on the list just by virtue of the sheer volume of content protected, regardless of whether content owners have had any say whatsoever in this protection. Such an approach strikes us as far too manipulable by device manufacturers and unlikely to ensure that only effective technologies be added to the list. Other participants have suggested that an array of technical criteria be adduced to determine whether a technology is "good enough" to be added to the list. While such a proposal sounds even-handed, no list of technical factors could realistically represent the complex ways those factors interact to make an overall system architecture effective (or not). Furthermore, no list of factors developed in 2002 could possibly anticipate all of the revolutionary ways in which future protection technologies might evolve. As such, the "technical criteria" approach would stifle creative technology development without necessarily keeping ineffective technologies off the list.

By contrast, the "market acceptance" criteria outlined in the MPAA/5C/CIG proposal serve to screen for ineffective technologies while protecting the proprietors of effective technologies against slow marketplace acceptance by content providers. Nor do these criteria discriminate against innovative and unorthodox approaches. Just to take one example, Philips has presented BPDG with a proposal whereby unencrypted recordings of broadcast content could be protected by an alternative "flag preserving" mechanism. Protection in this scheme would be derived from "compliance" rather than "self-protection." Because Philips has not yet specified exactly how this compliance would be achieved, its proposal is currently incomplete. However, nothing in the agreed criteria will preclude Philips from petitioning to add its proposed technology to the list of approved recording protection technologies in the future, once it has a complete proposal to submit. We look forward to evaluating this proposal, as well as other examples of the benefits of innovative thinking we expect to receive in the future.

C. The Impact of the Agreed BPDG Conclusions on Consumers' Enjoyment of Digital Technology

It's equally important to point out that nothing in the proposed BPDG requirements will adversely affect consumers' enjoyment of digital equipment in all its exciting variety. To the contrary, the emerging consensus on how DTV should be protected will accelerate the proliferation of such equipment by better informing manufacturers exactly what sort of protections to incorporate. Nor will protection requirements hinder the operation of new digital equipment. Consumers will continue to be enabled to make secure copies of DTV content marked with the Broadcast Flag, either on personal video recorders like TiVo or ReplayTV or on removable media such as D-VHS tapes or recordable DVDs. Similarly, the requirement that non-legacy digital outputs be protected will do nothing to hinder the ability of consumers to send DTV content across a home digital network with connections to digital set top boxes, digital recorders, digital servers and digital display devices. Finally, the

compliance and robustness requirements will not extend to professional broadcast products that are not used to insert and carry the Broadcast Flag, or to bona fide academic and commercial research and development activities, and so will not hinder such activities in any way.

4. INDUSTRY EFFORTS TO ADDRESS THE "ANALOG HOLE" AND P2P

I have focused most of my testimony on protecting the "DTV hole" not just because of this Subcommittee's laudable interest in and concern for the DTV transition. It is also because the "DTV Hole" is the gap in the digital content protection scheme for which we have a solution that is ready to implement today. This solution is the "broadcast flag." For the other two dangerous gaps—the so-called "analog hole" and the problem of online theft—solutions are every bit as necessary (if not more so), and promising technologies have been identified, but finalized solutions are regrettably more elusive.

A. Plugging the "Analog Hole"

Long into the foreseeable future, content providers will need to deliver content to consumers in an analog form; after all, hundreds of millions of TV sets are not digitally equipped. Unfortunately, analog content (including protected digital content converted to analog for viewing purposes) can easily be converted into an unprotected digital form that can in turn be copied or redistributed without authorization. This is called the "analog hole" in digital content protection schemes. The BPDG identified the "analog hole" in its Work Plan as a subject for further study, but has more recently realized that because this issue applies to a range of content far broader than DTV, and because the BPDG is already late in finishing its work on the Broadcast Flag, the BPDG is not the appropriate forum in which to address it.

Fox strongly recommends that the multi-industry approach that has brought us so far towards achieving protection of DTV broadcasting, turn next to developing and implementing a solution for the "analog hole." In the meantime, Fox and its industry colleagues are working on a plan that includes harnessing watermark technology to close the gap in content protection that's created by the digital/analog conversion. . We hope to secure inter-industry consensus on such a proposal, and we welcome your assistance in encouraging all relevant parties to make this happen. Once it does, we would hope to have that solution quickly ratified by Congress.

B. Online Theft of Content

Finally, we are working intensely on a plan to prevent the unauthorized viewing of content delivered via the Internet. It is a difficult problem to address because there are so many ways unauthorized content can be distributed on the Internet. We are also mindful of not over-correcting the problem and burdening Internet appliances any more than necessary. But we are confident that the problem can be solved; we know it must be. It is reported that every day, hundreds of thousands of copies of movies are being downloaded without compensation to their copyright holders, and this number is growing rapidly, in tandem with the increasing speed and proliferation of Internet-delivered broadband. The competition from pirated copies of our movies and TV shows is the single biggest obstacle to our developing a viable business model for marketing movies and TV shows legally on the Web. Again, we are optimistic that we can develop a technological solution to address this phenomenon in a cost-effective way, just as we have with DTV, and as we will soon be doing with the "analog hole."

However, it is critical that Congress play an active role in ensuring that the parties reach a consensus on how to solve this problem as quickly as technologically possible. This is an Internet problem that needs to be solved at Internet speed. As with the broadcast flag and analog hole solutions, we will need Congress to codify the solution to the illegal download problem. We at News Corporation are working to build the necessary support in the private sector, including consumer electronics and computer manufacturers, Internet service providers and others in order to come up with solutions that would benefit industry and consumers. With our combined technological expertise, we have a chance to stop the rampant theft of copyrighted works and to provide the business opportunities that will drive the development of new and innovative products and services long into the future.

At the end of the day, Mr. Chairman and Members of the Subcommittee, if we do not find creative solutions to this real and growing problem, consumers will be the ultimate losers. While some consumers may see a short-term gain in obtaining free unauthorized material from the Internet, the long-term result will be less consumer choice, lower quality of content, and the stunted growth of American technology and entertainment.

Thank you for providing me this opportunity to present the views of News Corporation. I will be happy to answer questions.

Mr. UPTON. Thank you.

Mr. Parsons.

STATEMENT OF RICHARD D. PARSONS

Mr. PARSONS. Chairman Upton, Chairman Tauzin, Ranking Member Markey, and distinguished members of the committee, my name is Dick Parsons. I am CEO-Elect of AOL Time Warner, and I am grateful for this opportunity to appear before you today.

Since a full version of my testimony has been submitted to the committee, I will touch only on the most salient points. I want to begin, however, by thanking the committee, and the chairman in particular, for the DTV roundtables you have held, as well as for your overall efforts to spur the transition to digital distribution. Your understanding of the importance of content protection is a linchpin in moving this transition along.

AOL Time Warner has been out front in recognizing the landmark significance of digital technology and in bringing its benefits to the public. Warner Bros., for instance, pioneered the DVD. HBO was the first premium channel to offer nationwide high definition digital television, and today it delivers more than 60 percent of its programming in that format. Time Warner Cable is leading the cable industry's digital transition, while AOL encompasses what is, by far, the world's largest online community.

As head of our movie, music and television businesses, I have witnessed the profound impact digital media may have on the creative process, but no matter how digitized content becomes, its power and potential will always depend on the unique, idiosyncratic magic of storytelling. It is that magic which stands to be hurt most by digital piracy.

Illicit use of digital technology's unlimited copying capacity threatens the economic equation which fuels the creative process. Who will invest the time and talent and material that can instantly be ripped off? Where will capital come from for new studio productions when there is no possibility of return on that capital?

The legal remedies we have pursued to stop digital piracy are not sufficient by themselves. To the greatest extent possible, content must be made secure at the point of distribution in ways that do not impede legitimate consumer use.

With our colleagues in the information technology and consumer electronics industries, we are developing efficient methods of protection. Among these are: An encryption system to secure DVD video; safeguards for content as it moves from computers to monitors; and a secure means for making recordings for home use that inhibit the potential for digital piracy.

Our business is dependent on consumers, and we think our efforts in copy protection offer them easily available, legal, and affordable content. Under the content protection licenses we have signed, consumers can make digital copies of over-the-air broadcasts, basic cable, satellite and premium channels for their own use.

In view of this significant progress, we see no need for a broad government mandate regarding design requirements. Such sweep-

ing regulatory action would be counterproductive, and would seriously hinder the development of new technologies. However, since it is impossible to require all manufacturers to join the effort, certain gaps cannot be closed solely through licensed based, voluntary protection systems.

These gaps occur when content is either delivered without access controls, so called in the clear, or are later converted into unprotected formats. Let me talk briefly about the three gaps, Mr. Chairman. Now you have identified them. Several of the committee members have identified them, and Mr. Chernin just spoke about them, the need for a broadcast flag to protect content that is broadcast in the clear, the need to close the analog hole so that when content that is broadcast in a protected format but then is converted into an analog or unprotected format, can be captured and then redistributed, and then the need to do something about peer-to-peer file sharing.

I won't go through that again, because I am keeping my eye on this clock, but we think that there is in each of those three areas possibly an appropriate role for targeted legislation to take what the industry is working on, which are negotiated among our various industries, standards to either implant broadcast flags or watermarks to protect the analog hole problem, or yet to be developed technological solutions on the peer-to-peer file sharing, and make those uniform across the land through some targeted legal requirement.

That is where we see the role of government being most appropriate, but we clearly see the role of the various industries involved as being preeminent in terms of taking the lead to define how to attach those discrete problems.

So we have worked together very closely, in particular, with our colleagues at Intel, in establishing some principles that outline what is the growing consensus among the industries, and I am pleased to report that a number of other companies, including Mr. Chernin and his company, News Corp, as well as Toshiba and others, are coming on board this articulation of these principles, and we will file a copy of those with our statement for your record. But the fact that we are all coming together to design and put in place consumer friendly solutions with only limited government involvement is, to me, very encouraging.

It makes me confident that we can work with each other and with you to overcome whatever barriers exist to unleashing the full potential of the digital economy. Thank you.

[The prepared statement of Richard D. Parsons follows:]

PREPARED STATEMENT OF RICHARD D. PARSONS, CEO-DESIGNATE, AOL TIME WARNER

Mr. chairman, ranking-member markey, and members of the subcommittee, I'm grateful for this opportunity to discuss an issue of great importance to my company, our entire economy and, above all, consumers.

AOL Time Warner is both the largest producer of information and entertainment and a leader in developing innovative digital technologies for their delivery. As such, we appreciate the DTV roundtables you've held as well as your overall efforts to spur the transition to digital distribution.

I'm here today to answer publicly the questions you've been asking many of us privately for some time: Where is AOL Time Warner in its efforts to provide consumers the benefits of digital media? And how far along are our intra- and inter-

industry efforts to develop reliable, consumer-friendly digital content-protection technologies?

Our company has been out front not only in recognizing the landmark importance of digital technology, but also in bringing its benefits to the public. Warner Bros., for instance, pioneered the DVD. HBO is the first premium channel to offer nationwide high-definition digital television and today delivers more than 60% of all its programming in high definition format. Time Warner Cable offers digital distribution in 42 markets—leading the cable industry's digital transition. AOL encompasses what is, by far, the world's largest online community.

At AOL Time Warner we also have the world's finest library of film, music and tv programming—content that we're eager to offer consumers in new digital formats.

In my role as head of AOL Time Warner's movie, music and television businesses, I Witnessed first-hand the profound impact digital media have on the creative process. On the delivery side, more innovations will reach the market in the next three to five years, introducing new levels of reliability, variety and quality.

But no matter how digitized content becomes, or how tremendous the impact of convergence, the power and potential of the entertainment industry will always depend on the unique, idiosyncratic magic of storytelling.

It's that magic which stands to be hurt most by digital piracy. Along with breakthrough benefits, digital technology enables users to make unlimited perfect copies and, with the click of a mouse, distribute them globally.

The illicit use of this copying capacity threatens the economic equation which supports and fuels the entire creative process. What artist will invest years of sweat, struggle and talent in developing content that can instantly be ripped-off? Where will the capital come from for new studio productions when there's little or no return on what's been produced?

When viewers can download an entire season of West Wing from the Internet, for free and without commercial advertising, what value does syndication have? When Lord of the Rings is available for free on Morpheus, how many people will skip the trip to the theater?

Last year, record sales were down 10%, much of it due to online file-stealing on Napster-like services.

With the spread of peer-to-peer swapping sites encouraging and enabling online theft, there's definite urgency to our plight.

We've vigorously pursued the legal remedies that exist. But litigation isn't enough. We need to protect content at the source while simultaneously driving the use of digital technologies.

Over the past six years, we've worked with our colleagues in the information technology (IT) and consumer electronics (CE) industries to develop efficient methods of content protection. It's been a productive partnership, and we've accomplished a great deal in this voluntary cross-industry process.

Among the results are an encryption system to secure DVD video; protection for content passed through device-to-device connections in home networks; safeguards for content as it moves from computers to display on monitors; and a secure means for making recordings for home use that inhibit the potential for digital piracy.

Of course, our business is dependent on providing consumer benefits and making consumers happy and we think our efforts in copy protection will do just that—making content available easily, legally and at a reasonable price.

We're continuing to work together to meet new challenges. Today companies like realnetworks are providing drm solutions that we're already using in the marketplace.

The cornerstone of these cross-industry efforts is the awareness that, to the greatest extent possible, digitally delivered copyrighted content should be made secure at the point of distribution.

These new technologies also offer consumers both familiar and new ways of using their devices to enjoy content. For instance, under the content protection licenses we've signed to date, consumers will be able to make digital copies of over-the-air broadcast, basic cable, and satellite, and premium channels (such as HBO) to watch at their convenience.

That means a son can copy band of brothers from HBO for his WWII veteran father to watch when he comes to visit. Other technology will permit a family in the middle of watching Harry Potter via video on demand to pause the movie for its own intermission. That's the type of convenience we plan to offer consumers through digital technology.

In view of the significant progress we're making in cross-industry content protection, we believe there's no need for a broad government mandate of design require-

ments. That type of sweeping regulatory action would be counterproductive, seriously hindering the development of new and better technologies.

However, since it would be impossible to require all manufacturers to join the effort, it's clear that certain gaps cannot be closed solely through license-based, voluntary protection systems. These gaps occur when content is either initially delivered without access controls (i.e., "in the clear"), or later converted into unprotected formats.

Over-the-air broadcasts, for example, are delivered in the clear, with no access controls. Work is underway to identify copyrighted broadcasts with a "broadcast-flag," indicating they shouldn't be redistributed over the Internet. To ensure that devices receiving the broadcast signal obey the flag, there must be a legal requirement to detect and respond to it.

Such a requirement can be accomplished by narrowly focused government action—possibly through an FCC regulation. Many of our partners in the ce and it industries agree that this targeted government action is necessary as well as desirable.

A more critical and systemic problem is known as the "analog hole." Even when delivered digitally in a protected manner, video content must be converted to an unprotected analog format that allows it to be viewed on millions of analog TV sets. Once content is "in the clear" in analog form, it can be converted back into a digital format and is subject to unauthorized copying and redistribution.

This involves all delivery means for audiovisual content, from DVDs to pay per view, to over-the-air broadcasts.

One way to plug this hole is through watermarking. This embeds copyright status and permitted uses within the content. Although not perceptible by the consumer, the watermark can be read by devices designed to detect and respond to it.

As with the broadcast flag, efforts are underway to develop and select a consensus watermark. But these have been hampered by patent disputes. a single watermark must be agreed upon. If private industry can't agree, we are likely to turn to the government for guidance and assistance.

Once a watermark is selected, some government action will be needed FOR appropriate detection and response. This can be strictly focused on the particular devices or parts of devices capable of receiving an analog signal and converting it into digital. No broad mandate concerning the overall design of computers or consumer electronic devices is necessary.

Implementing the broadcast flag and filling the analog hole with watermark technology are goals on which we are making good progress. But these solutions won't solve the vexing problem I mentioned earlier of piracy on peer-to-peer networks.

This is the third gap, and the most difficult to close. The popular term for trafficking in copyrighted works—"file sharing"—is a misnomer. It isn't sharing. It's online shoplifting. Indeed, it's worse than shoplifting because it's not simply making a copy for oneself but duplicating and distributing multiple copies throughout the world.

The pace and reach of this illegal activity continues to increase. New peer-to-peer services, such as KazAA, Morpheus and Grokster, flourish on the Internet. Studies have shown that at any given moment 500,000 to 1 million people are using one of these services and networks to find, reproduce and redistribute files. If Napster is any guide, approximately 90% of this activity consists of unauthorized trafficking in copyrighted works.

And we face new peer-to-peer challenges all the time. For example, the new replay 4000, among other things, allows users to copy premium cable shows and then easily send them to other replay owners who don't subscribe to the channels involved. In effect, it creates an internet "black box."

No single approach—technical, legal, legislative or economic—can provide a solution. The active cooperation and committed participation of all industry sectors—content, consumer electronics, computer and service provider—will be necessary to reach workable solutions.

The main impetus will come from business, and we're strongly committed to working with our colleagues across the relevant industries. Yet, it's clear to me—and I believe there's a growing consensus across the entertainment, computer and consumer electronics industries—that at certain critical points our work must be complemented by targeted government action to support private-sector solutions.

In conjunction with Intel, which has led the development of many copy-protection technologies, we've worked to establish principles that outline this growing consensus. I am pleased to report that newscorporation, led by my colleague Peter Chernin, issued a statement last week applauding these principles.

The fact that we are all coming together to design and put in place consumer-centric solutions, with only limited government involvement, is a very encouraging sign.

It makes me confident that we can work with each other and with Congress to overcome whatever barriers exist to unleashing the full potential of the digital economy.

Thank you.

Mr. UPTON. Thank you.

Mr. Liao.

STATEMENT OF PAUL F. LIAO

Mr. LIAO. Mr. Chairman, Ranking Member Markey and members of the subcommittee, thank you for the opportunity to testify before you today. I am here today in my capacity as Chief Technology Officer of Matsushita Electric Corporation of America and President of its Panasonic Technologies Company division.

As a company on the cutting edge of the transition to digital television, Panasonic has been deeply involved in efforts to ensure that digital content is adequately protected. My written testimony summarizes some of the many technological developments that Panasonic has been involved in, including the development of the CSS encryption system used to protect DVD discs, the development by the 5C group of companies of the Digital Transmission Content Protection technology that protects copyrighted content as it moves digitally from device to device in a home network, and the invention of the Content Protection for Recordable Media technology to provide secure, encrypted recording and storage of authorized copies of copyrighted content.

In participating in these technology development efforts, we have been guided by two overarching principles: (1) Ensuring that the legitimate interests of consumers, which are the bedrock of our business, are preserved in the transition to digital technology; and (2) by enabling—We need to enable new business opportunities for consumer electronics companies such as ourselves, information technology companies, and content companies alike.

Although in my prepared remarks today,I will focus most particularly on the experiences of Panasonic, I am here also as a representative of the 5C group of companies, and I will be happy to answer any questions with respect to those activities and initiatives.

At the onset, I need to express my gratitude to this committee and its leadership for your continued focus through private meetings, industry roundtables and other means for bringing the various stakeholders together to address and resolve issues that have been affecting the transition to digital television, DTV.

Although the topic of today's hearing is ensuring content protection in the digital age, I believe that the availability of robust content protection systems is only one of the building blocks necessary to promote the transition to the digital world. Really, three C's are necessary to make this transition: Carriage, content, and consumer; carriage of DTV signals by broadcasters, cable operators and satellite services; of course, the availability of compelling content, the second C; and obviously, consumer, the consumer awareness of digital TV, including the benefits of consumer DTV equipment that is appealing and, most importantly, affordable.

In terms of carriage, good progress has been made with respect to ensuring the carriage of DTV, and particularly HDTV, by broadcasters, cable operators, and satellite systems alike. I think all should be proud of the progress that has been made toward DTV availability.

I believe the transition to DTV could be accelerated even further if consumers had access to DTV via cable-ready DTVs and a choice at retail of cables, digital set top boxes.

In terms of consumer awareness, Panasonic promotes consumer awareness of DTV opportunities every day through our advertising, our joint efforts with retailers and broadcasters, for example, by sponsoring and co-financing the production of HDTV programs, and through CEA's industry-wide promotion and education efforts, as well as by providing a variety of DTV products that, we hope, consumers are finding appealing.

All of the affected industries need to continue these efforts to build consumer awareness around DTV and HDTV. However, with respect to the issue that is the main focus of this hearing, content protection, Panasonic is proud to be part of a private sector inter-industry effort to develop technologies that protect content from the source to the time it is displayed on the consumer's TV or PC, and those technologies can continue to provide that protection when an authorized recording of the content is made.

The challenges proposed by the digital environment are rapidly evolving. Therefore, all the companies involved in these efforts have continued to innovate new solutions and, of course, all this has to be done with the interest of consumers in mind, because serving our customers, the consumer, is Panasonic's most important goal.

These private industry initiatives have proven to be the most effective way to proceed. It is simply not possible for government to mandate from above broad design requirements that address the myriad of interests and technological challenges as effectively as collaborative private sector efforts. We expect, nonetheless, that for any solution to be successful, it must withstand public scrutiny. Therefore, we welcome, and in fact encourage, your continued interest in our efforts to address these challenges.

We have mentioned three key elements: Protection of in-the-clear broadcast content using the broadcast flag; addressing the analog hole; and preventing unauthorized peer-to-peer file sharing. In our written comments as well as the comments made by Mr. Parsons and Mr. Chernin already, we have reviewed some of these progresses in each of these areas.

I would only like to add that this process is rapidly moving to a conclusion with a return to the broadcast flag. In fact, the 5C companies, the CIG Computer Industry Group, and the MPAA met late last night and reached agreements in a proposal that will be recommended to the full group. In fact, we expect that to be circulated today.

The problem of peer-to-peer distribution of copyrighted content is very, very difficult to resolve. To my knowledge, no concrete proposals concerning how to solve this problem have been proposed. In fact, it is quite likely that no single solution to this problem will

be developed, and that instead a variety of technical and legal and business approaches will be necessary.

At the moment, the immediate, admittedly partial solution appears to be consumer education efforts and strong enforcement of copyright laws.

I would like to conclude by just saying that we have built our business on delivering innovative products to our consumers, and we realize that, in order to develop and deliver the greatest value to our customers, we must likewise provide strong copyright protection to the owners of copyrighted content.

[The prepared statement of Paul F. Liao follows:]

PREPARED STATEMENT OF PAUL F. LIAO, CHIEF TECHNOLOGY OFFICER, MATSUSHITA ELECTRIC CORPORATION OF AMERICA AND PRESIDENT, PANASONIC TECHNOLOGIES COMPANY

Mr. Chairman, Members of the Subcommittee, thank you for the opportunity to testify before you today. I am here today in my capacity as Chief Technology Officer of Matsushita Electric Corporation of America and President of its Panasonic Technologies Company division. Our company is the principal U.S. subsidiary of Matsushita Electric Industrial Co., Ltd. ("MEI"). Our principal brand, and the name by which the companies are commonly known is "Panasonic." Panasonic is one of the world's largest producers of innovative electronic and electric products for consumer, business and industrial use. Our consumer and broadcasting product lines include a broad array of audio, video, communications and computing products and components. In the DTV realm, for example, we were proud to introduce the first consumer HDTV in the United States in the summer of 1998.

As a company on the cutting edge of the transition to digital television, Panasonic has been deeply involved in efforts to ensure that digital content is adequately protected. My testimony summarizes some of the many technology development efforts Panasonic has been involved in, including the development of the CSS encryption system used to protect DVD discs, the development by the "5C" group of companies of the Digital Transmission Content Protection ("DTCP") technology that protects copyrighted content as it moves digitally from device to device in a home network, and the invention of the Content Protection for Recordable Media ("CPRM") technology to provide secure, encrypted recording and storage of authorized copies of copyrighted content.

In participating in these technology development efforts my company has been guided by two overarching principles:

(1) Ensuring that the legitimate interests of consumers—the bedrock of our business—are preserved in the transition to digital technology; and
(2) Enabling new business opportunities for Consumer Electronics ("CE"). Information Technology ("IT") and content companies alike.

Although my prepared remarks today focus most particularly on the experiences of Panasonic, I am here also as a representative of the "5C" group of companies and would be happy to answer questions with respect to 5C activities and initiatives during the question and answer portion of the hearing.

At the outset, I would like to express my gratitude to all of the Members of the Committee on Energy and Commerce, including the Ranking Members of the full Committee and this Subcommittee, and especially to both the Chairman of the full Committee and to you, Mr. Chairman, for your continued focus through private meetings, industry roundtables and other means on bringing the various stakeholders together to address and resolve issues that have been affecting the transition to DTV. While the topic of today's hearing is Ensuring Content Protection in the Digital Age, I believe that the availability of robust content protection systems is only one of the building blocks necessary to promote the transition to the digital world. Because this Committee has been so dedicated to encouraging the transition to DTV, and because 5C has played an important role in advancing the transition to DTV, I will use the DTV example to illustrate the role that content protection systems can play in the transition to and availability of new digital technologies and compelling content for consumers. Our experience has shown that careful balancing is necessary to achieve the public policy goals articulated by this Committee, and to harmonize the needs of consumers and of the various affected industries.

I believe that three things are necessary to make the DTV transition a reality:

- Carriage of DTV signals by broadcasters, cable operators and satellite services;

- Availability of compelling content; and
- Consumer awareness and education about DTV and consumer DTV equipment that is appealing and affordable

To encourage the development of each of these components, a careful balancing of interests is required.

- Compelling content is required to encourage consumers to look into, learn about, and buy in to DTV;
- Adequate security is required before content owners will release compelling content; and
- DTV products must be affordable and must respect legitimate consumer expectations about how consumers will be able to use and enjoy content they rightfully acquire.

Panasonic—through the 5C and through other private licensing initiatives—has been working hard to meet the legitimate interests of content companies, broadcasters and consumers. I am pleased to report that much progress has been made in each of the three areas I mentioned, however significant issues remain that merit the Committee's attention.

Carriage of DTV

Good progress has been made with respect to ensuring carriage of DTV by broadcasters, cable operators and satellite systems. I would like to extend congratulations, on behalf of Panasonic to the broadcast industry which has made great strides towards DTV availability. Over 300 broadcast DTV stations are already on the air and carrying a variety of programming in TV markets that comprise over three-quarters of all TV households.

I would also like to extend congratulations to the cable industry which has been offering increasing DTV content over the past few years to their digital subscribers. There are many digital and some interactive program services already, and several cable operators have recently announced plans to provide more on their systems, including HDTV programming. Congratulations are also in order to satellite service providers, which have carried digital, and to borrow FCC Chairman Powell's phrase, "value-added" TV content from the time satellite services were launched.

Panasonic has supported the availability of such value-added content in a variety of ways. Our company has made direct financial contributions to cover program development and HDTV production costs. For instance, we provided significant program production equipment support for the first HDTV presentation of "Monday Night Football", and for the past two years we have sponsored CBS's prime-time HDTV line-up. We likewise provide digital equipment loans and HDTV production support for the efforts of several producers of high-quality digital programming, such as nature, natural history, documentary and other programs which are being aired on public and commercial broadcast, cable and satellite channels. Panasonic is also providing professional DTV and HDTV production equipment to producers, program makers, and special-venue presenters in order assist in the transition to DTV.

Progress with respect to carriage of content is encouraging, but I believe the transition to DTV could be accelerated if consumers had access via "cable ready DTVs" and a choice at retail of cable set top boxes. After all, cable is the largest provider of television service to American TV households. A key element of these cable ready DTVs and retail set top boxes is the POD-Host Interface technology. We would like the license agreement for this technology to include clear rules, such as those included in the 5C license for DTCP technology, to ensure that the technology cannot be used to undermine consumers' customary home recording expectations. I applaud the Committee's efforts to date and urge the Committee to keep a keen focus on these issuesContent

As I mentioned at the outset, CE and IT manufacturers such as the 5C group of companies involved in developing and licensing the DTCP technology, realize that in order for content providers to fully embrace DTV and other new digital forms for delivery of content, security concerns must be adequately addressed. Panasonic has been at the forefront of developing content protection technologies for use with both audio and video. We have been directly involved in developing and licensing technologies that can protect content from the source to the time it is displayed on a consumer's TV or PC. We have likewise developed technologies to protect the content from unauthorized copying and redistribution if/when it is recorded in the home.

In participating in these technology development efforts Panasonic has been guided by several themes:

- Technologies should be developed through a process of inter-industry consultation and collaboration to ensure that they are (a) practical to implement; (b) achieve

the legitimate copyright protection goals set forth by the content community; and (c) deliver value to consumers.
- Technology initiatives should be led by the private sector. The objectives should be achieved by voluntary license agreements where possible, and complemented by narrowly-focused government action only where necessary.
- Technology solutions should include rules to preserve consumers' customary recording expectations.

We realize that both the opportunities and the potential challenges posed by the digital environment are ever evolving. Despite the fact that the content protection technologies we have been involved in developing were each designed to meet specific sets of requirements outlined by the content companies, the CE and IT companies involved in these efforts have been willing to keep innovating and adding to the existing technologies (and creating new ones) to meet unanticipated or previously unarticulated goals of the content owners. Of course, this has all been done with the interests of consumers in mind, because serving our customers is Panasonic's most important goal. In our view this is the most effective way to proceed. It is simply not possible for the government to mandate from above broad design requirements which as effectively address the myriad of interests and technological challenges as do collaborative private sector efforts. We expect, nevertheless, that for any solution to be successful it must withstand public scrutiny. We therefore welcome your continued interest in our efforts to address these challenges.

Some specific examples of our activities with regard to content protection are summarized below.

5C—

Panasonic is one of five companies (sometimes therefore referred to as the "5C"), that developed the Digital Transmission Content Protection ("DTCP") technology used to protect content as it traverses the IEEE 1394 home network.

- DTCP was developed and is being licensed by a license administrator established by the five CE and IT companies to address requirements set forth in a request for proposals by the CPTWG, a multi-industry group that included direct participation by the motion picture industry.
- The technology protects content that enters the home via cable, satellite or other means of conditional access technology from being copied or retransmitted beyond the home (e.g., via the Internet) without authorization of copyright holders and will be adapted for use to protect content that enters the home via unencrypted digital broadcast pursuant to the "broadcast flag" technology described below.
- DTCP employs encryption and authentication in order to ensure that content is exchanged only among devices which agree to continue to protect the content.
- Since approximately 85% of TV households in the U.S. receive programming through cable or satellite conditional access technologies, the DTCP technology may be applied to this conditional-access protected content to prevent unauthorized Internet retransmission.
- The DTCP technology license incorporates "encoding rules" modeled after § 1201(k) of the Digital Millennium Copyright Act ("DMCA") to preserve customary home recording practices. These rules were developed through manufacturer and Content industry consultation beginning in the early 1990s. Pursuant to these provisions, content companies may use the DTCP technology to protect content according to the following minimum rules—
  - Free TV is freely copyable, but may be restricted from redistribution;
  - One generation of copies must be permitted for paid programming such as HBO; and
  - Copying (other than as part of a "pause" function that is periodically deleted) may be prohibited with respect to packaged media, Pay Per View ("PPV") and Video On Demand ("VOD") type content.

CSS—

Together with Toshiba, Panasonic developed the Content Scramble System technology used to encrypt pre-recorded DVD discs

- This technology enabled the launch of DVD—the most successful consumer product ever.
- Licensing of CSS has now been turned over to a multi-industry group called the DVD Copy Control Association ("DVDCCA") which is comprised of representatives of the CE, IT and Motion Picture industries.
- Beyond licensing the encryption technology used on pre-recorded DVD discs, DVDCCA is tackling a number of additional projects, including the evaluation of a "watermark" to be used in conjunction with pre-recorded DVD content to

provide additional security against recording and playback of unauthorized copies of the content.

4C—

Together with three other companies (sometimes referred to as the "4C", Panasonic developed Content Protection for Prerecorded Media ("CPPM" used e.g., to protect DVD-Audio) and Content Protection for Recordable Media ("CPRM" used for secure recording and storage of content)

- The technology was developed and is being licensed by CE/IT companies.
- The technology license incorporates rules that allow for customary consumer copies such as for time-shifting and place-shifting of audio content.

Consumer Equipment

The third and central part of the puzzle in making the DTV transition a reality is consumers. Consumer technologies succeed when consumers are aware of them and see value in them for their own lives. In the national transition to DTV, all involved must be part of the effort to alert and educate consumers to the DTV opportunities and choices they have. And all must provide enough value for consumers to want to "buy in" to the DTV revolution. Panasonic tries to do this every day with its retail partners, in its advertising, in joint DTV "launch parties" and special events with broadcasters and others, through support of CEA's industry-wide promotion and education efforts, and, most importantly, by providing a variety of DTV products we hope will be appealing to consumers.

This also means that consumer DTV products must be affordable, easy to use, and respect consumer expectations about how the consumer will be able to interact with and use content. Panasonic's activities, both in the 5C and elsewhere, have been guided by these concerns. Therefore:

- The 5C technology is licensed on a cost-recovery basis so as not to unnecessarily add to the cost of consumer products
- The 5C technology was developed in order to provide effective protection, yet not impose undue burdens on product implementations so as not to compromise product functionality
- The 5C DTCP technology license incorporates "encoding rules" aimed at protecting consumer's fair use expectations.

Current Challenges & Future Efforts

During hearings before the Senate Commerce Committee in February, representatives of the motion picture industry advocated the need for a government-mandated solution to three specific problems:

- Protection for "in the clear" broadcast content to prevent unauthorized redistribution of such content via the Internet,
- Addressing the so-called "analog hole," and
- Preventing unauthorized "peer to peer" file sharing of copyrighted content.

Panasonic agrees that these are serious issues deserving of attention. A brief summary of inter-industry efforts to consider these challenges follows.

Protection of broadcast content delivered in the clear

Because digital terrestrial television broadcasts and certain basic tier cable video programs are delivered in unencrypted ("in the clear") form, unlike pre-recorded, encrypted, digital media such as DVD or digital cable and satellite transmissions delivered via conditional access systems, there is no technical or legal authorization necessary and no licensing predicate by which to establish conditions for the secure handling of such content. As a result, unprotected DTV content can, as a technical matter, be delivered outside of the home environment, such as over the Internet without authorization from copyright holders. In November of 2001, representatives of the 5C members described to the Copy Protection Technical Working Group ("CPTWG") a refined version of a proposal, originally presented to the 5C members by Fox following on industry standards activity in the Advanced Television Standards Committee, which would require certain devices which demodulate DTV content to respond to a "Broadcast Flag" and securely route content which a copyright owner has indicated should not be redistributed via the Internet, only to protected digital output and recording technologies, or to analog outputs. The 5C members recommended that a group be formed under the auspices of the CPTWG [1] to evaluate this proposal and to determine whether there is sufficient industry and con-

[1] The CPTWG is the open forum of CE, IT, and content companies and consumer groups which meets, typically on a monthly or bi-monthly basis in Los Angeles, to consider technical copy protection issues.

sumer organization support for the proposal as a solution to the problem of unauthorized redistribution of broadcast content. To date, the group formed as a result of this initiative has undertaken considerable activity—

- The Broadcast Protection Discussion Group ("BPDG") has met 13 times in four months, in person and by phone.
- The participants in these discussions appear to be in fundamental agreement that an approach based on a "Broadcast Flag" is technically sufficient for the purpose of signaling protection of DTV content in digital form, beginning at the point of demodulation, against unauthorized redistribution.
- There is likewise substantial agreement as to the particular flag to be used, and that content that is either marked with the flag or has not been screened for the flag may only be recorded or output from covered products by either (a) analog products and recording methods; and (b) digital outputs and recording methods that provide protection against unauthorized redistribution.
- Certain issues currently remain unresolved, including (a) finalization of criteria used to determine whether a particular recording technology or digital output protection method should be deemed "authorized;" and (b) whether there is adequate support for an alternative proposal, advanced by Philips, which would allow unencrypted digital-to-digital recordings of broadcast content for at least some period of time.
- The schedule for BPDG now calls for a final report by mid-May, and I believe that this is achievable.
- Since the BPDG was primarily focused on technical matters, a separate, "parallel group" has been formed to begin discussing how to enforce the hoped-for technology solution. It is possible that narrowly focused government action will be necessary to support any private sector technology approach.

Plugging the so called "analog hole"

Digital content delivered in a protected manner must nevertheless be converted to an unprotected analog format in order for it to be viewed on the vast majority of HDTV and digital televisions in consumers homes. The "analog hole" refers to the potential which exists for redigitization and subsequent unauthorized redistribution of content (via peer to peer networks or otherwise) because of this need to convert digital signals to analog form in order for them to be viewed. It is currently thought that the most effective means by which the so called "analog hole" issue can be addressed is by using a watermark to indicate how content marked with the watermark can be copied and redistributed.

There are efforts currently underway, under the auspices of the DVDCCA, to evaluate "standard definition" watermarks which we hope will be extensible to "high definition" content. This process has shown that there are serious business, legal and technical issues that need to be resolved before a watermark can be identified for use to plug the "analog hole." Further efforts are necessary before it can be determined how such a watermark might practically be implemented in order to mitigate the analog hole problem. It is possible that narrowly-tailored government efforts may be necessary to address this problem once an appropriate watermark has been identified, however these decisions should await identification of such a watermark.

Preventing unauthorized peer to peer distribution of content

The problem of unauthorized peer to peer distribution of copyrighted content is most difficult to solve. CE and IT companies, including the members of 5C, are sympathetic to the concerns of content owners, yet it is in the arena of solving the peer to peer problem where the legitimate concerns of content owners, the legitimate interests of consumers, and the ability of CE and IT manufacturers to deliver products that are affordable and innovative may be hardest to harmonize. The problem is made even more difficult by the fact that digital devices are used to enjoy (and sometimes share) a variety of data—some of which are not copyrighted.

To my knowledge no concrete proposals concerning how to solve the peer to peer problem have been proposed by any industry sector. It is quite likely that no single solution to this problem will be developed and that instead a variety of technical, legal and business approaches will be necessary. At the moment the immediate, although admittedly partial, solution appears to be consumer education efforts and strong enforcement of copyright laws to punish commercial piracy of copyrighted content. In the event that inter-industry efforts to address the issue are convened, Panasonic stands ready to contribute its technical knowledge to find a solution which promotes the availability of digital content while promoting the twin goals of preserving consumer rights and protecting the intellectual property of content owners.

Conclusion

Panasonic has built its business on delivering innovative products to consumers. We realize that in order to deliver the greatest value to our customers we must likewise provide strong copyright protection for the owners of copyrighted content. For this reason we, together with other members of 5C have been at the forefront of developing technologies that aid the transition to the digital environment for all parties involved. Panasonic will continue to contribute, where it can, to help address technical challenges faced by the industries represented here today and to promote a rapid and fruitful transition to DTV.

Mr. UPTON. Thank you. I note that the House is going to have votes in a short time. So my goal is to try to strictly adhere to this 5-minute rule so that we can get into some questions before the votes start, knowing that we will come back.

Mr. Blanford.

STATEMENT OF LAWRENCE J. BLANFORD

Mr. BLANFORD. Mr. Chairman and members of the subcommittee, my name is Larry Blanford. I am president and CEO of Philips Consumer Electronics in North America. I do appreciate the opportunity to appear before you today, and applaud your leadership on this extremely important and complex set of content protection issues.

I am accompanied today by the Managing Director and Senior Vice President of Philips Research in New York, Dr. Barry Singer.

Now Philips is a global leader in display, storage and connectivity in the digital age. We have nearly a century of experience in consumer electronics, research, design, and manufacturing, and a proud history of inventing and developing consumer electronics products from the audio cassette and the compact disc to high definition television.

We also have a long history of constructive participation in content protection activities and in developing content protection technologies, from the pioneering serial copy management system to what we believe is the leading candidate for video watermarking technology now being evaluated.

Philips has been guided in its development of its consumer products and protection technologies by certain principles: maintaining ease of use and user friendliness; providing backward compatibility with existing devices; preserving the opportunity for new, innovative products; respecting intellectual property rights; preserving the consumer's fair use rights; and, importantly, balancing among the various competing rights and interests.

Philips comes before you today with a call for action, one which I believe is important, if collective we are to achieve technological solutions that strike the all important proper balance of rights in the emerging digital age, those of consumers, device manufacturers and content owners.

I say collectively, because when it comes to setting content protection policy and ensuring the balance of interests and rights, your role is just as critical as that of the private sector. Simply put, the process we are now using to pick a technological solution and balance these interests is flawed, and we need your help to fix it.

Today you are reviewing the status of the most recent developments in digital age content protection, the need to protect digital terrestrial television broadcasts from unauthorized retransmission

over the Internet. Philips fully supports the goal of the Broadcast Protection Discussions Group to protect against such retransmission, and we support the concept of a flag in the ATS signal to achieve this end.

We also appreciate much of the progress made by that group. However, we along with a growing number of participants are deeply concerned about the direction that the group is taking with respect to what happens after the broadcast flag is identified and how DTV would be constrained inside the home.

Basically, the only paradigm being considered by BPDG is one that would, in most cases, require public broadcast content to be encrypted upon receipt in the home and on any copies on removable media. You have heard repeatedly that a solution to this problem is imminent. We appear here today, however, to say that, although we are actively involved in those discussions, we do not believe we are anywhere close to a consensus solution.

Philips, along with Thompson, RCA, and Zenith, shared their concerns as formal objections to the recent BPDG interim report, and raised them with you at the April 9 DTV roundtable discussion. Others have expressed similar concerns privately. I am here to reiterate those concerns today.

No. 1, the direction of the current discussions threatens to constrain the consumer's fair use rights and expectations. For example, if future DVD recorders are obligated to encrypt recordings of television broadcasts from digital sources, any such recordings made on those recorders would not be usable on the 35 million DVD players consumers own today.

No. 2, the process by which decisions are being reached is not fair, reasonable or open, and is not seeking consensus. Rather, it is a carefully choreographed drive toward a preordained result.

No. 3, the decisions regarding how products will be allowed to handle content and the rights of consumers would reside with a few companies through private contractual relationships.

No. 4, companies interested in making devices that handle digital television would be required to sign up to a complex web of overreaching contracts. These contracts include obligations called compliance rules and robustness rules that extend deeply into the design and functionality of each device, and dictate what actions the devices may take and what consumers can do.

Put simply, those driving BPDG are rushing the group to judgment without a thorough public consideration of how the group's approach will diminish the rights of the consumer and competition in affected industries.

At the April 9 DTV roundtable discussion, important questions were posed by Chairman Tauzin: Who has control? Who makes the final decisions? In this case, no public official, no consumer, no licensee, no other interested party has a seat the decisionmaking table. Only the licensors of the preferred technologies and the content community can set policy and make decisions.

Balancing the rights of consumers and differing business interests are a matter of public policy. Consumers' rights must not be left in the hands of private interests. We call upon you today to establish a forum under government auspices in which we can all participate in order to get this right.

While we do not know the perfect forum of this private-public partnership to take, we believe the former Advisory Committee for Advanced Television Services with its strong and effective leadership serves as a useful model. Again, we are not recommending that government mandates the solution, but provides a governance to a process so that we can get the solution correct.

Philips wants to be part of that solution, and we, as much as any company, want this digital transition to flourish and flourish quickly. We believe an appropriate public-private partnership will move us to that consensus solution more rapidly.

Thank you for this opportunity to share our views and our concerns. I would be happy to answer any questions you might have.

[The prepared statement of Lawrence J. Blanford follows:]

PREPARED STATEMENT OF LAWRENCE J. BLANFORD, PRESIDENT AND CEO, PHILIPS CONSUMER ELECTRONICS COMPANY

Mr. Chairman and Members of the Subcommittee, my name is Larry Blanford. I am President and Chief Executive Officer of Philips Consumer Electronics Company, a division of Philips Electronics North America Corporation, which is the US subsidiary of Philips Electronics of the Netherlands. In the United States, Philips employs over 35,000 people manufacturing and selling over $10 Billion dollars of goods and services in the areas of consumer electronics, lighting, medical systems and devices, semiconductors, displays and domestic appliances.

I thank you for the opportunity to appear before you today and commend you for conducting this hearing entitled, *Ensuring Content Protection in the Digital Age* at such an important juncture in the transition to that new age. Your attention to the Digital Television (DTV) transition and to the complex set of issues that remain to be addressed is vital to the ultimate success of that transition. You rightfully focus today on a key challenge—resolving copy protection and digital rights management in a way that is consistent with public policy goals of protecting content, allowing technology to thrive and, most importantly, preserving the fair use rights and expectations of the consumer in this new digital age. The manner in which we proceed will dictate the measure of success we attain.

The combined efforts of the public and private sectors have come a long way toward ushering in this new digital age, but I come before you today to raise a caution—that the current direction embodied in the on-going Broadcast Protection Discussion Group addressing ways to prevent Internet Retransmission of digital television broadcasts is not in the interest of sound public policy, is not in the best interest of the affected industries and is certainly not in the interest of the consumer. Mr. Chairman, Philips raised its concerns in the most recent DTV Roundtable Discussion on April 9. We are here today because we feel it is very important to bring to your attention the fact that the chorus you will hear today, as Senators Leahy and Hatch heard at their hearing only weeks ago, that a solution to the problem of Internet redistribution is imminent misrepresents the current state of affairs and the nature of the challenge that still lies ahead.

Philips, as much as any company in the US wants to see this transition to the digital age, and more specifically this transition to digital television, move as swiftly as possible. But we also know from decades of involvement in the consumer electronics industry that we must get this right, meaning that we cannot rush to judgment on technological solutions that are not widely accepted as the best solution for all parties involved—the CE industry, the Information Technology industry, the Content Community and, of course, the consumer. Philips calls upon the Congress today to reassert its role in this critical public-private partnership by providing an appropriate, public forum to continue these industry discussions and to foster workable solutions on a timely basis. Further, today we offer to provide our complete support to such an effort, including offering related Philips technologies to all comers, under open, fair and easily available terms. Philips has an extensive technology portfolio, which we believe can contribute to the development of solutions every bit as robust and effective as those embodied in the current, BPDG direction.

Philips has long history in development of consumer electronics products and technologies

Philips is no stranger to the world of inventing and developing products and technologies in the area of consumer electronics. From the Compact Cassette to the

Compact Disc to the one chip TV, Philips has invented and developed products that have enjoyed widespread acceptance in the industry and among consumers. The Compact Disc is the most widely implemented digital technology on the face of the earth. Open, public standards helped make this so, open, public standards should help us select new copy protection schemes.

Our untiring commitment to the development and implementation of advanced television in the United States began in our research labs in Briarcliff Manor, New York in 1981. With decades of financial investment and enormous scientific effort, we worked to help create and commercialize Digital Television. Philips is extremely proud to have been instrumental in the development of Digital HDTV, beginning with its own system, later as a member of the Advanced Television Research Consortium, and finally as a founding member of the "Grand Alliance," which produced the DTV standard adopted by the FCC in 1996. This unprecedented standards setting process involved numerous private companies from each affected industry but just as importantly involved an extraordinary public-private collaboration fostered by the Congress and the Federal Communications Commission embodied in the Advisory Committee for Advanced Television Services (ACATS) chaired by Mr. Richard Wiley. The positive result has propelled the United States into an historic transition to advanced digital television and related services.

Philips has been an active participant in the development of Copy Protection Technologies and Adheres to Basic Principles to Protect the Consumer

The implementation phase has certainly presented its challenges, not the least of which has been the development of copy protection technologies. Philips has long developed solutions along with the content community that struck the proper balance between the interests of the copyright holder and the consumer. Philips invented, and offered to the consumer electronics industry for free, the Serial Copy Management System, which simply provided the necessary instruction to the recording device as to whether a copy was or was not allowed. We continue to be equally involved and committed to seeking solutions that strike the proper balance. Philips has for years been a constructive participant in inter-industry copy protection activities. We have dedicated millions of dollars and thousands of hours of effort from our best engineers to groups such as the Copy Protection Technical Working Group (CPTWG), the Secure Digital Music Initiative (SDMI), and the Broadcast Protection Discussion Group (BPDG). Drawing on our expertise in digital video we were the lead developer of one of the two watermark technologies being considered for the protection of digital video content. Philips created and offered to the record labels an innovative technology to work with watermarks to address Internet file sharing of sound recordings. We have suggested several approaches to the BPDG.

As these contributions suggest, Philips develops new products and technologies with the interest of the consumers" rights and expectations at top of mind:

- Consumers' fair use rights must be preserved in any technical or public policy solutions to digital age challenges
- Backward compatibility has been the backbone of the consumer electronics industries' product designs.
- Consumers react negatively and very strongly when their expectations for fair use and ease of use are not met.
- Ever increasing levels of complexity in consumers' devices will render products increasingly unreliable, more expensive and will constrain consumer activities.
- User Friendliness is a hallmark of CE products.

Consumers should not bear the costs, in dollar terms and in terms of technological complexity, when there are much simpler solutions to the agreed upon problem—the prospect of Internet redistribution of digital terrestrial broadcasts.

Philips Supports the Goal of Preventing Internet Retransmission of Digital Terrestrial Broadcasts, But Believes the BPDG Process Is Actually Retarding Industry Efforts To Move Forward

We fully support the goal of BPDG to protect against retransmission of digital television over the Internet and the concept of a flag in the ATSC signal to achieve this end. We also appreciate the progress made by that group, including the general agreement that a flag in the ATSC signal can be used to trigger protection, the idea of starting protection upon demodulation, and many of the other details that have been advanced. However, we, along with a growing number of participants, are deeply concerned about the direction that the group is taking with respect to what happens AFTER the broadcast flag is identified, and how DTV would be constrained inside the home.

This issue of protecting broadcast content is a complex one that merits careful consideration and the evaluation of a variety of alternatives.

Regrettably, in this effort to address Internet retransmission, BPDG has been taken over by a small group of companies that are pressing a particular approach that would affect ALL retransmission of content inside the home. This proposal tramples upon the fair use rights of the consumer and introduces unnecessary levels of complexity and costs in consumer devices.

Under the approach proposed by one Studio and a consortium of hardware companies called the 5C, digital television content would need to be "protected" once demodulated. The technologies that could be used for this protection, which are generally conceived to be encryption technologies, would be under the control of the studios and private consortia, such as the 5C. For example, the technologies that the studios wish to use as a benchmark for the protection are the encryption technologies licensed by the 5C entity (which encrypts content on digital links) and the related 4C entity (which encrypts content on removable recording media).

Any party interested in designing and manufacturing devices using these technologies to encrypt digital television programs would be required to sign up to a Byzantine set of complex, over-reaching contracts for these proprietary technologies. These contracts include obligations called Compliance Rules and Robustness Rules that extend deeply into the design and functionality of each device and dictate what actions the devices may take. These Compliance Rules and Robustness Rules are in the control of the studios and the private consortia and will be created in the first instance, and may be changed in the future, wholly in their discretion. The public, consumers, licensees, and public officials are, unfortunately, not a part of this process. In short, private interests are taking control of consumer rights and as a result establishing public policy! A small number of our competitors and the studios are put in control of the functionality of our products!

This result is possible because of the licensing construction built around the use of these technological solutions. Moreover, the technology licenses agreements and associated Rules include obligations that extend far beyond that which is necessary and appropriate to prevent the Internet retransmission of DTV.

Even if it were appropriate to cede public policy to private interests, the implementation of this most recent proposal is rife with unintended consequences for products and for the consumer. The obligation to include multiple encryption technologies in each device that handles DTV content will burden consumer devices, increase their cost and decrease their legitimate functionality.

Further, the 35+ million DVD players in the market today are unable to decrypt any discs recorded in the home using any proposed encryption system. If future DVD recorders are obligated to encrypt recordings of television broadcasts from digital sources, any such recordings made on those recorders will not be useable on any existing DVD player or on any DVD player likely to be shipped in the near future. Consumers should not be required to purchase a new set of devices or to make digital recordings of content of digital content through old fashioned analog interfaces simply to do what consumes have always done in their homes. To leave matters in this state is to deny the consumer the benefits of digital technology. Digital technology's primary advantage is to move and copy data without any qualitative loss. Where this is appropriate (such as in a consumers home) it is reasonable that the consumer not only retain the ability to watch broadcast content at a convenient time or to move content from one room to another but also to gain additional flexibility to utilize content. To do otherwise is to restrain technology solely for the benefit of the copyright holder as a mechanism to subdivide content into smaller units, each of which can be sold at a premium price.

The current proposal also would inhibit innovation in television products. Under the proposal, any innovative company interested in developing and marketing new products that would give consumers more control over how and when they view television would be required to sign these over-reaching, burdensome licenses for the "approved" proprietary encryption technologies, pay the applicable license fees, and bear the costs of including encryption and decryption capabilities in their products. The complexity and cost of these licenses and the technologies alone will inhibit start-up companies, which are often the most innovative.

The BPDG is not a consensus body and is certainly not a standards body.

Philips has lost all confidence that the BPDG discussion group as currently constituted can achieve meaningful results, or that it will allow for serious consideration or adoption of technology solutions of equal merit presented by other interested parties. BPDG is not an open, consensus standards setting process. BPDG has no process for making decisions. In fact, the studios and 5C have made clear their view that there need be no process, because BPDG is not a standards body; it simply is a forum for discussion and the identification of points of agreement and disagreement. Such discussions may have their place, but on this matter of such crit-

ical importance to the establishment of good public policy, this approach is seriously lacking.

We respectfully believe that the decisions of how DTV content broadcast over the public airwaves will be handled in the home and how it will be available to consumers raise important public policy issues; issues that are far too important to leave to any group of private companies no matter how well intentioned. Private industry should be given a chance to reach a consensus, but the process should be cleansed by the sunlight of government. Further discussion should be held in an open forum, with the involvement of those who are entrusted with the development of public policy.

Philips believes the Congress should make clear that there will be no toleration of a system in which the private interests control the Rules for copy protection technologies that become de facto standards. The rules and licenses under which such technologies are used raise key public policy issues and must be subject to minimum standards of openness, reasonableness, scope and consensus. We have ideas for appropriate technologies that we are prepared to share with the industry in exactly this manner, as we have attempted in the past.

Philips, therefore, calls upon the Congress to reassert itself in this ongoing endeavor by providing under its auspices or the auspices of the Federal Communications Commission, or a suitable standards body an organized, open and fair venue to oversee the continuation of efforts to develop and implement next generations of copy protection technology. In support of such a change, Philips pledges its full, continued support and further pledges to do its part to make technological solutions available on open, fair and reasonable terms to all interested parties. We look forward to this Committee's continued leadership in this critical arena.

Mr. UPTON. Thank you.

Mr. Jacobson.

STATEMENT OF LARRY JACOBSON

Mr. JACOBSON. Mr. Chairman and Ranking Member Markey and members of the committee, I am delighted to appear before you today to discuss the pressing issues facing the media and technology industries in our digital era.

RealNetworks, founded in Seattle, Washington, in 1994, is a pioneer in the development of digital media technology and services that enable people to create, deliver, discover, and play digital audio and video content over the Internet, both through downloading and through a method RealNetworks invented called "streaming." Most of you probably know our RealPlayer or RO-1 player.

RealNetworks agrees that today's Internet marketplace suffers from an unacceptable level of piracy of copyrighted works. As a person who has spent most of my career in the entertainment and broadcast industry, I understand that copyright protection lies at the core of America's ability to create and sell entertainment products throughout the global marketplace on a variety of distribution platforms.

Digital copying via the Internet poses fundamental challenges for the economics of both the entertainment and technology industries, and we need to meet that challenge head on in order to realize the potential of this new distribution medium.

The good news is that RealNetworks is building distribution channels, business models, and new subscription services that will contribute to a robust and legitimate content marketplace for digital music, video, and other products. As a fundamental part of our digital media platform, RealNetworks has developed a robust and sophisticated digital rights management technology or DRM to protect content that is delivered to consumers.

This DRM and our other security technologies are in the marketplace today, and currently protect premier content we offer, from major record labels, CNN, Fox Sports, ABC News, NASCAR, major league baseball and the MBA, among others. Already in 18 months since we began offering our premium protected subscription services, we currently serve over 600,000 monthly paid subscribers.

In crafting legislation regarding the Internet, Congress to date has wisely refrained from sweeping regulation, resisting the temptation to become in essence the chief technology officer for the Internet. We should continue to be guided by three core principles: First, that government should only intervene in technology markets where there is a clear evidence of market failure; second, that private sector competition will always create the best technologies, resulting in new revenue, new quality jobs, and new consumer benefits; and, third, that all solutions must respect consumers' fair use rights to fully enjoy digitally delivered content.

In the spirit of these principles, scores of companies, including RealNetworks, are enabling secure content distribution through flexible DRMs that are protecting content in today's marketplace. Software can be built and adapted to accept multiple DRMs and play back content that is encoded in a variety of file formats, and we see evidence that market driven solutions for security are rapidly evolving on the Internet today.

In contrast to market driven solutions, we don't believe that the government should pick a single winner and mandate a security standard for the rapidly evolving digital market. This approach would politicize the standard process, establish more bureaucracy, create a single target for hackers, and ultimately not lead to the best technology for security.

Rather than focusing its energies on creating a new regulatory framework for digital media distribution, we believe it would be wiser for Congress to eliminate practical barriers to the growth of e-commerce and digital media.

As the Copyright Office recently recommended, existing laws should be fine tuned to clarify that payments due for streaming and downloading of music content should be put in place. We must also address the economic imbalances in the field of Internet radio, where new legal regulations have made it harder for innovative programming services to compete on a level playing field with other content offerings.

Moreover, Congress must always proceed carefully before tampering with our carefully balanced copyright laws. Clarifying the status of temporary copies in RAM and server copies, for example, would make it easier to lawfully perform and download digital content, all in a way designed to compensate copyright owners.

Finally, Congress should clarify how longstanding fair use principles peacefully coexist with the anti-circumvention provisions of the DMCA. Any marketplace for digital goods must preserve longstanding consumer rights to use content they have purchased in a variety of ways. We must treat Internet users like potential customers and not potential criminals, if we are to build a marketplace based on mutual trust.

In closing, RealNetworks stands ready to work with policymakers and all other concerned parties to create a digital marketplace that

affirms the best principles of American innovation, consumer value, and the rule of law.

Thank you for your attention, and I would be happy to answer any questions that you may have.

[The prepared statement of Larry Jacobson follows:]

PREPARED STATEMENT OF LARRY JACOBSON, PRESIDENT AND CHIEF OPERATING OFFICER, REALNETWORKS, INC.

Mr. Chairman and members of the Committee, I am delighted to appear before you today and thank you for the opportunity to come to Washington—the "other Washington" for those of us with a Seattle orientation—to discuss some of the pressing issues facing the media and technology industries at this moment.

RealNetworks as a Pioneer in Internet Media Delivery

RealNetworks, founded in Seattle, Washington in 1994, is a pioneer in the development of digital media technology and services that enable people to create, deliver, discover, and play digital audio and video content over the Internet and within intranets, both through downloading and through a method RealNetworks developed called "streaming." Streaming enables consumers to enjoy uninterrupted, real-time broadcasts over the Internet, by compressing digital media files and dividing them into packets, that then are delivered to the consumer's personal computer.

RealNetworks developed the first streaming media player and the first streaming media server in 1995. RealNetworks has released nine versions of the RealPlayer streaming media player. In addition, RealNetworks has released two versions of its RealJukebox software, which was first introduced in 1999, and which permits consumers to manage their music collections on their personal computers. That dynamic pace of innovation continues given the rapid adoption and increasing use of digital media on the Internet.

RealNetworks offers a universal platform for end-to-end delivery of digital media, from creation to broadcasting to end-user consumption. This allows companies to build powerful digital media applications like video subscription services on our platform without regard to the underlying hardware or the software operating system. RealNetwork's business model is based primarily on (1) licensing and selling software to create, deliver, play and secure digital media; (2) selling subscriptions for access to audio and video content from major content providers, including ABC News, CNN, Wall Street Journal, Fox Sports, E! Entertainment, Warner Music Group, BMG Records and EMI Music; (3) providing professional services, such as hosting others' streaming media and technology implementation, and (4) selling advertising and promotions via RealPlayer, RealJukebox, and the RealOne Player for our RealOne sports, news and entertainment subscription service.

As a fundamental part of our digital media platform, RealNetworks has developed a robust and sophisticated DRM—Digital Rights Management—technology to protect content that is delivered in streaming or digital download formats. This DRM, called the Real System Media Commerce Suite, currently protects digitally downloaded and streamed files from major record labels via the MusicNet platform and has been licensed to the MovieLink consortium, organized by Sony, Universal, Warner Brothers, MGM and Paramount Pictures, to protect the digital download of feature films.

Today, we have licensed our technology to over 270 million unique registered users around the world with at least one of our products. These consumers have consistently proven their desire to enjoy music and video, whether streamed on demand, streamed in a webcast mode, or delivered via digital download. As bandwidth increases for connected users, music video and long-form video content are proving equally popular. In fact, broadband consumers are the heaviest users of our technology and as broadband adoption increases we can expect similar increases for streaming media technologies.

As a company with applications on an estimated ninety percent of personal computer desktops in the United States and hundreds of millions of users around the globe, we are keenly aware of the challenges to Internet distribution of music, video and other forms of content that require licensing of intellectual property rights.

The Challenge of Secure Digital Distribution at a Critical Time for our Industry

Mr. Chairman, this hearing comes at a critical time for the Internet and specifically for companies that are building the new distribution channels for music and video content. We are all aware of the explosion of online file-sharing services and

their global popularity. Countering this trend, both independent and major recording companies have licensed their works to subscription online services such as MusicNet, PressPlay, and Listen.com's Rhapsody and other online ventures. RealNetworks has been one of the driving forces behind the creation of legal subscription services. As for the prospect of distribution of feature films on a pay-per-view basis, RealNetworks is contributing technology to the MovieLink venture and we hope to see other pay-per-view and subscription video services roll out in the near future. Our technology and subscription services model is designed to facilitate just this sort of business.

For any of these new content distribution channels to succeed, we will need to make sure that content is secured, that consumers see value in the digital purchases they make, and that the underlying business models make sense for all participants in the "food chain."

Security for music and video distribution is essential. Whether digital content is produced by a garage band or a global media company, content owners need to reach a comfort level with putting that content into the digital marketplace.

We all know that today's Internet marketplace is characterized by an unacceptable level of piracy of copyrighted works. The balance of copyright—providing authors with a fixed exclusive period of time to reap the rewards from creating new works—will be upset if this situation prevails. The business leaders testifying alongside me today will undoubtedly give a more detailed picture of the dimension of the piracy problem and the steps they are taking to address it. Let me simply say that RealNetworks does not take widespread Internet piracy lightly, both as a creator and licensor of our own intellectual property and as a long-standing partner of many content creators.

RealNetworks was the first company to successfully invoke the anti-circumvention mechanisms of the DMCA to stop the distribution of software that attempted to break the proprietary content protection measures within our RealServer and RealPlayer software and we will continue to invoke legal mechanisms to prevent piracy.

As a person who has spent most of my career in the entertainment industry, culminating from 1997 to 2000 as President of the Fox Television Network, I understand that copyright protection lies at the core of America's ability to create and sell entertainment products throughout the global marketplace on a variety of distribution platforms. Digital copying via the Internet poses fundamental challenges for the economics of both the entertainment and technology industries and we need to meet that challenge in order to realize the potential of this new distribution medium.

The good news is that RealNetworks is building distribution channels, business models and new subscription services that will over time create a robust and legitimate content marketplace for digital music, video and other products provided that license rights to that content can be efficiently and effectively obtained and administered.

DRM technology is one key ingredient for establishing a legitimate digital marketplace. The Real System Media Commerce Suite currently is used by technology platforms such as MusicNet to protect tens of thousands of valuable sound recordings from major record labels. To protect valuable intellectual property with a level of assurance required for digital distribution, DRM's must be universal, flexible and secure. We design our DRM with the ultimate goal of supporting all types of media to all devices. Further, these DRM's must support flexible set of business rules that allow the content creator to determine payment scenarios ranging from pay per use to permanent ownership. Finally, we design our DRM to be native, end-to-end, tamper resistant and to be quickly renewable in the event of malicious attack.

Technology alone will not create the legitimate marketplace for online distribution of content. After an era where first advertising and then e-commerce was widely expected to carry the new online industry to the promised land, we have learned from experience that a mix of business models, matched to consumer behaviors, are required for our industry to succeed. RealNetworks has led the way with premium content services—offering distinct packages of digital downloads, on-demand streamed content and webcast streamed programming—that reward content owners while providing unique value to end users. These services are prime examples of RN working in content with using RN technology to promote content to deliver it to consumers on a subscription basis.

Baseball fans can't get condensed games of complete baseball broadcasts on-demand on network TV, but they will be able to pay for this product this season through our RealOne subscription products. In parallel efforts, we are working with Fox Sports, CNN, E! entertainment, ABC News, NASCAR, the NBA and other world-class media companies and sports leagues to bring unique value to the online consumer. In this sense, the Internet won't directly compete with television or radio,

but it will offer programming that is uniquely interactive and well-suited to the online digital medium.

While RealNetworks can build the launching pad for digital distribution, our content partners supply the rockets. Simply put, there can be no meaningful marketplace for digital goods without compelling content. From major media companies, to independent radio stations, to non-profits, to individuals seeking an outlet for creative expression, the Internet is a vast network of content markets. It is in fact a "super market," where great content can reach over 500 million globally connected users. Just as other digital products such as the compact disc and DVD video disc created new markets for traditional content, online digital distribution will enrich content creators and serve consumers in new ways. RealNetworks has played a special role in inventing the channels for digital streaming and downloading of audio and video and our philosophy here is simply to "Let a Thousand Flowers Bloom."

Building a Competitive Marketplace Absent Government Intervention

When the history of the first decade of the Internet is written by some future historian, he or she will probably focus one salient fact: that public policymakers in the United States were wise enough to let the infant medium evolve with a minimum of government interference and regulation. It is hardly a secret that the United States, spurred by companies such as Amazon.com, E-Bay, Cisco and Intel, to name only a few, leads the world in innovating the software, infrastructure and business models that make the Internet run and that unprecedented economic value has been created in a very short span of time. In contrast to the European Union, where policymakers have an instinct to "regulate first" then let the market develop, the foresight of American public policy in this sphere must not be underestimated. Congress has stepped in wisely, to respond to distinct needs to protect certain classes of information such as healthcare, financial data, or information pertinent to children. Yet Congress has eschewed more sweeping regulation, and has resisted any temptation to become, in essence, the "Chief Technology Officer for the Internet."

We should continue to be guided by two core principles: First, that government should only intervene in technology markets where there is clear evidence of market failure. Second, that competition will always create the best technologies, resulting in new revenue, new quality jobs and new consumer benefits.

Let me first address the issue of market failure. Recently, we have been told that unless a single unitary and open standard is created for digital content protection, the digital marketplace will not evolve. Concerned companies have sketched a scenario where competing and conflicting technologies will create a digital Tower of Babel, where consumers are confused by different technical choices and where systems fail to interoperate with one another, preventing the build out of an end-to-end distribution channel for digital content.

From our perspective, the Tower of Babel scenario ignores the realities of today's marketplace. Scores of companies, including RealNetworks, are laying the foundation for secure content distribution through flexible DRM's. Software can be built to accept multiple DRM's and play back content that is encoded in a variety of file formats. For example, RealNetworks supports several different secure file formats, including Microsoft's Windows Media DRM. Unlike a hardware environment where a media player is permanently "locked in" to one DRM or can only play content from one source, software media players are designed to be rapidly updated to accommodate new file formats and improved security schemes. In addition, our player technology supports multiple third party DRM solutions. In this manner, a consumer can get content secured by a variety of different DRM's in different formats. In designing these DRM solutions, we also adhere to a principle of "ease of use" for consumers, with the digital rights management functions occurring through automation that is essentially transparent to the end user who simply wants to access interesting and entertaining content delivered online.

To win the business of major media companies, technology companies will make sure that their security solutions meet the specifications outlined by copyright holders. If we fail to do this, we won't get their business. As in the case of the VHS vs. Betamax systems, the marketplace will ultimately decide on the most appropriate technology for specific consumer and industrial uses. We see evidence that market-driven solutions for security is rapidly evolving on the Internet today and we will continue to design our software players and security solutions to be flexible, multi-platform and renewable.

Market-driven solutions, as has been the case in American industry from the Nineteenth Century invention of the telegraph to the 21st Century mapping of the human genome, consistently create the most enduring economies—economies that reward inventors and consumers with products that become a part of the fabric of their daily lives. Only a few years ago, the Internet was primarily a text-based me-

dium. Now we think of going online in terms of accessing the latest news, sports, entertainment, music videos and short films. Ten years from now, we may think of the convenience of the Internet like a literal "home video" store, where we can "stop by" to rent the latest films or our favorite television shows. This is why we are so excited about playing a role in creating these new digital distribution markets by creating platforms for rich media content delivered to millions of consumers and secured by our DRM solutions.

Government-Mandated Standards will Stifle Innovation and Fail to Reduce Piracy.

The alternative to market led solutions for digital rights management is a scenario where the government picks a winner and mandates that this government regulated standard become the "open standard" for the industry. This scenario is embraced in the Consumer Broadband and Digital Television Promotion Act, S 2048, introduced a few weeks ago by Senators Hollings and Stevens.

The Bill mandates that all hardware and software digital media devices respect standard security technologies that are approved by the FCC. If the undefined "industry" fails to develop the specified security technologies within a one year period, then the FCC is authorized to develop a standard based on the criteria listed in the proposed bill.

The criteria may sound familiar to you, given my description of the RealNetworks and other industry developed DRM solutions that are already protecting digital content in today's marketplace.

Standard security technologies, according to the Hollings-Stevens legislation, must be: reliable, renewable, resistant to attack, readily implemented, modular, applicable to multiple technology platforms, extensible, upgradeable, not cost prohibitive and the software portion of such standards must be based on open source code.

Aside from the last requirement, several current DRM's meet the proposed legislation's test. The recent advances in the Broadcast Protection Discussion Group for digital television affirm that the IT, consumer electronics and content industries can work together to develop effective security measures outside a framework of government bureaucracy and regulation.

However, S. 2048 not only sets abstract requirements for a technical standard, but also poses serious issues for consumer use of digital content. We find it very troubling that S. 2048 appears to make it a crime for an individual to alter security technology to access protected content, unless their behavior fits within a very narrow safe harbor. To be precise, the person must be a lawful recipient of a personal copy for lawful use in their home and only play back such content at a time when "it is lawfully performed." This safe harbor is so narrow as to radically rewrite the long-standing Fair Use doctrine in our copyright law, which has been applied time and again by courts from every Federal Judicial Circuit to ensure that consumers can use purchased or public domain content for legitimate purposes.

For example, S. 2048 could be read to prohibit—indeed criminalize—the practice of a consumer taping a digital TV program and saving that file for future multiple viewings with extended family and friends.

Mr. Chairman, this proposed "government mandate" approach to solving the digital piracy problem will create a host of problems for the information technology industries, cause a firestorm of protest among American consumers, and ultimately do very little to prevent the proliferation of pirated digital music and video files. We reach this conclusion, based on our track record of developing successful software products that are used by millions of consumers to legitimately play back and store online content and from our observation of the history of government mandated standards. Please allow me to summarize these conclusions as seven "lessons" based on our experience, which call into question whether any government mandated standard would solve the piracy problem it is designed to address:

1. Forcing an industry to reach a "common standard" inevitably results in lost time to market for effective solutions. This was the case with the effort to protect digital music in the Secure Digital Music Initiative. It is especially true where RealNetworks, IBM, InterTrust, RSA, Microsoft and a host of other leading companies have already deployed DRM's that meet many of the security criteria of S. 2048;
2. Government standards inevitably try to solve "last year's problem," while technology, consumers and the hacker community march on. The FCC, already burdened with a full plate of important regulatory tasks, is unsuited to stay on top of the latest industry developments in encryption, tamper resistance, new formats and online security measures and would be unable to deploy solutions in the matter of hours required to stop system-wide hacks of the government administered standards;

3. Creating a process for the government to pick a winner will politicize the standards process and favor those companies with staying power and political skill, not necessarily the best technologies;
4. A single uniform standard presents a bigger target for hackers;
5. Overbroad laws that mandate content protection for all digital media devices would potentially criminalize widespread lawful and reasonable consumer activity on home networks and common practices of making back-up copies for future use;
6. New laws creating legal uncertainty will result in less investment in new technologies that in any way process digital content, thus slowing the roll-out of digital television and broadband deployment;
7. Finally, we have learned that the adoption of new and confusing Fair Use tests that apply to narrow sets of consumer behavior, such as the safe harbor envisioned in S. 2048, lead to legal confusion, consumer confusion and eventual market paralysis.

The Need for Targeted Legislation to Update Existing Copyright Law to Accommodate New Technologies and Promote Digital Content Services

Congress must always proceed carefully before tampering with the regime of Copyright, Patent and technology laws that maintain the balance of copyright between the incentive to create new works and the rights of consumers to enjoy those works. S. 2048, as currently drafted, would radically alter the copyright balance in ways that disrupt the development of a robust marketplace for digital media, and therefore would benefit neither content creators, nor distributors, nor consumers.

Only four years ago, Congress created new rights in copyright law and new security enforcement mechanisms with the passage of the Digital Millennium Copyright Act. Recently, in its Section 104 report, the Copyright Office recommended several changes that would update the DMCA to better solve the problems of digital distribution. Clarifying the status of temporary copies in RAM and server copies, for example, would eliminate legal uncertainty in the area of licensing of music for online distribution and speed up the legitimate offering of music on a subscription basis. Changing notice provisions to copyright owners, allowing for blanket notices to license thousands of works at a time, would similarly stimulate this music distribution channel—all in a way designed to compensate copyright owners.

We don't need additional new criminal penalties designed to make it harder for consumers to access digital works. In fact, the DMCA already provides powerful mechanisms to prosecute those who distribute software primarily designed to circumvent technical protection measures and, as I mentioned above, RealNetworks was the first company to enforce these provisions. If pirates reach a level of activity where they begin to pose a challenge to secure distribution of content in a given channel, the DMCA and current copyright and criminal laws provide the tools to go after them and shut down illegal products.

Rather than focusing its energy on creating a new regulatory framework for digital media distribution, we believe it would be wiser for Congress to eliminate practical barriers to the current marketplace, particularly in areas such as Internet radio where new legal regulations have made it harder for innovative programming services to compete on a level playing field with other content offerings. Several of these measures are already under consideration in the House and Senate and RealNetworks would urge policy makers to adopt limited legislation designed to impact and resolve the following issues:

1. **Online Music Licensing**—we need to update existing statutory licensing provisions and make it easier, not harder, to pay writers and publishers for use of their works online via music subscription services. To compete effectively with unlicensed music file sharing services, legitimate online services should be legally enabled to offer comprehensive content offerings, such as complete libraries of songs, to end users, without burdensome notice requirements that necessitate thousands of individual licensing transactions before any content can be offered to music consumers;
2. **Web Radio**—Congress should examine whether the current standard for the performance of sound recordings via web radio has been interpreted to create a burdensome rate structure on an innovative new medium that offers a diversity of content from a wide variety of webcasters to the public;
3. **Network Transmission**—we need to clarify that copies that are not accessed by the consumer, but simply facilitate the transmission of a final copy to the end user, should not bear separate royalties or taxes;
4. **Performances and Reproductions**—as recently recommended by the Copyright Office, Congress should distinguish between a performance, such as an on-

demand stream, and a permanent reproduction, such as a digital download, for the purpose of computing royalty payments;

5. **Copyright Royalty Tribunal**—Congress should explore the reestablishment of a permanent judicial panel such as the Copyright Royalty Tribunal—in order to speed up rate-making proceedings and foster new distribution models such as webcasting.

Mr. Chairman, as set forth in Article I of The Constitution, our copyright system is predicated on the balance of consumer rights to enjoy content and the limited monopolies granted to creators of content in order to incentivize them to create works that promote the progress of "Science and the Useful Arts." Yet recent changes in our copyright laws threaten this delicate balance and we believe it is time for Congress to address the confusion caused by the DMCA regarding the status of consumer Fair Use, not in the limited and restrictive manner contemplated by S. 2048, but in a way that clarifies that consumers have the right to store, archive and time shift purchased and public domain content. The simple act of breaking a digital seal should not be a crime in this country if the underlying purpose falls within the accepted personal use ambit of our long-standing copyright balance. A clearer zone of fair use will stimulate the invention of legitimate products designed to allow users to enjoy purchased music and video that is delivered by new digital services. In turn, this will create demand for broadband services and increase investment in new technologies.

Working cooperatively, the content and technology industries will create a dynamic marketplace for digital distribution of content. Such a market will enrich consumers with new choices and lead to new product innovation. Eventually, it will stimulate artists to create new art forms unique to the new digital medium.

RealNetworks has worked in partnership with independent artists and leading media companies to build the framework for online distribution in a way that respects copyright, pays artists and offers value to consumers. We stand ready to work with policymakers, consumer electronics companies, broadband providers, media companies and all other important actors in this environment to create a digital marketplace that affirms the best principles of American innovation and the rule of law.

Thank you for your attention. I'd be happy to answer any questions you may have.

Mr. UPTON. Thank you.

Mr. Assaf Litai.

STATEMENT OF ASSAF LITAI

Mr. LITAI. Thank you, Mr. Chairman. I am Assaf Litai, founder of Vidius, Incorporated. Vidius is a startup company that offers services for use by content owners concerned over peer-to-peer distribution of their products. We also offer auditing services for use by corporations and other institutions who may find that their corporate computers are being used without their knowledge or approval for peer-to-peer distribution of movies, games, computer software, books, data bases and objectionable material.

Today I will demonstrate a video system called Clearsight that is capable of identifying, auditing, and interdicting such piracy. I want to emphasize the importance of its auditing feature.

Most of the peer-to-peer services that deliver pirated material are owned and controlled by legitimate institutions in other lines of endeavor. This should not be a surprise, because most symmetrical broadband access today that is high band width for uploads as well as downloads is provided to institutions rather than private homes.

This is unlikely to change anytime soon, because even cable modems and DSL lines provide for slow upload speeds. Viral distribution occurs where both the upload and download are a true broadband speed.

Vidius has applied for over 20 patents on the techniques and services that I will demonstrate today, but demand for them thus

far is limited. Many legitimate institutions, even corporations who are themselves major victims of piracy, are afraid to learn about their own hosting activity, that this could open them to prosecution for willful activity. To paraphrase an old song, they are afraid to find out who is hosting stuff on their own servers, whether they are out selling stuff.

See, most of the material made available for peer-to-peer distribution is not stolen at all. It is licensed copies of programs, data bases or publications that employees are quietly and illegally publishing to the rest of the world. But these servers also offer lots of entertainment content that has indeed been stolen.

What I will show you now is a movie recorded in our office of our system at work, not a simulation. It shows a server audit as to how many servers are offering a single movie and then focuses on a particular corporate server, including the number of copies. Our movie then shows us interdicting further mass anonymous distribution.

We show a two-stage process. Stage one is localization, searching for and finding the host of the film. This utilizes our auditing system. Stage two is interdiction, removing the film from mass anonymous distribution.

The auditing system display shows a navigation tree on the left panel and a detailed report of search results on the right panel. Using the navigation tree, we can zoom in from continents down to countries, down to specific hosts for this film. We could select any continent, but let's look more closely at the U.S.

On the left you see a list of very respectable institutions at each of which someone is offering one or more copies of this film for mass distribution. We could, for example, look at the University of California, but let's pick one of the dozens or hundreds of companies that the search for this one movie turned up.

Now you see a big list of numbers. Each of these numbers represents one machine somewhere in this company that is offering for distribution at least one copy of this particular movie. We will now take a look at just one of these servers. It is offering to the public two copies of Part One of the movie and one copy of Part Two.

Now for the interdiction stage. This movie of our computer screens shows the beginning of a download, the entry of a command to interdict it, and the distribution of the content stopping. This is basically then the Gnutella client downloading the film, the search. We know who the host is.

The information is filled in by the Clearsight system, and we start the interdiction. Look at the speed indicate there on the top righthand corner of the screen. As you can see, it is no longer available to the peer that requested it or to other peers.

I want to emphasize a few points about what you have seen. First, our system operates only in data that has been publicly displayed to any inquiring computer. This data describes the content that has deliberately been made available to the public for piratical distribution. If this information was not personally delivered to anyone who inquired, the Vidius system could not operate.

Second, our system does not require the identification of any one server, PC, home network nor consumer electronic product, nor does it interfere in any respect with the operation of such products on an institutional or home network.

Third, our audit system can also be used to help this company identify all illegally offered content of all types, data, software, games, etcetera, on its computer systems so that they can clean it up themselves. Since this material is publicly offered, we would not even have to go onto their premises to compile a report for them.

I am not here to denigrate other approaches to dealing with peer-to-peer distribution, particularly those favored by our potential clients. Our service, and perhaps those of some competitors, is designed to be part of a multi-faceted approach. I do believe, however, that our own element is least intrusive to consumers and corporate employees and most productive for those who employ it.

In summary, Mr. Chairman, I have demonstrated two separate approaches to dealing with peer-to-peer piracy, and we think both can contribute to dealing with the problem. One is to help content providers protect against illegal distribution of otherwise unprotected content. The other is to help those who unwittingly make such distribution possible to audit and police their own premises.

If major organizations and institutions had incentives to clean up their own computer servers, the majority of illegally posted movies, books, songs, software, games, data, training manuals, and objectionable matter that we find in our audits could disappear overnight.

Thank you, Mr. Chairman, for the opportunity to have appeared today.

[The prepared statement of Assaf Litai follows:]

PREPARED STATEMENT OF ASSAF LITAI, FOUNDER AND INTERIM CEO, VIDIUS, INC.

Chairman Upton, Ranking Member Markey, and members of the Subcommittee: I am Assaf Litai, Founder of Vidius, Inc. Vidius is a start-up company, co-founded by veterans of Israel's underseas and land defense forces. It offers technology services and support to those who are concerned about the unauthorized, mass distribution of their products—movies, music, games, computer software, books, and databases—over peer-to-peer networks. Vidius has developed and applied for twenty patents on techniques and services, which I will demonstrate today, to assist owners of such products in protecting themselves. But current law actually provides disincentives for these owners, and for legitimate institutions and businesses whose facilities are the unwitting hosts for pirate distribution, to take simple and effective steps to stop the unauthorized mass distribution of these valuable entertainment, computer software, game, and publishing properties.

Industry and congressional concern over copyright has focused increasingly, and now almost exclusively, on the business that Vidius is in—addressing mass, unauthorized distribution of content that is "hosted" on servers scattered around the country and the world. These servers are of two general types—those that are maintained for other purposes by large institutions, and, to a far lesser extent, those maintained expressly for this purpose by some individuals. A letter recently sent by a group of motion picture CEOs to a group of hi-tech industry CEOs said:I22 "[U]nauthorized peer-to-peer file distribution . . . harms existing theatrical, home video and subscription outlets, and discourages legitimate on-line services which cannot sell access to movies, music and other entertainment content . . . available for free. We . . . should all work together in a consensus-based and cooperative fashion to find solutions to this problem that is threatening the very essence of our business."

Indeed, this understates the problem—our research has shown that these very same servers also host computer software, books, games, etc., responsible for much or most of the piracy in several other industries.

Today I will demonstrate a Vidius system called ClearSite™ that is capable of identifying, auditing, and interdicting such piracy. I want to emphasize the importance of its "auditing" feature. Most of the "servers" for piracy in fact are owned and controlled by legitimate institutions in entirely unrelated businesses or endeavors, without their knowledge. Let me repeat that—*most of the peer-to-peer servers that deliver pirated material are owned and controlled by legitimate institutions in*

other lines of endeavor. This should not be a surprise, because most symmetrical broadband access today (hi-bandwidth for both uploads and downloads) is still provided through institutions rather than private homes. Real, viral distribution occurs when participants have high bandwidth for uploads as well as downloads. This is the case today primarily in institutional settings, and is unlikely to change any time soon.

While we know that much of the motion picture material distributed on peer-to-peer networks has been obtained, as well as distributed, in an unauthorized fashion, many of the items distributed—particularly in the area of computer software—were not "stolen" at all. Rather, they are legitimate, purchased and licensed copies. However, they have been illegally made available for mass distribution by employees or others at these institutions or companies, many of which themselves have been, and are, prominent victims of piratical distribution. To paraphrase the song—

"Who's hostin' stuff on your own servers
While you are out sellin' stuff?"

Before demonstrating ClearSite™ I want to provide some assurances as to what the ClearSite™ system is not:

- First, our system does not invade the privacy of any data stored on anyone's server or hard drive. It operates *only* on data that has been publicly displayed to any inquiring computer. This data describes the content that has deliberately been made available to the public for piratical distribution. *If this information were not purposely delivered to anyone who inquired, the Vidius system could not operate.*
- Second, our system does not require the modification of anyone's server, PC, home network, or consumer electronics product. Nor does it interfere in any respect with the operation of such products on an institutional or home network.
- Third, the ClearSite™ system cannot operate against the wishes of the ISP that connects the server to the network.

Now for our demonstration. In our offices we recorded an actual instance of finding one product on a server that offered it for mass unauthorized distribution. We can collect and audit this information either by product or by host. Thus, in a different demonstration from today's, we could show how XYZ corporation's peer-to-peer servers—generally PCs used by its employees—are today hosting a range of software, books, games, databases, and audiovisual material for mass unauthorized distribution. Today, however, we will focus on tracking and addressing the distribution of a particular piece of content—a motion picture.

To track and audit a particular movie, we need not have implanted any information in it, or have been given any special knowledge about it. We can figure these things out for ourselves, through a process known as "fingerprinting." Our demonstration shows our actual survey, acquisition, and evaluation of a single case, including a determination as to *how many copies* of the movie are on the server. (This part we could have demonstrated in real time, remotely, using any laptop computer tied in to our office.) Our movie then shows us interdicting further illegal distribution. (This part we can only do from our office facilities, which is why we recorded the entire demonstration.) This is a demonstration of our actual process at work, not a simulation.

Our system is sufficiently flexible to be applied only to those servers that offer a certain number of illegal copies, or that have downloaded a particular movie a certain number of times. That is another reason why our audit function is so important.

I am not here today to denigrate other approaches, particularly those favored by our potential clients in various business. We are, after all, a startup company building a clientele among the various industries that are here before you today. Having listened to the debates about other approaches, however, I submit that from the standpoint of law-abiding consumers and businesses, ours is the approach to stopping piracy that is least intrusive to consumers and employees, and most productive for those who employ it.

I also should note that neither Vidius nor I am opposed to distributed computing in general, or peer-to-peer networking in particular. To the contrary, I agree with those who have said that distributed computing and peer-to-peer networks present many new opportunities to the information technology industry. To be kept free from regulation, *this activity needs the advantage of self-protection. Such protection is available to top-down networks through DRMs.*

I said at the outset that existing law provides disincentives to such self-protection. I can point to two areas in which the law needs to be understood or amended:

First, there are some who would interpret existing privacy laws, originally addressed to intrusive practices such as wiretapping, so as to support aggregated civil damages, and even criminal penalties, against *any* touching of a peer-to-peer serv-

er—even where it only involves the public "out box," and the subject is clear, red-handed, repeated piracy. Under such a legal interpretation, the more piracy that is tracked from a single server, the greater the number of incidents of "touching" that might be aggregated, by some court, into *"damages" in favor of the pirate, against the owner of the illegally distributed property.* This is a complicated issue involving both Federal and state law. The subject needs to be addressed with care, with complete regard for the rights of consumers and technologists. But unintended legal consequences cannot and should not persist, in state or federal law, as a barrier to self-protection.

Second, existing law provides a disincentive for legitimate institutions—businesses, universities, foundations, even congressional offices—to audit and address their own unwitting activity in supporting piracy through their own computer systems. The "NET Act" provides criminal penalties for use of such systems in piracy, but rightly provides that the system operator is liable only if specifically aware of the activity. But if the law stops there, legitimate institutions will continue to have a strong incentive to *turn a blind eye to their own support of mass, piratical distribution.* Even companies that can point to millions or even billions of dollars in losses as to their own products still have *a very strong legal disincentive to find out whose products their own employees are distributing via their own systems.*

What is needed is to go further—to provide a "safe harbor" from criminal liability, under the NET Act, for entities that do try to find out what is being illegally distributed via their own systems. Remember, Mr. Chairman, most broadband exchanges today occur via institutional networks. *If major organizations and institutions had the proper legal incentive to clean up their own computer servers, the majority of the illegally posted movies, books, songs, software, games, data, training manuals, and pornography that we find in our audits could disappear overnight.*

Thank you, Mr. Chairman, for the opportunity to have appeared today.

Mr. UPTON. Thank you.

Mr. Kraus.

STATEMENT OF JOE KRAUS

Mr. KRAUS. Thank you, Mr. Chairman. Mr. Chairman, members of this committee, good afternoon. My name is Joe Kraus, and I am co-founder of a national membership organization dedicated to safeguarding citizens' fair use rights to digital media.

Specifically, we want to be sure that any digital rights management solution or legislation protects the rights of consumers as well as the rights of the entertainment industry. I am here to represent the views of the 35,000 Americans who have become members since our formation 6 weeks ago, and on their behalf we thank this committee for holding this hearing and allowing us to testify.

Our members are not teenagers swapping songs on the Internet. They are ordinary, law abiding citizens who insist that Congress protect their historical fair use rights. They are people like Gregory Brewsaugh, a self-described Republican high school physics teacher in Huntington Beach, California. Mr. Brewsaugh has purchased over 400 CDs. He has copied his CDs onto his personal computer, which he now uses as a 4,000 song personal jukebox to deliver endless varieties of music throughout his home. Mr. Brewsaugh simply loves music and enjoys his freedom to listen to the content in the manner of his choosing.

DigitalConsumer.org members respect intellectual property. We do not condone piracy. However, unlike what media companies would like you to believe, not all unauthorized copying is piracy. Let me say that again. Not all unauthorized copying is piracy.

For example, we have all made mixed tapes of our favorite music. We have all made copies of CDs to take to the gym or listen to in the car. We have all recorded a sporting event to watch after our child's soccer practice. None of these copies were authorized by

the media companies. Yet is there anyone on this committee who believes that those are acts of piracy? Of course not. Although they are unauthorized, they are examples of legal, personal, fair use.

Unfortunately, the entertainment industry has consistently denied the existence of consumers' fair use rights. In July of 2000, Hilary Rosen represented the RIAA before the Senate Judiciary Committee. Senator Hatch asked if it was fair use for him to copy a CD to take in his car or copy a CD to give to his wife. She responded, "none of those examples is fair use." Instead, they are examples of what she called, "tolerance" on the part of the music industry.

We disagree. Consumers have fair use rights, and they expect Congress not to tolerate any erosion of them. Fair use is not a set of consumer expectations. Fair use is not a set of tolerated behaviors. Fair use is a set of rights, and because those rights are being encroached upon, they need to be strengthened and affirmed.

We encourage the content industry to pursue pirates, but that pursuit must not sweep so broadly that it also punishes law abiding citizens; and, unfortunately, the media industry's agenda goes far beyond piracy, and instead intends to create a legal system that denies consumers their personal use rights, and then charge those consumers additional fees to recoup them.

Let me give you some examples of the methods the content industry is using to erode fair use rights. No. 1 is technology. Copy protection technologies in the market today have impacts beyond their stated goal of reducing piracy.

For example, my mother called me to insist her MP3 player was broken, because she couldn't copy a recently purchased CD to her portable player. She was surprised to learn the CD was operating as intended. It was explicitly designed to prevent her from making her legally allowed copy.

Method number 2 is legislation. As we all know, the content industry is urging the passage of legislation like the Hollings bill in the Senate, which does not fully protect fair use by consumers.

Number 3, commercial exclusion: Ordinary people have historically been excluded from decisions that affect how they enjoy the media they pay for. For example, consumers had no voice in deciding that DVDs could disable the menu button during previews, thereby forcing consumers to watch the previews.

A moment on the Broadcast Protection Discussion Group: The erosion of fair use rights is occurring in many different places. The forum that concerns us today is the Broadcast Protection Discussion Group. We see three main problems with the process adopted by the BPDG.

No. 1: No consumers are participating. As in previous cases, citizens are not participants in a process that will affect the way that they watch, record, and enjoy their television.

No. 2: No provisions for fair use. Fair use is not protected by the specification. In fact, it is not even mentioned. While the interim progress report to this committee briefly discusses some fair uses, the draft of the specification ignores it completely. If we all agree that fair use is going to be protected, then why haven't the parties to the process included it in the specification?

No. 3: Too much control in industry hands. The charter of the BPDG is to prevent the unauthorized retransmission of digital broadcast television. That may be the charter, but the document produced thus far establishes a technical regime which would give a small subgroup of the BPDG members, which, by the way, include no consumer representatives, far greater control, control over how consumers watch, record, and enjoy their digital television.

For example, the specification would allow the deployment of technologies which could give media companies the control over when your VCR recordings expired. Imagine recording all Sesame Street programs to replay for your child whenever you needed to, only to find out your recordings expired after 24 hours.

The entertainment industry wants you to ratify a regime that gives them usage control without guarantees of fair use. I would urge the members of this committee not to approve any specification that does not explicitly assert and defend consumer fair use rights.

In conclusion, I urge this committee that stopping piracy—I urge this committee to recognize that stopping piracy is just one goal of copyright law. That goal needs to be balanced against the goal of protecting the rights of citizens. Congress needs to pass into legislation a positive assertion of consumers' fair use rights.

Your constituents need to rest assured that their historic rights are safe. They need to know that no technology, no legislation, no commercial exclusion and no industry consortia will abridge their rights, and until such a positive assertion is passed into law, consumers' rights will continue to be eroded. Thank you very much.

[The prepared statement of Joe Kraus follows:]

PREPARED STATEMENT OF JOE KRAUS, CO-FOUNDER DIGITALCONSUMER.ORG

Introduction

Mr. Chairman and members of this committee, good afternoon.

My name is Joe Kraus and I am co-founder of DigitalConsumer.org, a new consumer advocacy group dedicated to safeguarding citizens' fair-use rights to digital media. To be more specific, we want to be sure that any digital rights management solution or legislation protects the digital rights of consumers in addition to protecting the digital rights of the entertainment industry.

I am here to represent the views of the 35,000 Americans who have become members since our formation 6 weeks ago. We thank the Committee for holding this hearing and for allowing us to testify.

Our members are not teenagers swapping songs on the Internet. They're ordinary, law abiding citizens who insist that Congress protect their historical fair-use rights. They are people who respect intellectual property but who also believe that their rights should not be "collateral damage"' in the "war against piracy". They're people like Gregory Brewsaugh, a self-described Republican high school physics teacher in Huntington Beach, California. Mr. Brewsaugh has purchased over 400 CDs. He has copied his CDs onto his computer which he then uses as a 4,000 song personal jukebox to deliver music throughout his home. Mr. Brewsaugh simply loves music, loves electronics and enjoys the freedom he has to listen to the music he lawfully acquired in a manner and form of his choosing.

DigitalConsumer.org members are proponents of intellectual property protection. We do not support or condone piracy. However, unlike what media companies would like you believe, copyright does not confer on the holder of a copyright the power to control every access, use, or copy of a work from cradle to grave. Not all "unauthorized" copying is piracy and not all consumers are potential criminals.

We've all made mixed tapes of our favorite music. We've all made copies of CDs to take to the gym or listen to in the car. We've all recorded a sporting event to watch after our child's soccer practice. None of these copies were "authorized" by the content companies. Yet, is there anyone on this Committee who believes that

these are acts of piracy? Of course not. Although they are unauthorized, they are all examples of legal, personal, fair-use.

However, the entertainment industry has consistently denied the existence of consumers' fair-use rights. In July of 2000, Hilary Rosen represented the RIAA before the Senate Judiciary Committee. Senator Hatch asked if it was fair-use for him to make a copy of a CD for him to listen to in his car, or for him to make a copy of a CD to give to his wife. Ms. Rosen responded that "none of those examples is fair-use." Instead, they are examples of what she called "tolerance" on the part of the music industry. In other words, the recording industry takes the view that these are examples of "unauthorized" uses that the entertainment industry chooses not to take us to court for having committed.

We disagree. Consumer's have fair-use rights and they expect Congress to safeguard them. Congress and the courts have carefully crafted a deliberate balance between the rights of copyright holders and the rights of citizens. Generally speaking, rights holders have the exclusive right to distribute and profit from artistic works. Consumers who legally acquire these works are free to use them as they see fit, so long as that use is personal and non-commercial.

We respect the right of the content industry to pursue pirates. But, that pursuit must not sweep so broadly that it also punishes law-abiding citizens. Unfortunately, the media industry's technical and legislative agenda does precisely that—it goes far beyond preventing piracy to prohibiting legal personal use. Content companies have used anti-piracy laws to effectively criminalize what to date have been "unauthorized" but nevertheless legal uses of media. The result? Consumers will wind up paying for what they have had previously been allowed to do for free.

Erosion of our personal use rights

Let me give you some examples of the methods the content industry is using to erode fair-use rights.

Method #1. Technological Barriers to Fair-Use. Copy protection technologies in the market today have impacts beyond their stated goal of reducing piracy. These technologies give content companies an unprecedented ability to reduce or even revoke fair-use rights. My mother called me to insist that her MP3 player was broken because she couldn't copy a recently purchased CD to her portable player. She was surprised to learn that the CD was operating as intended—it was explicitly designed to prevent her from making her legally allowed copies.

Similarly, my dad called to tell me his DVD player was broken because the "menu" button wasn't working when the previews were playing on his DVD (thereby preventing him from skipping the previews). He was surprised to learn that existing law made it illegal to create a DVD player that would skip through content that the media companies flagged as "must watch".

The irony is that these technical barriers have been more effective at preventing my mom from copying her legally bought music to her MP3 player than at diminishing major commercial piracy operations in China and Taiwan. Copy protection isn't breakable by my mother, but it is very breakable by computer hackers.

Method #2. Legislative Barriers to Fair-Use. In 1998 the entertainment industry came to Congress with a proposition: give them greater copyright protection and they would unleash a tidal wave of legal, downloadable digital movies and music for consumers to enjoy. As a result, Congress passed the Digital Millennium Copyright Act (DMCA).

Congress lived up to its end of the bargain but the entertainment industry did not. Four years after the passage of the DMCA, consumers are still waiting for the flood of legally available content; meanwhile the law is being used to diminish or erase consumer's fair-use rights.

Now, the entertainment industry is back making claims similar to those made in 1998: "Give us more protection and great things will happen." We have no reason to believe the outcome for consumers will be any different this time around.

Method #3. Commercial Barriers to Fair-Use. Many decisions relevant to fair-use are increasingly made by entertainment and consumer electronics industry consortia with little or no input from citizens. Ordinary people have historically been excluded from many of the decisions that affect how they enjoy the media they legally pay for. For example, consumers had no voice in deciding that DVDs could disable the "menu" button during previews. Consumers had no voice when copy protection technologies for CDs were developed that denied consumers their ability to copy CDs onto their portable music players. Consumers were not represented when it was decided that DAT tapes could only be copied once (even if the voice on the DAT tape was your own). And no members of the press were permitted to observe and report on the most recent standards setting consortium—the so-called BPDG. In general, consumers have not been allowed to participate in decisions that affect their daily

lives nor has the press been permitted to observe how these decisions are made and report their findings to the public.

The terms of the debate

Most importantly, fair-use rights are being threatened by the way that the entertainment industry is framing this debate. They would have you believe that all copying that they have not authorized is piracy, even though Congress and the courts have affirmed our rights to make personal copies of movies and music. When my mom makes copies of a CD—one to take to the gym, one to listen to on her computer, one to give to her husband—that is not piracy.

The content industries have gone so far as to make a frontal assault on the industries that support consumers' *legal* rights. They have accused Apple, Intel and Gateway of sponsoring piracy simply because they give citizens tools to exercise their fair-use rights.

The content industries complain that the rest of the country has been slow to come to consensus on copy protection issues. But a compromise will inevitably be difficult when the content industry refuses to concede a fundamental fact—fair-use exists.

I urge Congress to recognize that stopping piracy is just one goal of copyright law. That goal needs to be balanced against the goal of protecting the rights of citizens. Citizens have been left out of this debate even though they stand to be the most affected by the outcome. Your constituents expect Congress to safeguard and assert their fair-use rights.

The Broadcast Protection Discussion Group

The erosion of fair-use rights is occurring in many different places. The forum that concerns us today is the Broadcast Protection Discussion Group—a group this committee is very familiar with. We see three main problems with the process adopted by the BPDG.

No consumer participation. Most importantly, the process has excluded consumers. As in previous cases, consumers are not participants in a process that will affect the way that they watch, record and enjoy their television.

No provisions for fair-use. Second, fair-use is not protected by the specification—in fact, it is not even mentioned. While the interim progress report to this committee briefly discusses fair-use (section 2.7), the draft of the specification ignores it completely. If we all agree that fair-use is going to be protected, then why haven't the parties to the process put it in writing and included it in the specification?

When I attended the most recent BPDG meeting I asked for a positive assurance that fair-use rights would not be abridged by any technology placed on the contentious "table A". Unless the Congress acts to insure that fair-use rights will not be abridged by any technology implemented pursuant to the BPDG, then how can it be sure that devices which enable free time shifting, space shifting, multiple copies, or even multimedia homework assignments, won't be prohibited by this process?

Too much control in industry hands. Third, the BPDG members tell you their intent is to prevent the unauthorized retransmission of content over the Internet. That may be the charter, but the document produced thus far establishes a technical regime which would give BPDG members far greater control—control over how consumers watched, recorded and enjoyed their digital television. Nothing in the specification prevents the deployment of technologies which would: allow media companies to control when your VCR recordings expired (imagine going on a two week vacation only to find out that your recordings of your favorite programs expired after a week); stop you from taking your home recordings on your laptop to watch on the train to work; or prevent you from watching recorded shows during primetime.

When I raised these issues at the latest BPDG meeting, I was told that the technologies deployed would most certainly have "baggage" that would affect fair-use. While fair-use rights may be "baggage" to the entertainment industry, those rights are cherished by citizens. And citizens expect Congress to act in their defense.

It is one thing for the entertainment industry to grant their blessing to one or more technologies that will erode the rights of consumers. If consumers choose to adopt a technology that diminishes their rights, that is their decision. However, it is quite another for the Congress to give the entertainment industry's preferred technologies the force of law. And that is precisely what this entire debate is about.

The members of the BPDG say that Congress should enforce the consensus of the content and technology industries or give the FCC the power to do so. We believe Congress also has an obligation to safeguard the rights of citizens who have not had a voice in this debate. Congress should insist that consumer's fair-use rights be explicitly asserted and defended in the BPDG specification.

Legislation to give more rights to copyright holders is not needed.

The entertainment industry is back in Washington asking for more changes to the law. They claim that the marketplace has failed to help them develop technologies to protect their intellectual property and that therefore the government needs to step in legislate. We believe this is the wrong path for Congress to take for several reasons.

First, Congress should think of this problem in terms of rights, not in terms of technological mandates. Define the rights of the respective parties (copyright holders and citizens) and let the market develop technologies which adjudicate between the two. Copyright holders have strong rights while consumers' rights are weak and ill defined. Therefore, to help the market to work effectively, the first step to solving the piracy problem is not a government mandate, but a strong assertion of consumer rights.

Second, many computer science experts believe that a secure system is not possible. Princeton Computer Science Professor Ed Felten, a computer security expert, noted in his testimony to the Senate Judiciary Committee on March 14, 2002 that "a standard for copy protection is as premature as a standard for teleportation".

Further quotation from his testimony illustrates this point. "Every copy protection scheme for general purpose computers that has undergone serious public scrutiny has been found to be ineffective. Consider what will happen if a government mandated protection measure turns out not to work. Such a measure would do many things: it would inconvenience honest consumers; it would raise the price of media players; it would lengthen product development cycles; it would impede the development of new and better standards. Everyone would suffer, except the pirates. The industry that devised the measure would look technically inept, and the government that mandated its use would look worse."

The solutions that the content industry has advanced to date have been more effective at preventing consumers from copying their legally bought music to their MP3 players than at diminishing major commercial piracy operations. As we all know, copy protection isn't breakable by the average citizen, but it is very breakable by software experts.

A government mandated technology standard will not be any more effective at preventing piracy. Instead, the consumer will lose as another technology that deprives them of control and flexibility is forced upon them.

Third, putting the government in charge moves the decision from a market-based one to a political one. The development of technology should be driven by the private sector, not by a government agency.

Fourth, given the slow speed of a government-driven process, the chosen standard will inevitably become outmoded and the process for revising it and updating it will be slower than a market-based approach.

Finally, while some in Hollywood claim that a government standard is needed to ensure interoperability, legislation has not been needed to guarantee other critical types of interoperability: CDs play in all CD players, DVDs play in all DVD players, Internet Protocols allow all computers to talk to one another. None of these examples required government intervention.

A dearth of viable, legal alternatives.

We believe that one of the causes of the illegal copying of music and movies (although not the only one) is the dearth of commercially viable legal alternatives. MusicNet and PressPlay (the music industry's legal alternatives) have serious flaws: they lack deep catalogs and they don't provide consumers with the flexibility they expect from their music. For example, in many cases consumers cannot transfer music to portable players, or in the case of PressPlay the music "expires" as soon as users stop paying the subscription fee. Consumers are voting with their feet and avoiding these services. I believe this is not primarily because the competition is free, but because the competition delivers what consumers expect: they can find the music they're looking for and once they find it, they can do with it what they expect (i.e. take it to the gym, listen to it in their car, etc). As the Economist magazine (March 21, 2002) accurately observed, "the meaner the industry is over what people can do with the [content] they pay to download, the more the studios' own services will be a second-rate alternative to piracy"

It is instructive to contrast the approach of the media companies with the approach of software companies in the digital world. As we've heard many times in this debate, media companies claim to lose $3.5B per year to piracy. But, software companies claim to lose $12B per year. Therefore, one would logically expect the software companies to have the same reservations about the digital medium that the media companies have. One would expect that the software industry would be clamoring for government mandates like the media industry. One would expect that

the software industry would be shying away from digital distribution like the media industry.

But the software industry does not behave like the content industry even though they suffer nearly 4 times the piracy. Unlike their media company counterparts, software companies have generally chosen to embrace the digital medium. A huge number of software titles are available for digital download. Once downloaded, these software programs behave just like software bought at the store.

We believe it's important to ask why the software companies who lose so much more to piracy embrace the digital medium while the media companies claim that their business will be ruined if they embrace digital delivery in its current "insecure" state?

Along those same lines, it's important to ask why the Business Software Alliance (an organization dedicated to detecting and stopping piracy) does not support government mandated technologies for copy protection. I believe the reason is that the software industry has been down this path before and has found that it does not work. In the early 1980s, many major software companies decided to implement strong copy protection schemes on their products. They discovered two things. First, their schemes did not stop piracy. Dedicated commercial pirates circumvented the copy protection. Second, their copy protection alienated and infuriated *paying* customers because the copy protection altered the expected behavior of the software. For example, consumers could not back up their software, and if a consumer upgraded his computer by buying a new one, they could not re-install the software on that machine. Software companies discovered that *treating all customers as potential criminals* was bad for business; it didn't stop theft and it alienated the people who actually paid for their products.

Instead of forcing technical solutions that inconvenienced paying customers, the Business Software Alliance shifted to a strategy of actually *pursuing pirates.* Today the BSA investigates piracy allegations, conducts raids, and assesses large fines on violators. Through the enforcement of existing law, the BSA has been extremely effective at diminishing piracy in the United States.

In short, computer security experts believe and software history teaches that technical solutions will not solve the problem of piracy. The only way to reduce piracy is to *engage the market* by offering viable legal alternatives to consumers and to *pursue the pirates,* not the average consumer.

Conclusion

Content providers have a right to pursue and prevent piracy. However, law abiding consumers cannot have their personal use rights swept away in the process. In order to protect consumers' rights from further erosion and in order to ensure that any technical solution to content protection respects consumer's fair-use rights, the members of DigitalConsumer.org urge this Committee to make a positive assertion of citizens' personal use rights. The vehicle is a set of principles we call the Consumer Technology Bill of Rights and it is a statement of fair-use principles grounded in history, legislation and the courts.

After years of successful litigation and legislative efforts, many in the entertainment industry are back in Washington asking for more changes to the law. All the while, they have been quietly developing services, technologies and products that eliminate fair use for their customers, your constituents. Many in the copyright community will not admit that there is such a thing as fair use. This denial persists despite 30 years of Congressional action and Supreme Court rulings affirming consumers' fair use rights. And, while I am not a lawyer, I do know this much: consumers believe they have personal use rights and they expect Congress to insure that they are safeguarded. Before this Committee considers yet another change in the law at the behest of the copyright community—a change in law that would make "unauthorized" copying synonymous with piracy—I would respectfully urge you to insure that the rights of consumers are protected and spelled out in the legislation.

Thank you very much for the time to address this committee today.

Mr. UPTON. Thank you all, and we all appreciate the testimony and having a chance to review it last night as well.

I am going to work with Mr. Chernin here for the first question. I am going to ask a question of both Mr. Chernin and Mr. Parsons. I would like each of you to respond.

If we can get the broadcast flag done and maybe the analog hole, to come pretty close to getting those accomplished, will that be enough for the sake of the DTV transition to unleash the content

as we continue to move toward the other content protection measures? For the purpose of that question, notice I did not include peer-to-peer. I know we made some progress on peer-to-peer but have not yet been able to resolve it. What are your thoughts, each of you? Why don't we start with Mr. Chernin first.

Mr. CHERNIN. Thank you, Mr. Chairman. I think that, clearly, the broadcast flag is the single biggest impediment for us making any digital—all of our digital content available on digital television. So I think that will go a long way toward solving our problems. Clearly, we would like to see everything solved, but specifically related to the digital transition on terrestrial television, I think the broadcast flag is the single biggest issue, and I think its, hopefully, imminent solution will allow us to rapidly speed up this transition.

Mr. UPTON. So you think, just with that, if we are able to get that done, that, in fact, we will see the content be able to flow?

Mr. CHERNIN. I think it is the single biggest current impediment, and the removal of that impediment will do more than any other single thing for, specifically, the digital terrestrial transition. We would still like to struggle with the other problems, but they are less related to the digital terrestrial transition than the broadcast flag issue.

Mr. UPTON. Mr. Parsons.

Mr. PARSONS. Basically, I agree with Mr. Chernin in terms of the way you have framed your question. Will that help speed the DTV evolution? Moreover, we don't have a solution yet. I mean the industry groups. It is the same group of engineers and the same group of both technicians and lawyers who are working on this.

So taking it incrementally, I think, actually makes some sense, rather than trying to solve all the problems at once. That is not to say, however, that solving the peer-to-peer file sharing is not an enormous piece of a larger question, which is how you protect intellectual property in the digital age. But from the digital television perspective, I agree with Peter, that the broadcast flag is probably 80 percent of it, and the analog hole is probably 19 percent of that.

Mr. UPTON. Mr. Parsons, in your testimony you are more of an Upton/Markey individual: The glass is half-full, root for the Cubs and the Red Sox.

Mr. PARSONS. I wouldn't go quite that far, Mr. Chairman.

Mr. UPTON. Well, but you are optimistic, in fact, that things are on the right course, and I notice in Mr. Blanford's testimony, he was more of a—I don't want to call him a realist, but in his statement not anywhere close to getting this resolved. Tell me what you think the two differences are, and I will have Mr. Blanford respond as well.

Mr. PARSONS. I can simply tell you why I have a sense of optimism about it. I do not think we are there yet, but I think real progress is being made. If you tick them off, we are pretty close to being there, I think, on the broadcast flag issue. We've got our arms around——

Mr. UPTON. How close is close? Six months?

Mr. PARSONS. Well, I think—I don't know that I can put it in months but, you know, we have got the sort of technology down, as I understand where the groups are. What they are doing now is trying to formulate a uniform specification.

I think that not everybody in the industry is pleased with where we are on that, but that there is a broad consensus among the consumer electronics, information technology, and entertainment industry that we have found the right place to be. There are some people who have—and I am sure we will hear from Mr. Blanford on it. Some people are aggrieved by that, but I think within a matter of months——

Mr. UPTON. I know there is a meeting next week, April 29. Do you have some hopes on what you are going to be able to accomplish at that meeting?

Mr. PARSONS. Well, I think on the broadcast flag issue, yes, I think that we are very close to having something that most of the industry could get its arms around.

Mr. UPTON. Mr. Blanford, would you like to respond?

Mr. BLANFORD. Yes. Thank you. I would say, first of all, that we overall are optimistic that these problems can be resolved and, certainly, Philips historically has been involved in other similar endeavors. I think indeed we see that we will get there. However, we are most concerned, as I related in my testimony, that the process which we are using right now, although some progress has been made, is fundamentally a closed process, and that other technologies that could be helpful are not being considered.

More importantly than the selection of the technology, although that is important, is the fundamental decisions about how that technology will work downstream of the flag. The fundamental rules which guide how equipment will work, talk with each other, is being controlled fundamentally by this small group.

It is in the decisions and those rules where fundamentally the balance of consumer use and content protection which, many of the members here have certainly highlighted, is the balance we are striving for. It is in the setting of those rules that that balance is determined. Our concern is we have a very small group setting those rules with not all participants being involved.

That is why our suggestion for a more open process with Congress, in one form or another, stepping up and helping to provide some governance of the process to ensure it is open, that it is transparent, and that that balance can be found.

Mr. UPTON. Thank you. I know my time has expired. Mr. Boucher. A series of votes have been called. I think we will have time for Mr. Boucher, and then we will break for a time, and then we will come back.

Mr. BOUCHER. Well, thank you very much, Mr. Chairman. I want to express my appreciation to all of these witnesses, those who are physically here today and Mr. Chernin who is here by means of our video conferencing equipment, for the very informative testimony that they have prepared and presented to us, which I find to be very enlightening on the subject we are addressing.

The operating principle that we have had for sometime is that, as soon as the private sector working group can develop the appropriate set of standards for protecting content, while also observing home recording rights, that we in the Congress would then be called upon to legislate in such a way as to assure that all devices, receivers, players, and recorders recognize and respond to the agreed upon standards.

My first question to you is what is the right time for us to legislate? To date, there has been an agreement that would protect content delivered by cable and by satellite. In fact, that agreement has now been in place for a number of months.

I am told that just last night basic outstanding differences were resolved on a means of protecting content delivered over the air, and that now the various parties are examining the various means by which those outstanding issues were resolved, and that potentially, within a matter of days, we could have the announcement of a final agreement that would create a broadcast flag for protecting the content delivered over the air to antennas and to rabbit ears.

That is truly substantial progress, and I am wondering if the time to legislate is upon the conclusion of that agreement. If, in fact, you do close that issue within the next several days, can we here in this committee expect that you will be coming to us with a legislative recommendation that we then enshrine those agreements and require that devices respond?

Let me begin with Mr. Parsons.

Mr. PARSONS. Not being at the table, Congressman, I can't tell you exactly what was determined last night, but your understanding and mine is about the same, that they have really reached closure. The industry working group has reached closure around the technological definition of broadcast flag, and now they have to move to the next step, which is to design the standard which we would then come and ask the Congress to have made uniform throughout the land.

It is the same answer to the chairman's question. I think that is not weeks but a couple of months. I do not think it is 6 months, but I think we are getting very close, and I think what we are hearing to some extent from Mr. Blanford, and maybe even to a lesser extent from Mr. Kraus, is that there may be jots and tittles that can be added to it, but I would remind the committee, in this area in particular, the perfect can be the enemy of the good.

If we really want to get moving on DTV, you are going to have to do something that constitutes good action, largely consensus action, even though there may be on the outlier people who feel aggrieved, for one reason or another.

Mr. BOUCHER. So you would agree that the proper time to legislate is the time at which we do have agreement on protecting cable, satellite delivered content, as well as over the air content; and when you have done that, it is time for Congress to do its part. Would you agree with that?

Mr. PARSONS. I would say it would be the appropriate for Congress to take a step, and particularly as relates to the issue we are talking about, which is DTV and the broadcast flag.

Mr. BOUCHER. Mr. Chernin, would you care to comment on that question?

Mr. CHERNIN. Yes. First of all, I am probably even more optimistic than my colleague, Mr. Parsons. I think we should be able to come out with a recommendation within, at most, a matter of weeks.

I guess the place where I do most agree with my colleague is I do think we should approach this incrementally, and rather than

wait for everything and wait for government to do one big thing, as we are ready to move on satellite and cable, as we are ready to move on the broadcast flag, we can pursue limited, targeted legislation to codify those solutions and get on with the next one.

So I am quite optimistic that we are within a very short time of coming and proposing a solution.

Mr. BOUCHER. Thank you. Mr. Liao, as the representative of the 5C companies, would you agree with Mr. Parsons and Mr. Chernin?

Mr. LIAO. Let me tell you what the official schedule is. The schedule is for the——

Mr. PARSONS. You mean, all this time you had a schedule, and you let me hang out there?

Mr. LIAO. I am sorry, Dick. The schedule is for an issuance of the final report on May 17. Now there are many issues that we think are basically resolved, and as you referred to, Congressman, last night the MPAA, the computer industry group, as well as the 5C, came to some very important agreements on how to move forward.

That does not mean that all members of the BPDG, the Broadcast Protection Discussion Group, have agreed yet. In fact, the proposal that is coming from these groups of companies will be put on the website, I think, today. So that it is going to take some more discussion, but we are very optimistic that, by the deadline of May 17, in fact, there will be an issuance of a final report. We certainly hope that will be the case.

At the same time, the CPWG, which is a technical working group—I should emphasize, a technical working group. It typically does not deal with policy issues, but because of the importance of this one, it has developed a parallel committee that is investigating the sort of policy ramifications of this.

It is probably from that committee that will come sort of a recommendation or at least an analysis of what kind of legislation might be required, and definitely we are thinking, I think everyone agrees, on some very limited legislation that might be appropriate for this issue.

Mr. BOUCHER. Well, thank you. We will all look forward to getting that report. My time has expired. I again want to thank these witnesses for assisting us in this inquiry today.

Mr. UPTON. I would note that there is a little less than 6½ minutes left in the vote on the floor. So at this point we will take a break, and we will come back as soon as the votes are over.

[Brief recess.]

Mr. UPTON. Take our seats, please. We are done voting on the House floor for the week. A number of us are going back to our districts this weekend as well. I know that Mr. Chernin has to leave at 3:30 Eastern time. So we will resume, and we will resume with Mr. Barton.

Mr. BARTON. Thank you, Mr. Chairman. I appreciate this hearing. I focus, as you know, much more on energy issues as chairman of that subcommittee, but I am a member of this subcommittee, and I really, really enjoyed the hearing.

I don't have but one or two questions. I was sitting here during the testimony, and we have these little fancy gadgets now called blackberries. So I sent a message to one of my constituents down

in Texas, telling him what I was doing and said, do you think you have the right to copy a CD or a video that you buy?

The constituent e-mailed back immediately and said, "I already do with CDs anyway. I can see both sides of this issue, but as a consumer I love the fact that I can copy or burn my own CDs. In my opinion, the music industry is making a killing, and they haven't been smart enough to keep up with today's technology. If I was a musician, I would hate it, of course. There's my two cents' worth. You are very busy today, aren't you?"

So that kind of puts it in a nutshell. If you are on the production side, you can see why we want copyright protection that is enforceable, even in the home; and if you are on the consumer side, as the gentleman on the end of the panel is, you can see why people want to have the ability to at least, as I think the buzzword is, have fair use.

I am more on the fair use side. I think that it should be reasonable—that we should have a way technologically to reasonably protect copyright, and I am with Mr. Boucher and what he said about let's try to let the private sector and the industry work it out. But I don't believe we need to go to the extremes that some in the production side, some of the studios and producers, would have us attempt to go to.

So I am going to—I would oppose the Hollings bill, if it were to come over here, and hope that we can work out a little better agreement.

I also see my good friend, Mr. Valenti, in the audience, good Texan, new book out on LBJ, and I am sure you are going to be mentioned in it. But I just want to send a message to your folks. I went to see a movie not too long ago, and I don't go to many movies anymore. But I went to see a movie in which the plot was a group of renegade Marines that had assassinated some people in El Salvador, and one of the Marines later went AWOL and married, and then was tracked down by the FBI. It turned out that his boss was the Marine general in charge of Congressional affairs for the Congress.

He is shown wearing the Congressional Medal of Honor. Now there is a Marine from my home town of Ennis, Texas, named Jack Loomis who died in World War II, one of the few Marines from Texas who won the Congressional Medal of Honor. I know we have freedom of speech in the First Amendment, but it is a travesty to have Hollywood showing a corrupt Marine general, in my opinion, wearing the Congressional Medal of Honor, because we don't give those away.

You know, we've got freedom of expression in this country, but that really chapped my pants. So if you see some of your friends out in Hollywood, remind them what the valor is in the Congressional Medal of Honor. It is not just another award that you put on somebody's uniform. "Black Hawk Down" is supposed to be a pretty good movie, but I will get with you on that privately, but it really chapped my tail.

My question: Mr. Liao, you in your testimony talked about an agreement, and the staff apparently is not aware of that agreement or not very aware of it. Could you enlighten us or elaborate a little bit on that agreement?

Mr. LIAO. Yes. First of all, the agreement happened very, very late or, I should say, early this morning on the west coast. So to be honest, I only learned about that agreement today as well. So it is not surprising that your staff did not know. I did not know.

As you know, since the—over the last few months, all of the industry participants have been working diligently to solve these issues, and the agreement, again, is focused on the broadcast flag. So it only addresses that single issue, the broadcast flag issue.

Also as you know, the way that the CPTWG works, it is a public, multi-industry forum that even public interest groups can and do attend. It is really kind of a venue for companies to make proposals, to get feedback, and for the industry or the multiple industries to kind of analyze those proposals. Then some of these groups may or may not implement them in their businesses.

In this particular case, three groups—so I want to distinguish this. This agreement is not a BPDG agreement. This is three groups who have in the past and, in fact, will continue to make proposals to the CPTWG, either independently or together, namely the MPAA, the CIG, the Computer Industry Group, and the 5C group of companies.

They have agreed on some of the criteria by which technologies might be deemed as useful for the—to be used in conjunction with the broadcast flag.

Mr. BARTON. Thank you. I yield back the balance of my time, Mr. Chairman.

Mr. UPTON. Thank you. Ms. Harman.

Ms. HARMAN. Thank you, Mr. Chairman. On the way to vote I learned that this meeting last night concluded at around 1:30 in the morning. It is exciting to me to learn that the industry keeps the same hours that Congress does.

I also am impressed that you can bring together the disparate interests you describe. Maybe we should turn over the Middle East, the problem of the Middle East, to you. My serious point is that it would be wonderful to see real progress on this issue. We know it is a hard issue, and we know it is balancing a to of important interests.

As I listened to you, at least I heard you say the MPAA, the CIG and the 5C group is all in the same place. That covers a lot of territory, and I am happy to hear that. What is not in the room is, at least if we define interests, maybe there is a fourth set of interests, and those might be consumers.

Now I understand you are all consumers, too, but a separate group of consumers. So I want to direct a few questions to Mr. Kraus today, because I was interested in his testimony, and anyone who can build an organization of 33,000 people in 6 weeks gets any politician's attention. How did you do this?

Mr. KRAUS. Well, the short answer is there is actually a lot of latent interest in the issue of fair use rights, and I think people out on just the average consumer is very concerned about recent trends. So while I think the average consumer understands the notion that piracy is not a good thing, the average consumer is concerned that the trends so far seem to be overreaching in the other direction. So there is just a lot of latent interest.

Ms. HARMAN. But who can join your organization? Can I joint it?

Mr. KRAUS. Absolutely.

Ms. HARMAN. Can Mr. Parsons join it?

Mr. KRAUS. Yes. The organization is open to anyone who wants to join, and essentially it is an ability—It is a gathering point for consumers who are concerned about fair use rights to be able to channel their interests to politicians and to people who are making both industry decisions and policy decisions regarding fair use.

Ms. HARMAN. Who sets your policy? Do your members set your policy or does some governing board set your policy?

Mr. KRAUS. We currently have a relatively informal structure of an executive committee. We take input from our member base, and we essentially use that input to define a set of policies that we think our constituency is concerned about.

We represent that policy back out to our members, and they vote with their e-mails and their feedback to us about whether they approve of that or not. By signing up as members, this group of people essentially are saying this is what I am concerned about.

I have to stress that the membership is really most concerned about seeing a positive assertion of their fair use rights put into law, because I think the overall concern is that, little by little, fair use rights get whittled away without a legislative positive assertion of fair use rights. I think consumers are worried that their interest will not be protected.

Ms. HARMAN. Well, I appreciate that. Where are you located?

Mr. KRAUS. We are currently located in Palo Alto, California.

Ms. HARMAN. And so the goal here is to have, it sounds to me like, a democratic organization which will sign up anyone who wants to sign up, and which has a kind of interactive agenda. So that if people don't like your agenda, they drop off or they have a chance to vote no? I mean if they did not like your consumer bill of rights, could they say we don't like this, change it to that, and would you change it?

Mr. KRAUS. Well, I mean, I think that the key is that there is a governing body that essentially takes input from the members and makes decisions, and then the consumers who are members of those organizations essentially vote with their feet and vote with their faxes to the Members of Congress.

Ms. HARMAN. Who is the governing body?

Mr. KRAUS. The governing body essentially is a smaller set of members and consumers. I myself am included. Graham Spencer, also in Silicon Valley, is a member, and we are looking to actively grow that executive committee to make sure that it is as broad and representative as our members.

Ms. HARMAN. So is your model at some point—I realize you are 6 weeks old, and it is highly impressively that you have done this in 6 weeks.

Mr. KRAUS. Thank you.

Ms. HARMAN. Is your model something like the Consumer Federation of America or Consumers Union or—I am listening to Mr. Markey at the same time—or Common Cause? I mean, what are you trying to become, the digital version of one of those things?

Mr. KRAUS. Well, not being as familiar as maybe I should be with those organizations, and not having actually done this kind of

organizing before, I don't really have a specific model in mind, and I apologize for not being able to liken it to anything else.

Again, I think our general goal is to use—I myself am an entrepreneur and involved in the web. Therefore, I am familiar with how to use the web as a wonderful organizing tool to essentially give disparate consumers who share interests a common voice.

So I don't have any particular model in mind that I can point you to, but I can say that what is wonderful about the web is that it is able to achieve and able to organize consumers with disparate geographies into a common voice and allow that voice to be channeled to policymakers and people in industry.

Ms. HARMAN. Well, my reaction to what you have said is to be impressed with your entrepreneurial expertise, but also to be a little bit cautious, and I hope you are, too. This engine you are creating really needs, as it operates, to represent fairly, I would hope, the views of its members and to operate fairly in a set of problems where what we really are seeking is balance.

Mr. KRAUS. Yes.

Ms. HARMAN. You wouldn't argue that fair use is the only good here. I am sure you wouldn't.

Mr. KRAUS. No. Let me be very, very clear. DigitalConsumer.org does not support, condone in any way piracy. I completely recognize—I am a businessman in my professional career. I completely recognize the problems that Mr. Parsons, Mr. Chernin are facing, absolutely. I understand that those are important issues.

My constituency of DigitalConsumer.org, however, namely, is concerned both about the issues that the industry is facing, but also want to make sure that their rights are not taken away in the process. So, believe me, this is an organization that does take a balanced view and understands that there are serious issues involved, is not looking to legalize or condone piracy in any way, but also wants to defend the fair use rights of consumers that, so far, have not actually, in our opinion, been adequately represented.

Ms. HARMAN. Well, I thank the panel for all that you are doing. I am always optimistic, but I am much more optimistic, having heard all of you and having heard the progress made last night, than I was when I came in here. Thank you very much.

Mr. UPTON. Mr. Stearns.

Mr. STEARNS. Thank you, Mr. Chairman. I would like to direct my question to Mr. Litai, if you could. How old is your company, Vidius?

Mr. LITAI. Two years old.

Mr. STEARNS. Two years old? How many employees do you have now?

Mr. LITAI. About 20 employees.

Mr. STEARNS. Okay. And if your system were in use, would protection measures still be necessary to keep content from being uploaded to the Internet in the first place?

Mr. LITAI. As I said, the technology that we are discussing is part of a comprehensive solution which we think should be made, and that should consist of elements to prevent the leakage of the content onto the Internet in the first place, and then because you cannot prevent all leaks onto the Internet, then eventually inter-

dict, search, find, locate and interdict those copies which do appear on the Internet.

Mr. STEARNS. So protection measures would not be necessary?

Mr. LITAI. I think that protection measures in some form will be recommended. Yes.

Mr. STEARNS. This is to Mr. Chernin in Los Angeles. From what you just heard, is that type of DRM enough to adequately protect News Corporation content? If not, why not, and what is not protected?

Mr. CHERNIN. Mr. Stearns, I am not sure I have enough knowledge of the Vidius system to judge whether it is enough to protect us. You know, my sense of it, just looking at it, was that it was, more than anything, a way for companies to monitor whether their employees were illegally putting illegal or inappropriate video files up on the Internet, but I have no basis other than the 2-minute demonstration I just saw.

I do think, you know, as I said earlier, this is an incredibly complicated problem and is going to need careful thought and the goodwill and participation of everyone at this panel and lots of other people, and is going to involve solutions that are technological, that probably will need some legislation and, as much as anything, also need public opinion, need us all to take an active role saying that, while we believe in the fair use of consumers and we have no desire to restrict them, we also must stop online digital looting.

Mr. STEARNS. Well, let me ask you this. Is there anything, in your opinion, out there right now that provides the protection measures?

Mr. CHERNIN. No.

Mr. STEARNS. No? Okay.

Mr. CHERNIN. I don't think there is. I think we have some ideas, and I think some other companies have ideas, and they involve some very traditional methods, because a lot of these files end up on the Internet, you know, illegally. They are stolen out of trucks. They are stolen from movie theaters. They are used by camcorders. So we got to do a better job of that, but then even once we get there, I think there are some watermarking ideas we have.

I think the key is how do we stop the transmission of inappropriate and illegally obtained files, and yet at the same time not restrict in any way whatsoever consumers' fair use to transmit files that are either legally obtained or transmit their son's soccer game or their 1-year-old's birthday party.

Mr. STEARNS. Well, let me ask you this. Are you doing online streaming now, and how are you protecting yourself now?

Mr. CHERNIN. We are not doing any online streaming right now.

Mr. STEARNS. Okay. Mr. Litai, what precisely is the service you would sell to a corporation whose equipment may be subject to misuse? What happens when peer-to-peer networks evolve? Would your system no longer work?

Mr. LITAI. To answer No. 1, what we offer for corporations is the reports of the data hosted on their network, along with a very comprehensive itemized list of the specific users who are hosting content on their machine so that the corporation can actually go and remove that peer-to-peer from those employees' computers.

In terms of what happens when the peer-to-peer networks evolve, this is the reason that what we offer is basically a service. There needs to be an ongoing evaluation of the peer-to-peer networks as they evolve, and to change basically, or to evolve the response system to those new peer-to-peer or to these evolving peer-to-peer networks; because, certainly, the hackers will continue to evolve their systems. So we will need to, as well.

Mr. STEARNS. Can you explain a little bit more about the privacy issues associated with your system? What do you mean that it, "operates only on data that has been publicly displayed to any inquiring computer," and, I guess, what are your company's privacy policy regarding information on consumers' viewing habits that may be identified by your tracking system?

Mr. LITAI. Okay. We do not access anybody's computer. It is very important to understand. We do not access anybody's computer. What we do is, using the peer-to-peer network, basically, we use the peer-to-peer network within the confines of the way it is intended for use.

So what we do is go to the peer-to-peer network and ask it who hosts this file. Now we know how to do it in a very robust and very efficient manner, but we go and ask the peer-to-peer system where this content lies, the content that belongs to the content providers.

What we do is receive these responses from the different computers saying I have this over here. This is how we know where the content is located, and where it resides. In terms of the privacy issues——

Mr. STEARNS. Sort of your privacy policies.

Mr. LITAI. The privacy policies is that the information is only made available to the owners of the content or to the corporations who ask specifically for those reports.

Mr. STEARNS. But if I was a corporation and you were doing this on me, would you notify me that you are doing this?

Mr. LITAI. In terms of—We get information from all over the world, not just the U.S., all over the world.

Mr. STEARNS. The specific question is: I am a corporation, and you are doing this—you are taking this information that is happening on my site. I mean, do I get notified at all? Is that a fair question to ask? I mean, am I in the right ballpark here? Should I be notified?

Mr. LITAI. The question—because what happens is, when you ask a peer-to-peer network,the peer-to-peer network does not filter the answers. So as far as we are concerned, we get results from computers everywhere, within corporations, outside of corporations, on ISPs, and basically aggregate that information.

Mr. STEARNS. And it doesn't identify IBM, General Motors or anybody like that?

Mr. LITAI. It does, because the IPs in general tell you——

Mr. STEARNS. You have all the IPs, but you never notify the people that you are taking all this information?

Mr. LITAI. We are not taking any information.

Mr. STEARNS. Okay. Thank you, Mr. Chairman.

Mr. UPTON. Thank you, Mr. Stearns. Mr. Markey.

Mr. MARKEY. Thank you, Mr. Chairman. Mr. Litai, congratulations on Vidius. No one ever heard of Vidius before this afternoon,

but every person in the room has now written down your company's name, and they are going to learn something about it in the next week, or someone in their company is going to learn about it for them, because they don't know whether it is Vidius or invidious. So they are all trying to figure it out now, and none of them are quite sure, but you've got everybody's attention.

My concern is on peer-to-peer networks, but just in general, you know, a philosophical question, because I know that some people see peer-to-peer networks as kind of a software access of evil, and I would like to get at the heart of the philosophical positions which the people who are sitting here.

The cultural mores of millions of youngsters and certain adults have seemingly changed to the extent that they believe that all information is free, that music and movies are all made of digital data yearning to be free and liberated on the Internet.

Some of the remedies for recalibrating the balance between content protection and fair use from the content community would simply prohibit home recorded digital data from being uploaded or retransmitted on the Internet. I will leave aside whether this is possible or not, but assuming it can be done, it raises the question of what our policy should be.

So I think everyone realizes the right and the need for content creators to safeguard their products. Digital copies are, no doubt, easily copied, and there is a risk that, once out in the marketplace, someone could massively distribute that movie or TV show illegally, doing great financial harm to the content owner.

Yet not every consumer is a potential thief. If a consumer can legally record material in digital form, doesn't it make sense, consistent with fair use, that a consumer would share it or a portion of it with a friend or use it in school?

My question is: Is it pro-broadband to push the industries to lock in a standard that prohibits all uploading of legally copied content on the Internet? How can it be pro-broadband to force people to use the U.S. mail or FedEx to deliver legally copied, fair use content when the Internet exists to deliver that same material? How can we make an Internet friendly standard?

So on the one hand, we are impatient and pushing and exhorting the industry to reach an agreement on a standard. On the other hand, we may unwittingly lock in a standard that may prove difficult to undo and seemingly embrace a policy that may prove difficult to change, that limits or thwarts consumer ability to use the Internet or fully use their broadband connection, which we want to see increase exponentially in its use?

Can any of you take that question and help us to get a perspective in terms of this interrelationship between our desire to see rapid broadband expansion in terms of use and the need from some perspectives to protect copyright almost absolutely? Mr. Parsons?

Mr. PARSONS. I think, Mr. Markey, that you've put your finger on one of the important balancing acts that not only the industry but Congress is going to have to come to. In terms of driving broadband, what will drive broadband—You know, what I think what has been driving it so far is simply speed, but will ultimately drive it and really cause it to be fully penetrated throughout our

country and indeed the world will be more and more entertaining, compelling, rich media uses.

Those will be driven primarily not by consumers swapping things back and forth but by people going to places where content is created or aggregated and downloading it.

For our stake in this, we don't have—and I am talking now about AOL Time Warner, but I think I can speak more broadly for Mr. Chernin's company and the entertainment industry. No one has a real issue with consumers making copies of things for their use around their home, and that is using the extended definition of home.

So if you can download something legitimately and make numbers of copies so that you can play it in different rooms in your house or carry it to the beach in your portable player or put it in your car or make a copy for a friend, that has gone on for time immemorial and will go on going forward.

The problem is when you can take a digital copy, upload it, and send it not to a friend but send it to anyone in the world or, for that matter, to everyone in the world. You know, the nub of your question is do you continue to permit that until you find some way to differentiate between that individual who has a legitimate right to send a distinct copy to a specific friend and, in the meantime, let the—In my statement that I skipped over because I was running out of time, we are looking at now probably—We looked at some of the Napster data about a million files being shared every hour.

About 90 percent of that was of copyrighted material, as opposed to material in the clear. So you know that the Internet is being used to facilitate kind of broadband piracy of protectable material.

Mr. MARKEY. Well, let me ask you this then. Is the Internet only broadband friendly for the purposes of commercial downloads but not for fair use downloads, or at least not yet ready for fair use. Help us to just understand where we are or where the industry is in terms of your perspective.

Mr. PARSONS. First of all, the Internet, which is sort of a network of connected computers, is indifferent to the bits that are being moved around it. So it doesn't know whether it is, let's call it for these purposes, a legitimate bit or an illegitimate bit. What broadband does is it simply enables people to move more around on the Internet more rapidly.

The issue, I think, that the industry is facing, and not just the entertainment industry but software and, in fact, the whole intellectual property establishment, is that it can facilitate the wholesale pirating of material in which people have lawful rights. So what we are trying to do is find ways to secure those rights at the place of publication, and then to make sure that the system honors that security after a protectable piece of intellectual property is put out from wherever it is being published. That's all.

Mr. MARKEY. Mr. Chernin, can you take a shot at that question?

Mr. CHERNIN. Yes. First of all, I think you are, as Mr. Parsons said, getting to the heart of the issue, and it is a very complex and difficult issue. I think the first part of your question, I think nothing will speed up the adaption of broadband and the spread of broadband as much as copyright protection, because I think there

is no more attractive product than sort of high quality, rich media that is produced by Hollywood, produced by the sporting leagues, etcetera; and to the degree we are protected, I think that consumers will have tremendous desire to get broadband in order to get legally obtained, high quality product.

I think, when you get to the issues of fair use, these are complex issues that need tremendous debate, that need a lot of light shone on them in the new environment. I think guiding fundamental principles are that all of us in the media business acknowledge that people should have the right and the ability to shift content for their own personal use around their home, to multiple devices in their home, their cars, etcetera, etcetera.

I think where the common sense and the more complex part comes, what happens when they want to send it out of their home, and how do you allow them—I think Mr. Parsons is correct to say none of us would mind if they sent it to a friend or two or three friends. The problem is that, if they do that, how do we stop them from sending it to 10,000 friends, 1 million friends, 10 million friends, in perfect digital copies?

Now we do have the right and the ability, or we will have the right and the ability to instruct content to do certain things. For example, we can sell copyrighted movies to people and give them the right to transmit it over the Internet three times or for a day or for things like that.

So I think that working with technology partners, we can begin to put sets of instructions on this content which will ensure its fair use, which I don't think there is anyone on our side who is looking to restrict consumers' fair use, and yet at the same time restrict the unlawful, potential massive illegal copying.

I also agree with Mr. Parsons that the issue isn't the Internet. The Internet is agnostic and just sends stuff back and forth. The issue is how do we instruct content once it appears on the Internet for the first time, and how do we instruct it so that consumers are allowed to do lawful uses and not allowed to do unlawful uses?

The final thing, if you will indulge me for one more moment, is that I think we have to be careful about allowing business model arguments to get into this. There are people who say our content is too expensive and, therefore, it is right for people to steal it. Well, in my opinion, it is never right for people to steal and, furthermore, I think those of us certainly in the movie and television industry work very hard at making our content available in multiple ways.

You can see a movie for $10 in a movie theater. You can rent it for $2 on video. You can see 60 of them a month on HBO for a $10 subscription. You can see them for free on broadcast networks. So there's lots of ways for consumers to get our product and get it at reasonable prices and, even if there weren't, there is no pricing that suggests that theft is a viable or a legitimate usage.

Mr. MARKEY. Let me just conclude. Mr. Chairman, I thank you. I appreciate the two of you helping us to analyze the issue. We have got a conundrum in our country, on our committee. People are not subscribing to broadband. Sixty, 70 million Americans have access to some form of broadband, but only 8-10 percent are sub-

scribing to it, and it is $70 a month, you know, $50 more than narrowband. There's got to be something there.

So one of the ways you can deal with it, of course, is to have commercial goods on it, but another way is to have a fair use policy where, if I want to send something to one friend of mine online that I find interesting—I don't have 10 million friends—that I would be able to just do that and not have to go over to FedEx and pay $15 to mail the same thing to them. Otherwise, I should be investing in FedEx stocks, not in broadband stocks, because you are not giving me the flexibility I need just as an individual to send something to my family, to my friend, and just do one thing.

So we need to telescope the timeframe, in other words, that we resolve the issue so that we can give some instructions to the American people so that they can use broadband, because that is a big part of this puzzle that we have that we have yet to solve. Mr. Parsons. I'm sorry, Mr. Chairman.

Mr. PARSONS. Just because I now have a clearer fix on your question, people are not not taking up broadband because they are limited in their right to send things to other people. They are not subscribing to broadband, those who aren't, because they don't see the value proposition. They don't see what they are going to get out of it.

What Mr. Chernin just said, I think, is almost irrefutable. Until we get to the point where you can get something different on broadband than you can get on narrowband—that is to say, different programming, media rich program—the mass market is not going to be there. The only way you are going to get to that point is if people who create content can put it out and believe that it is protected.

Mr. JACOBSON. Can I jump in on this, Mr. Markey? Just from the technology side and our working in the marketplace with content holders, what we are seeing—and we have to realize that this industry is really just born in some respects. Yes, the numbers are big, but the use of the Internet in a mass way to consume media that we all know and love on broadcast and cable and satellite is just beginning.

We are seeing what you are alluding to, which is a different experience for rich media in broadband for people to subscribe. So everything from your Red Sox game so you can watch on a condensed basis after they are played, which doesn't interfere with the live signal on broadcast, to Fox sports material to CNN is all coming now in a very rich way into the broadband market.

What we are finding is that part of the solution, which I have not heard yet today, is a more active approach to creating a system wrapped in digital rights management technology for people who want to stay on us to have legitimate content through broadband, and that is everything from the music to the video business.

I think that the report is that we are getting started here and that there are legitimate music services that are available. They have problems associated with them which relate to things like getting all the music aggregated so that they can compete with these pirated sites, and also that the movie industry is coalescing and licensing digital rights management to release their movies via

broadband, we are told by the Movie Link organization, hopefully, sometime during the year.

So we are beginning to find that this mix of broadband accessibility from the home matched with technology that protects content on an affirmative basis and putting those business models into place with the media companies is starting to grow.

Mr. UPTON. Congressman Markey, I just want to say we have Mr. Chernin, and he has got to leave shortly. I know Mr. Tauzin is ready as well. So we have gone long overdue. So we will come back to you, if you need. Mr. Tauzin.

Chairman TAUZIN. Thank you very much. Mr. Chernin, I particularly want to thank you for appearing in this fashion interactively with us. I was noting the technology.

This is technically a broadband connection, although it is not yet the really great broadband connections we are eventually going to have in this committee room, but what is interesting is it still sort of looks like a Korean movie, you know, where your lips are moving and we hear you a little later.

As somebody commented, we can't even tell if you are wearing pants over there, you know. But I do appreciate your coming in this fashion. I think it is beginning to demonstrate the capabilities of the technology, even as we consider issues relating to the new technology. So thank you for that.

I would like your attention and perhaps Mr. Parsons' and Dr. Liao's attention to an issue, and I apologize if you may have covered it before I returned. I have been on the Senate side celebrating prematurely the victory in the Senate for an energy bill that this committee is, obviously, very invested in.

I wanted to get to the broadcast flag issue with you very quickly. We were told at one of the roundtable discussions that there would likely be a resolution and an agreement on the broadcast flag issue by March 31. That obviously did not happen. Another meeting, we know, is scheduled for April 29. I know that you came this close to getting an agreement before this hearing, because you wanted to announce it at this hearing, and I appreciate all the effort you made to try to do that.

You obviously, are not quite there. But the questions I have is, once you do have such an agreement, absent all the other agreements that must come, would it be appropriate at that point for us to have very specific legislation that would enforce that agreement to ensure, in fact, that digital receivers would be built with the broadcast flag technology built in, so that we could at least begin to move this part of the digital transition forward?

Perhaps anyone of you—Mr. Chernin, you may want to start. Are you of a mind that that would be appropriate?

Mr. CHERNIN. Yes, Chairman Tauzin. First of all, I suggest you study the expression on my face to see whether I am wearing pants and draw your own conclusions.

Chairman TAUZIN. I want you to know, I am wearing them, too.

Mr. CHERNIN. I think we actually covered this briefly. We are hoping our schedule to be done by May 17 to be there with a full recommendation. I guess my point of view is that we should keep legislation as narrowly targeted as possible. We shouldn't burden it with trying to solve everything, and to the degree we have a via-

ble broadcast flag solution, which I am highly, highly optimistic that we are days away from, we should have narrowly focused legislation, hopefully, drafted and passed quickly. Then we can check that off and get on with putting as much rich digital content on broadcast terrestrial television and, hopefully, speed up the rollout of digital TV.

Chairman TAUZIN. I am glad you take that view. I will ask Mr. Parsons and Mr. Liao the same question, but I want to comment quickly. The reason I like that view is that gets the content into play, and that gets more broadcaster networks interested in doing more and more digital production and, obviously, studios doing more digital production as well. I think that advances the ball significantly when it comes to content. But perhaps, Mr. Parsons, Mr. Liao, you would like to also comment.

Mr. PARSONS. Same answer. We think that proceeding incrementally here as matters get resolved and issues become clarified, taking steps is better than waiting for all the issues to be resolved, and it will begin to create some momentum here.

Chairman TAUZIN. Mr. Liao. And I will also ask you, Mr. Blanford, on behalf of Philips, to give us a similar response. Mr. Liao.

Mr. LIAO. I agree with Mr. Parsons and Mr. Chernin that we are getting closer, and I am very hopeful that by May 17 that we will have a final report that the entire industry—the cross-industry groups can agree to.

My personal opinion is that the government will have a role, but we need it to be a very specific role. In general, government I see having many—well, has a role in two respects. First, sometimes the government needs to step in when there is no marketplace mechanism in place that could really enforce something of this complexity.

The second place where government intervention is often needed is to assure there is a level playing field. Often in that case, it is because of past government mistakes.

Chairman TAUZIN. I follow that, but in this specific case, if flag technology is agreed upon, would you support targeted legislation to ensure that the technology is built into all digital receivers that go out to consumers?

Mr. LIAO. Yes.

Chairman TAUZIN. Thank you. Mr. Blanford, would you comment for us?

Mr. BLANFORD. Yes. Philips supports the flag. I think the question, Congressman, is what happens after the receiving equipment sees the flag? That gets into then the whole DRM issues that we have been talking about. That is where we are struggling.

Chairman TAUZIN. Yes, I understand that. But at least you would support the notion of ensuring through legislative requirement that the flag technology was in every digital receiver, would you not?

Mr. BLANFORD. We support the flag technology.

Chairman TAUZIN. Would you support the requirement that it be in every digital receiver, once you agree upon flag technology?

Mr. BLANFORD. I think we would like to see where the continued discussion goes with respect to DRM after that flag is, in fact, received.

Chairman TAUZIN. So you, of all the four who have responded, would take the view that we should not legislate until we are prepared to legislate on enforcement of all the agreements or at least the agreement on what happens once the signal is received with the flag on it? Is that your view?

Mr. BLANFORD. Yes. We believe that the—again, what happens after the flag is received is critical. I am not confident that, without that understanding, we should go forward with the flag in a legislative mode. I think we still need the benefit of the process to determine what does happen after the equipment receives the flag.

Chairman TAUZIN. My time has expired. Obviously, the concern I have and the concern we have discussed at some of the roundtables was that, if we wait for all the agreements to be reached and all the investments and upgrades to be made before we begin the process of instituting such things as the technology that will embrace the flag, that we again push back our capabilities of reaching the 2006 date. We deny digital content in the marketplace that could help invigorate consumers' desires for these new technologies and products.

I would urge you to think about that. If I had a confidence we could settle all the other issues in the next 3 or 4 or 5 or 6 months, I would say maybe you are right. We could do it all at one time. But if we can't, would you rethink that position?

Mr. BLANFORD. I guess I am optimistic that many of those other issues can be resolved, and I appreciate your comments regarding the speed with respect to moving forward with broadband and high definition content.

This is a decisionmaking process, and every decisionmaking process that I am aware of does, though, need to balance speed of decision, quality of decision, and the acceptance of the decision. I am very fearful that we are moving too quickly. Again, I am optimistic that, under the proper forum with broader participation, we can resolve many of these issues. I again state that we don't believe that there is that proper forum, that the BPDG is not a standard setting body and is fundamentally closed.

So I think, again, under the right forum, right principles, right leadership, as we have suggested earlier, we can make faster progress and meet your needs and do it in a holistic way.

Chairman TAUZIN. I know time is up. I would be very grateful if you would communicate to us after this hearing what might be the minimum conditions under which you would see enough progress made on those issues where you would support a targeted mandate to get the flag going.

Thank you, Mr. Chairman.

Mr. BLANFORD. I would be happy to do that, Congressman.

Mr. UPTON. Thank you. Ms. Eshoo.

Ms. ESHOO. Thank you, Mr. Chairman. This has been a wonderfully instructive hearing, and I think all of my colleagues would agree with me in stating that. Thank you to all of the participants, both interactively and the ones—the gentlemen that are at the table.

First, I would like to just make a quick observation about DigitalConsumer.org. There has been kind of an interchangeability with the terms customer and consumer. I think that the companies have customers and that, in a much broader sense, we are here to look after the consumer, and I don't think one is right and one is wrong.

I also think that an organization that can be up and running with 35,000 people in 6 weeks is one heck of a campaign, and as a politician I really respect that. I think it is something that we need to pay attention to.

I think the whole issue of fair use is one that is ultimately going to have to be built into this, and whether it is out of respect for that organization that Joe Kraus heads up or anyone else. So it simply cannot be left out. So consumer rights and consumer protection and the embracing of where the companies want to go with their customers—all of those things are going to have to be balanced out. I say that with respect to all of it. So that is just an observation.

To Mr. Chernin: Protecting content at the outset is something that, I think, we have heard addressed over and over again today, and how to do it, and then where the government steps in to assure that, I think, we are still grappling with. But protecting it at the outset and from the source is very important.

We have heard that content is often copied by an individual, and in some cases with a digital camera at a theater. Can you tell us what steps you are taking to eliminate that?

Mr. CHERNIN. There are tremendous efforts——

Ms. ESHOO. Excuse me. The next time I go to the movies, I am going to look around in the dark to see if there is anyone there with a camera. But do you have agreements with theaters? How do you approach this?

Mr. CHERNIN. First of all, we ought to applaud your helping us in the policing activities.

You know, actually, my friend and colleague, Mr. Valenti, has helped us take the lead in this thing. I think——

Ms. ESHOO. He is our friend and colleague, too.

Mr. CHERNIN. I think that the MPAA through the member motion picture companies spends, I believe, in excess of $20 million a year trying to fight piracy in all parts of the world, and ranging from things like video cameras in movie theaters to people stealing our prints to people in other countries making illegal disks, etcetera.

So we do have agreements with theater owners to restrict this. We look to law enforcement to help us. There are State laws restricting it, and we play a very active and, I might add, very expensive role through Mr. Valenti's leadership in the MPAA.

Ms. ESHOO. Thank you. Let me ask—Is it Mr. Litai? Am I pronouncing your name correctly? I have an odd name. So I am sensitive about mispronunciation.

I am curious about the answer that you gave earlier to Representative Stearns when you were asked does anyone know that you are doing this, and you did not give a direct answer. My sense is that people don't know. How appropriate is that?

Mr. LITAI. Well, I would like to just make it very——

Ms. ESHOO. I mean, it sounds a little like a high security meeting with Members of Congress where the agency has to inform us of the appropriateness of what they are doing. I am not casting aspersions, but it really raised a flag with me when you didn't answer that directly.

Mr. LITAI. The answer, first of all, is to say that everything that we do, we do on public information that is offered directly from the networks. We do not in any way, shape or form access anybody's computer or anybody's system.

Regarding have we talked to people regarding this, the answer to that is yes. There are people, lots of people, companies, who are in this room and others who know what we do and have seen this information.

Also, we make it a point to notify people that they have problems regarding these types of situations.

Ms. ESHOO. So if find what you are looking for, you then notify either the party or the company? Have you notified them ahead of time that you are looking or do you notify them once you have found something or do you report them to someone? How does it work?

Mr. LITAI. First of all, we don't look for specific—We can't access computers. So we don't look for specific people. I can't access anybody's computer, because they are, for example, behind the firewall. So I can't go and access anybody's computer nor do I want to.

What we receive is just as if someone would post it on their website and say, look, this is my website. I am a corporation, this is my website, and over here is a movie. Click on this, and download a movie.

The peer-to-peer is the interface which basically the users who put this content on the peer-to-peer network use to turn this misinformation into public information which everybody has access to, just like a website.

So there is nothing that we do that actually accesses anybody's computer. There is nothing that we do that looks into anybody's directories or anybody's information.

In regard to whether we do anything under any sort of hiding it or anything like that, no, we do not.

Ms. ESHOO. I have two more questions. I appreciate your response.

Is there anyone on the panel that agrees with the Hollings approach? Why is this such a stumper?

Mr. KRAUS. Silence is probably no, I would imagine.

Ms. ESHOO. Is that so? I mean, no one can voice it? Well, I think that we heard——

Mr. UPTON. Mr. Chernin has had to leave, but I think he might——

Ms. ESHOO. Yes, I noticed. It would be two, four, six against one. So that is a quick poll.

Let me ask out of curiosity, going back to what I first referenced, consumers and customers: You have a working group. Is it just industry or do you have representation relative to consumers at the table? And if so, great; and if not, why?

Mr. JACOBSON. I am happy to give my perspective and then, certainly, expect the perspective of others.

I attended the last CPTWG and BPDG meeting—lots of acronyms. There are really no consumer organizations in the room, and it costs $100 if you want to attend. So——

Ms. ESHOO. Why?

Mr. JACOBSON. Why? Because I imagine—I can't speak for why. I imagine it is because they have a meeting room, and they need to cover the cost of the meeting room and those sorts of things, but it does cost money for anyone to attend.

The other unfortunate thing, I believe, is I have not seen a member of the press attend. So even if consumers are prohibited from the $100 fee—let's say that is not something that they want to pay in order to express their opinion—my concern also is that I have not seen members of the press being in those meetings and able to effectively report out whether consumers were being represented.

So consumer representation certainly is a concern of ours, when it comes to these kind of inter-industry consortia.

Mr. PARSONS. If I may, Madam Congresswoman, and then Mr. Liao is going to speak. First of all, the working group at that working group level, the issue is who brings knowledge to bear to deal with the technical issues that have to be solved here, and that is not necessarily—The purpose of those groups is not to sort of mediate and balance the broad public interest versus the interests of the industry. That, frankly, is for this body to deal with.

I would just like to say—and in terms of the press, again, the purpose of the working group is to try and find technical solutions to technical problems and understand how the people who have that knowledge and understand the operation of their business would work, and then we will come back here, as we have indicated, if we think we need a standard that has to be enacted into, "public policy."

You made mention earlier about your concern about fair use. The only thing I would ask the committee—You know, sometimes what you call things can head you down an interesting road, and you can lump a lot under it. But actually, the fair use doctrine is, in my judgment, fairly named, and the question is what uses are fair?

If you buy a CD or a movie, should you be able to invite friends over to see that? Yes, that is pretty fair. Should you be able to make a copy of that so that you can have it in your car or upstairs in the bedroom and downstairs in the den? Fair. Should you be able to make a copy of that so that you can give that copy to your brother-in-law so he doesn't have to buy that movie? Should you be able to make 100 copies of that so that you can give it to your 100 best friends, so none of them have to buy the movie?

I think, you know, we can lump a lot of things under fair use, but one needs to think about our system, how it works, what the source of its strength is, and how to balance the need to protect property rights and allow people to exploit those property rights with the legitimate needs of those who buy a piece of property and how they can use it for their own consumption.

Ms. ESHOO. It is an eloquent statement, but that is what we are trying to figure out how to do. It is like trying to get socks on an octopus. I mean, it is a pretty tall order. But I appreciate what we

have heard from all of you today, and I have been enlightened in several areas.

I hope, more than anything else, that you all work out most of it, because I think many times, when you come to the Congress asking, you may get something you don't like or didn't expect. So I think that there is a real charge to all of the stakeholders in this to see what you can come up with, and then come back to us and report that. I hope that the steps that the Congress takes are smaller steps and not get into the area of mandating the standards. I don't think we know how to do it. I don't think, even if we hit the nail on the head, it would change tomorrow, and we can't pass legislation fast enough to keep up with product cycles and technological standards.

Thank you, Mr. Chairman.

Mr. UPTON. Thank you, Ms. Eshoo. We are going to have just a very brief second round, and I know Mr. Chernin had to leave.

I have a question. A year and a half ago I bought a digital TV set. It works terrific. It is hooked up to cable. What is going to happen if we sell this broadcast flag issue, if we get the agreement made? What is going to happen to those folks who have this type of TV with a tower, if they don't live in a cable area, with an antenna? Tower and antenna are the same thing. What is going to happen with the folks who have that type of equipment?

Mr. LIAO. First, the broadcast flag is meant to prevent retransmission—or so that the content copyright owner could——

Mr. UPTON. I am going to want to get that show. I want to watch that.

Mr. LIAO. So there is nothing to prevent you——

Mr. UPTON. The Cubs and the Boston Red Sox will be on digital by then.

Mr. LIAO. So there is nor elation. You will get that show.

Mr. UPTON. It will be okay, even with a flag on it?

Mr. LIAO. Yes. The flag is only meant to prevent retransmission, sort of republishing of the material over the Internet.

Mr. UPTON. Okay. So that will work for existing sets as well?

Mr. LIAO. Yes.

Mr. BLANFORD. Congressman, there is still an issue, though, as to what happens with all of your equipment after that flag is received, which is what I was trying to address earlier. For instance, if you were to now take that show or game or whatever and record it digitally on your DVD recorder and then take that DVD out of the recorder in your family room and walk into the bedroom and put it in your DVD player, it won't play.

So it's these issues after the flag is received that really get into fundamentally the balance of rights, business rights between all of the various industries, as well as consumer rights. It is in that balance of rights that we have asked for help from Congress or an agency like FCC to ensure transparency in the process, not to mandate the solution, just to ensure transparency in the process and to ensure that everybody is at the table.

Mr. UPTON. Go ahead.

Mr. LIAO. If I may make a comment, I think the salient word that Mr. Blanford mentioned is balance, and it is the balance of all these different interests. It might be helpful for the committee to

understand the kind of structure by which this protection is achieved, and I think this goes to the heart of the issue that Mr. Blanford has been discussing.

The broadcast flag signals the TV receiver that this content should not be retransmitted over the Internet. So sure enough, that TV receiver will know this is a no-no, don't do that. But there are outputs to the TV receiver. For example, with the set top box there needs to be an output that brings it to the television.

Those outputs may be analog in nature. They may be digital in nature. If they are analog in nature, actually, the agreements of all the industry participants—to my knowledge, all the industry participants has been that the broadcast flag, no matter what its setting, will permit, continue to permit, that analog output to output the signal.

So for example, today if you have a receiver, it will output that thing through the analog output and display it on your display, perhaps the high definition display that you have recently purchased. No problem. Or you could take that analog output and put it into your DVD player or recorder and make a very nice DVD recording, probably equivalent to the kind of displays you are seeing because, after all, that is the same output that you use for your display, and make a recording.

That recording, if you make it on the right DVD media, will be able to play on the legacy players. For example, if you bought a Panasonic DVD recorder today and recorded on DVD RME, you could record it on that and play it on most of the legacy players.

On the other hand, if it is a digital output, and it is really digital protection that we have been talking about in the Broadcast Protection Discussion Group, in order to protect that digital copy, what we have been talking about is encrypting it. Now why should it be encrypted? The reason it is being encrypted is that is how you protect it from being misappropriated at a later stage in some other part of the chain.

Remember, the whole thing about today's network world is that we are talking about going from one box to another through all these networks. So in order to maintain that protection in the digital world, we have taken the approach of encrypting it. It was something that was not easy for all of us to agree to, but it provides that kind of a balance between this protection of that material and the use of the consumer.

The consumer can always make the recording and can make as many recordings as they want. Those recordings will always play in, for example, the recorder that they made it in, because the recorder is made to play its own recordings. So there is never a problem with playing a recording that he makes on a consumer's own recorder—her own recorder. It will play, no problem.

So this is the kind of balance we have had to struggle with.

Mr. BLANFORD. I don't want to get into point-counterpoint, but what was just described, though, locks the consumer to a degree, a large degree, in the analog world; because, yes, you can see the digital signal on your display, but to record it you are not able to use it on the 35 million DVD players that are in existence today unless you record it as analog. Then, I mean, what is the point?

We have locked the consumer in the digital world, and we are not able to take advantage of the full promise of digital.

So we are in a point-counterpoint. That is correct, but I think, again, it is this fundamental balance that we are speaking to in terms of who all should be at the table. The 5C only represents four consumer electronics companies. I wish that is all I had to compete against. Last I looked, I think it is more like 15. So it is a very small group. It does not represent the consumer electronic industry nor those other constituencies that have not been represented either.

I think this is just a huge—I mean, we recognize it is very complex. It is very huge. I think the consumer at the end of the day is going to speak. I think, if we don't get it right, your in-boxes are going to be very full.

Mr. JACOBSON. Mr. Chairman, if I may. I applaud the notion of a very narrow mandate at the BPDG when it comes to preventing the unauthorized retransmission of content over the Internet. I understand that. My concern is that, from what I have seen of the specifications, and I am on the mailing list for those specifications, the power of the specification is actually far broader.

It gives the ability for, as far as I can tell, a small group, subgroup, of BPDG to determine what technologies are essentially approved, and the scope of those technologies doesn't necessarily have to be limited to only retransmission.

So, for example, a technology could get approved. As I mentioned in my testimony, nothing in the specification prohibits, I might say—not necessarily that it will happen, but nothing prohibits the ability of a technology to get deployed which might make my VCR recordings expire. Yes, I might be able to make them, but maybe they expire without my choosing.

So what I believe—and there's been questions about when should we give this specification the force of law. My interest is not so much a question of when, but what. I believe that this specification needs to have—and I am heartened by the comments of Mr. Parsons and Mr. Chernin on fair use, but I believe that the specification gives broad powers to a group of people, and before you stamp that into law, I think you need a fair use assertion in that document to make sure that none of the provisions, none of the technologies that do get approved—and consumers are not going to be in the room when that gets approved. You need to make sure that what you pass, regardless of when you pass it, has fair use assertions in that specification itself.

Mr. UPTON. Mr. Markey.

Mr. MARKEY. I have no further questions. I thank you all for your excellent testimony.

Mr. UPTON. Mr. Boucher.

Mr. BOUCHER. Thank you very much, Mr. Chairman. I will be brief, since I am the last person to question this panel, and it has been a long afternoon.

Mr. Blanford, I can't resist the opportunity of your presence here today to discuss with you another subject. It is also a subject relating to the protection of content in the digital era, but from a very different vantage point. That is the general matter of the introduction of copy protected CDs into the U.S. market.

Philips, as I recall, was one of the companies that developed the original standard for CDs.

Mr. BLANFORD. That is correct.

Mr. BOUCHER. I think, in fact, you own some intellectual property in the brand. I will tell you that I am somewhat perplexed by the rationale of those who are introducing the copy protected CDs. If you look at the circumstance carefully, you readily see that copy protected CDs will do virtually nothing to guard against Internet free, peer-to-peer file sharing. Someone will crack the code. That someone will put the then unprotected CD up on the Internet. Once it goes up, it is likely to stay there forever, and it will find its way into the free peer-to-peer file sharing services.

I think that is absolutely inevitable. So copy protecting the CD does not really protect against Internet peer-to-peer file sharing, and we have heard repeatedly from the recording industry that their greatest concern about the escape of their digital content and the piracy of that content is with respect to Internet peer-to-peer file sharing. Copy protecting doesn't guard against that.

It does guard against the casual making of a CD at home and giving that to someone else. Frankly, I don't term that fair use, Mr. Parsons. I am a big fair use advocate, but I don't think recording a CD at home and giving that to another person is fair use. For your own purposes, it is. I mean for your own convenience, it is, but once you give it to somebody else, I think it is not.

Really, all copy protecting CDs does is guard against that, and historically the record industry has more or less accepted that, kind of tolerated that low level of piracy. That is rather casual. So I am perplexed by the rationale for this.

On the other hand, introducing copy protected CDs is angering a very large number of the best customers of the recording industry who are now frustrated in their ability to exercise their fair use right to make a copy at home of music they have lawfully acquired, when that music is going to be used for their own convenience and personal use in the home setting or the extended home setting.

I suspect eventually millions of people are going to express that same concern. Let me ask you as the developer of the original format for your view of this general subject matter or any concerns that you might have about the dysfunctionality that attends the copy protection technology that disables CDs from playing perhaps on a personal computer or in a DVD drive, and I understand some of the technologies have that characteristic.

Are you concerned that consumers will be confused? Are you concerned that some of the blame will be directed toward the manufacturers of equipment, potentially your own equipment, and do you think that perhaps, assuming there is that confusion and that misdirected blame, that the case is made for Congress to step in and to require appropriate labeling when CDs are copy protected?

Mr. BLANFORD. Congressman, I think you articulated the issue extraordinarily well, and I am not sure I can add a lot. Yes, we are very concerned that consumers will be confused, that they will blame their equipment. Indeed as the copy protected CDs do hit the market, in many cases they will not play on existing equipment, leading to confusion, leading to consumers that feel that

their equipment is broken, leading to calls to our consumer care centers.

There is already a fairly, I think, sizable revolt going on, on the Internet. My own e-mail box is getting swamped with letters from consumers who are actually supporting Philips as we have been attempting to put the brakes on such copy protection, and again making sure that we all understand what we are doing as we go forward.

So it is a very serious area. I think you are also right, to the true pirate they are going to find a way around it. So it is casual copying that we are talking about, but a very serious problem for us right now, and growing.

Mr. BOUCHER. Should we legislate to require appropriate labeling when the disk is dysfunctional because of the copy protection?

Mr. BLANFORD. Well, I think, you know, that would be certainly—I mean, the ethical thing for the producer of that particular disk to do would be to label, and we could legislate that. Unfortunately, I think consumers will still be surprised. They may not see the label. They are still going to take it home, tear open the wrapper, put it in their CD player, and it is not going to play.

So I am not sure if—I would support it, but I am not sure that that is going to solve the problem, and it is another area where, again, more discussion is needed.

Mr. BOUCHER. Well, thank you, Mr. Blanford. I think more discussion is needed and, hopefully, this subcommittee will take the opportunity to look at this issue at the proper time. Thank you again.

Mr. BLANFORD. Thank you, Congressman.

Mr. UPTON. Mr. Markey.

Mr. MARKEY. Fourteen years ago, we set up a screen in this room, and we had the first international broadcast of an HDTV signal from Canada into this room. The members on this committee, they just fell over wanting to know where they are going to be able to get the sets, when they were going to be able to see all this programming in HDTV.

The policy that our country constructed was essentially 6 megahertz for the broadcasters, and then walk away. Even when I, in 1997, had an amendment here that said that all television sets sold in the United States that would be digital at least have a digital—have an ability to receive a digital signal, even if it was an analog set, by 2001, it was rejected like 35 to 7 here on the committee.

So just dealing with that one issue, the 6 megahertz, doesn't really create a policy, if that is the only role the government is going to play, because if you walk away, you wind up with chaos. Same thing as here, and after I have heard all of the testimony here today.

We can deal with flags or this or that or the other thing, but we just can't deal with any one part of it. We have to deal with all of it, and we have to deal with all of it at the same time or else any un-dealt-with part of the puzzle has the capacity to paralyze all the rest of the resolved issues.

My own personal experience now 14 years later after conducting that hearing—I have been on the committee for 26 years—was the breath taking response from the committee members. I think the

same desire is there for a resolution of all of these issues. That is the product that is promised to the American public, this combination of broadband and content. But in order to telescope the timeframe for us to have this miracle, this product presented to the American public, in my opinion, it is going to require an industrial policy.

It is going to require the Federal Government to intervene, because I do not see any likely near term resolution of any of these issues in a way that resolves the big issue of presenting something to the consumer anymore than, in the absence of the Federal Government intervening, do I see any ultimate resolution of the HDTV conundrum; because there are so many moving parts, you cannot ultimately rely upon any one industry to resolve it. You have to have the Federal Government come in and make very difficult decisions.

That is my recommendation, Mr. Chairman, and it would be that this hearing be followed by a whole series of additional hearings that can allow us then to go down the list of still unresolved questions, because ultimately, I think, left to the private sector, we will just have a repetition syndrome of what has happened with HDTV, going back to 1988. We will not see the full resolution of all of these problems.

Thank you, Mr. Chairman.

Mr. UPTON. Thank you, Mr. Markey. I just want to say that I know that your participation in our roundtable meetings has been very constructive and productive, as we have all worked together. We are looking to have another one next month, and we will follow up with additional hearings. That is for sure, as the country watches what is going to happen.

Thank you very much. The hearing is adjourned.

[Whereupon, at 4:23 p.m., the subcommittee was adjourned.]

[Additional material submitted for the record follows:]

PREPARED STATEMENT OF THE ASSOCIATION FOR COMPETITIVE TECHNOLOGY

INTRODUCTION

The Association for Competitive Technology (ACT) submits the following views on the subject of protecting digital content. ACT represents over 3,000 information technology (IT) companies and professionals, including those involved in creating solutions to transmit digital content. We strongly believe that the marketplace, without the assistance of additional legislation or regulation, is in the best position to respond to the demands of consumers and copyright holders. Legislative proposals that install government mandates for security standards (or DRM) are unnecessary and will be counterproductive.

The potential market for digital content is an estimated $270 billion, and Digital Rights Management (DRM) technologies and solutions are the keys to unlock it. IDC has estimated that the market for Digital Rights Management (DRM) software is expected to reach more than $3.5 billion in revenue by 2005. Without a doubt, emerging and maturing DRM technologies will enable a secure electronic marketplace where content providers can be compensated for the use of their digital content. Small and mid-size technology companies make up the bulk of the DRM developers heeding the call to action.

Currently, the flow of legitimate online content is a trickle compared to what it could be. Content owners are hesitant to release content for fear that once a song or movie is lost to digital pirates, all value in the investment and commercial opportunities are lost as well. The IT industry and entertainment industry seem to agree that it's going to take continued development of new technology and new business models to provide DRM while expanding consumer distribution, convenience, and choice. In other words, a DRM model needs to allow consumers to rent, buy, time

shift and place shift any piece of lawfully acquired digital content. To that end, the industry is already devoting billions in R&D to develop these technologies.

HOW DRM WORKS TO PROTECT DIGITAL CONTENT

DRM technologies can be grouped into three basic categories: 1) the access control with authentication and/or encryption mechanisms; 2) usage control according to rules that are set by the content distributor, e.g., listen-only rights, where the user is unable to save or distribute the music. 3) tracking mechanisms that allow the content provider to track subsequent use with watermarking and digital footprints.

DRM technologies offer content owners the aforementioned dynamic solutions through passive and active methods. An example of a passive DRM technique is consumer identification and trace back to find illegally copied content. Methods include: serial numbers, digital fingerprints, traitor tracing. In order to ensure the integrity and authenticity of digital content, its accompanying metadata and the hardware and software components of a DRM system, security features such as digital signatures, fragile watermarks, and challenge-response protocols are included.

In terms of active protections, DRM systems have been developed that utilize specialized filters and marking techniques such as "audio fingerprinting" or "robust hash" that block unauthorized access to pirated content. In addition, fair-exchange protocols ensure technically that the consumer receives access to protected content only after having paid the appropriate price. If the DRM system detects a security breach, it can revoke and disable compromised consumer devices.

EXAMPLES OF "APPLIED" DRM

In order to be successful on the mass-market, DRM technologies must continue to be effectively integrated into consumer devices. A positive sign is that a number systems for playing digital content currently utilize DRM technology. DRM components can be found in pay TV systems, DAT and some types of compact disc players. The DVD system employs various technological protection measures, including the Content Scramble System (CSS). Other DRM standards include the High-bandwidth Digital Content Protection (HDCP) for protecting digital video outputs, and Content Protection for Recordable and Prerecorded Media (CPRM/CPPM). DRM solutions are being integrated into new devices and software including digital audio and video players, e-book readers, operating systems and mobile devices. These solutions all have one thing in common; they were created without technology mandates.

The technology industry remains focused on creating marketable solutions. Content owners, device manufactures and IT companies have agreed that the successful DRM solutions for digital content should have these features:

- DRM software and devices should be so easy to use that they're nearly invisible to the consumer, even as they move digital entertainment content among their own household and personal devices.
- Users should be able to recombine and share any of their own digital content.
- DRM solutions should be inter-operable among devices and distribution channels, and the technology should have consistent enforcement of rights wherever the content goes.
- DRM technology should be flexible enough to adapt to different business models (e.g., charges for a single use or for a specified time period).
- DRM technology and devices should be capable of online updates with new protection software.
- Content providers will need DRM databases and systems to define and manage rights to their content.
- Enterprises such as corporations and educational institutions need DRM systems to manage content and group rights.

No doubt integrating the above features creates challenges in balancing the rights of content owners with the demands of consumers. There should also be no doubt that thousands of technology developers are racing to deliver solutions that meet those challenges. The enormous value of the music market provides a powerful financial incentive for DRM innovation, but it's up to content owners, the IT industry and consumers to pick the winning solutions.

XrML

In the attempt to implement these features, one machine-to-machine standard has emerged. The extensible rights Markup Language (XrML) syntax provides content owners the opportunity to attach data about royalty arrangements, ownership, listening limitations, and context pricing (e.g., sale or rental) to the content, so it can "travel" across devices without degrading the copyright. XrML as been embraced by Microsoft and is a primary feature of their DRM function. Moreover, the number

of licensees of XrML's is growing rapidly and is already in the thousands. Now that XrML is emerging as the industry standard language for digital rights, companies are taking initiatives that will keep the DRM marketplace moving.

As mentioned above, XrML supports trial use, rental and sale distribution models. This means that "old" models of selling music will find "new" viability. For example, music content owners, utilizing XrML based DRM distribution systems, can provide a consumer the opportunity to listen to parts of songs for free, purchase singles for a competitive price and purchase albums for download to a digital device.

Eliminate the incentive

Technologists at RSA and Bell Labs have begun addressing the piracy problem by developing a practical solution designed to make it less economically viable to steal content. Their models are aimed at the typical scenario most feared by content owners. The case is which a pirate obtains a legitimate, secure copy, potentially alters, and then distributes copies in order to make a profit. RSA and Bell Labs have offered a solution currently targeted toward software, but applicable to digital content, relying on periodic updates. The key is required interaction between the owner of the content and the legitimate distributor.

Subscriptions

DRM integrated into a subscription model allows content owners to bundle a large number digital content for a fixed price. In a variety of circumstances, a multi-product content owner can extract substantially higher profits by offering one or more bundles of digital media than by offering the same goods separately. At the same time, bundling can be used to introduce new songs, movies, documents and titles to create a continuous relationship with the consumer. This relationship offers a foundation on which content owners can generate revenues. The subscription model may represent a mix between indirect and direct revenues with the option of consumption combined with transparent pricing. Forrester expects additional revenues from digital music subscriptions of $3.3 billion. Subscriptions provide flexibility that will attract consumers. For example, a premium membership might offer a flat rate, eventually combined with services from the second scenario, while an advertising-based membership might limit access in quantity, time or actuality.

By utilizing DRM technology to securely encrypt the music with a key, the package can be digitally delivered to the consumer's device. There, the locally installed trusted tool gains access to the digital content with an unlock key which leaves the file locally encrypted and streams the digital content into the memory for "on the fly" decryption. The user, who has agreed to the terms and conditions of use, has now the license to access the content. His usage is recorded and the transaction is reported to a clearinghouse to initiate payments and backup system information. The content owner is being protected and the content owner maintains control and determines payment collection.

Companies providing "applied" DRM

There are dozens of companies that are creating and deploying DRM solutions for a number of scenarios. The table below lists some emerging ones and their area of expertise:

Company	DRM Solution
Authentica	Focused on ''digital rights management software for protecting and controlling valuable business information shared internally or across company boundaries. Product suite lets users share valuable digital content—e-mail, documents, and Web content—without giving up the rights to determine what happens to it, no matter who has it or where it's stored.''
e-Vue	''e-Vue also integrates digital rights management (DRM) tools into its MPEG-4 solutions to provide a powerful and secure multimedia content delivery engine.''
MediaDNA	''MediaDNA's patented solutions provide business enterprises and publishers of valuable information with a framework for safely promoting and controlling content distributed over the Internet, intranets, extranets, and other media such as CD-ROM. MediaDNA's approach is unique in that its comprehensive solutions not only include proven, Digital Rights Management (DRM).''
SealedMedia	''[P]rovides Digital Rights Management (DRM) technology for organizations requiring persistent control for digital content delivered over the Internet. Unique to SealedMedia is its support for multiple media formats, its association of licenses with people rather than devices, and the flexibility of the usage models it enables. SealedMedia customers include ipicturebooks.com (AOL Time Warner), Harcourt, Pearson Education, Congressional Quarterly and Xansa.''

GOVERNMENT TECHNOLOGY MANDATES ARE UNNECESSARY AND WILL DO MORE HARM THAN GOOD

History has shown that the market, not government regulators, is responsible for bringing copyright protections to bear. The same can be said in the digital media context. The DRM solutions in the section above demonstrate that there can be any number of ways to address the need to protect content owners while providing consumers maximum utility. In this regard, the IT industry is currently working feverishly to develop and deploy robust rights management technology.

We share with the content owners, the goal of providing rich digital content to consumers at an attractive price. However, legislation proposed by some content owners will frustrate our ability to achieve this goal. The Consumer Broadband and Digital Television Act (CBDTA) proposal is myopic with respect to rights management solutions and have the potential of lock out promising technologies. Further, CBDTA creates a scenario where companies not involved in digital media will inadvertently find themselves in violation of a law never meant to be applied to their business model.

ACT remains steadfastly opposed to government-mandated rights management technology standards, for the following reasons:

- The government should not pick winners and losers through its certification process; especially while the IT industry is working to achieve an open DRM standard.
- These standards will "freeze" technology by requiring government approval of design changes. Instead of real-time innovation, we could easily end up with a one-size-fits-all standard.
- Publishing standards on government web sites makes it too easy for hackers to circumvent.
- Innovators can't receive government certification if your copyright protection technology isn't "reasonably priced" according to a current draft of a legislative proposal.

CBDTA is out of touch with the realities of the DRM marketplace. Not all solutions will have the same features. Currently, companies focusing on DRM are able to quickly tailor their solution to the evolving need of the content owners. CBDTA requires that content owners, IT companies, devices manufactures and consumer groups come up with standards for all permutations of digital media distribution in one year. The history of DRM shows that there is no such thing as a quick fix. Current technologies are years, not months in the making. It is absurd to believe that all security standards can be discussed and agreed upon in one year. Meanwhile, development of DRM will have to slow pending the discussion. If not, the discussions would have to continue in perpetuity or risk leaving some standards outside the law. The bottom line is that the bill will cut off the development of promising technologies.

Small technology companies, which are the bulk of the DRM innovators, will also suffer under the CBDTA. The proposal calls for representatives of content owners, IT companies, devices manufactures and consumer groups to create security standards. Although the bill attempts to bring all interested parties together, the reality is that small companies will be shut out. Again, the result will be a cessation of innovation. Only the most well funded companies will dare continue because they will have the resources to switch gears when the standard is announced. The smaller companies risk running afoul of the law by putting out illegal software. There is no doubt that venture capital and other funding sources will find "safer" places to put their money. Widespread DRM development will become a distant memory. The net effect will be fewer companies able to provide cost effective, targeted DRM solutions for content owners.

Finally, CDBTA is overly broad and invites unintended consequences. Its definition of "digital device manufacturer" was created to capture any type of digital media software and hardware. Such a definition must be written broadly lest it create loopholes for digital pirates. Its application to "any" type of software that can transmit digital content captures an array of software (and the companies that develop them) that are not intended to transmit content. Companies that develop and ship spreadsheets, word processors and e-mail programs would be in violation of the law unless they implemented security standards. These vendors will face the Hobbesian choice of either raising prices to cover the new development costs (which will not sit with consumers) or break the law (which doesn't sit well with anyone).

These problems are inherent within legislative approaches like CBTDA are unwarranted and should be avoided. ACT and the IT industry are not alone in taking this position. Even content providers such as Pressplay (an online music distributor

created by music labels), have urged Congress to focus on applying existing law to the marketplace instead of creating new laws.

CONCLUSION

Development of DRM technology will take two things: continued innovation and time. Unfortunately, government technology mandates do not encourage either. Given the tremendous opportunity for a digital media marketplace, nothing should stand in the way of technologies aggressively competing to create solutions that protect the rights of content owners while meeting the needs of consumers. The only way this will happen is through an unfettered market.

PREPARED STATEMENT OF STEVE GRIFFIN, CEO AND CHAIRMAN, STREAMCAST NETWORKS, INC.

I would like start out by asking a simple question. What would life be like in America today, if you could not go down to the local Blockbuster and get a movie on a Friday night?

Since 1906 when music publishers fought the introduction of the player piano to today, content companies have tried to slow down or eliminate technologies that they believe threaten their rights and their methods of business.

In the early 1980's the climate surrounding advancements of technology was just as confused as it is today. Then it was the call to arms by the entertainment industry that VCRS needed to be recalled from consumers' homes and banned from sale. We are in the latest chapter of a familiar story; one of content companies vs. technology companies.

I am pleased to have the opportunity to share the story of Morpheus and discuss with you today our vision Peer-to-Peer (P2P) communications and the role it will play in this universe of Digital Media.

The Fear of Technological Innovation

As they say, hindsight is 20-20. Today we have the benefit of looking back and seeing that the VCR was not the threat the motion picture had imagined it to be. Indeed, without the introduction and acceptance of the VCR, entire industries would not exist, the entertainment industry would not have experienced the powerful and profitable growth it has enjoyed, and consumers would have continued to be forced to watch media either in a theatre or on TV.

The ability to enjoy the freedom to go down to your local Blockbuster and get a movie if you chose and watch it in your own home is provided only by the Supreme Court decision in the Sony Betamax case.

I look forward to the day when we will all look back on the early fears of Morpheus and other P2P technologies and recognize them as just as misplaced as the fears of the Betamax were.

P2P Allows People to Communicate Directly Like Never Before

I believe that P2P networks will become as common as the telephone, where people can connect directly to one another without having the operator listen in on your calls.

There has been a lot of misunderstanding surrounding P2P Networks and products like Morpheus by the press and by the community. A true P2P software product, like Morpheus, allows consumers to connect directly with each other and to exchange any type of information—anything—recipes, family photographs, a poem from a budding poet, commentary on public issues, anything. Once the consumer has downloaded the Morpheus software they choose what electronic information that they want to make available to people around the world.

With Morpheus our business model started with advertising and has provided us a revenue platform to achieve profitability. This year we will introduce several additional revenue streams as we attempt to be responsive to the Morpheus users, potential business partners and new marketing strategies. We are passionate about incorporating different tools that empower consumers to communicate and exchange information while protecting the creators' content.

When consumers launch the Morpheus software, they join and help create a self-organizing, self-sustaining network of users around the world. The more users that join the network and share content—the richer the experience. It is a true decentralized P2P network since StreamCast has no involvement with the consumer as it relates to the sharing of information. Consumers can chat using Morpheus just like AOL instant messenger. They can post promotional brochures, they communicate in multiple languages.

In short, Morpheus allows consumers to directly connect to each other like the Internet was intended to be. In fact, many call decentralized P2P "the New Internet." It is a new gateway or alternative to the World Wide Web.

Decentralized P2P offers the most cost effective and efficient distribution that exists in the world today. By leveraging millions of consumers' computers and their distributed bandwidth, enormous cost of goods savings can be realized. With the Morpheus software a file can be transferred very rapidly. In fact the more copies of the same file that are on the P2P network means a couple of significant things: First the file is persistent so any time night or day a person joining the user created network can find any information that they want. Second, by having a very sophisticated file transfer protocol, parts of a file are downloaded from multiple sources. This means that even a 56K modem contributes to the richness of the user created network. Our bench testing indicates that it only takes approximately 10,000 copies of a file for it to achieve persistence around the world. The cost to deliver this persistence for a music CD is under $500.

Consumers Have Voted—They Want P2P

Let me share a few numbers about the Morpheus User Network. Since April of last year we have had somewhere around 90 million downloads of our software product. It is even been exchanged on other P2P platforms. For the past year we have averaged an estimated 6 million new users per month who download the software. Over the past year on the Morpheus User Network, approximately 3 million unique users use Morpheus each day. Furthermore, 24 hours a day, seven days a week the user network averages 1 million simultaneous users connected together. An independent study just released indicates that 49.7% of Morpheus users use broadband. Around 45% of the users are from outside the United States.

The reason that I am so passionate about the technology platform of P2P is that this "New Internet" is capable of providing a world wide societal change. In this new world consumers are no longer receivers of information, they are also senders. And it is my belief that consumers around the world represent an incredible opportunity to release creative expression. They have never had a platform for distribution or a chance to monetize their expression. Now they do with Morpheus.

Today we are in a time of great conflict and great confusion. And it is no wonder—marketing messages are inundating the consumer with a message of freedom. They hear "rip it, strip it, and burn it". Manufacturers provide millions of writable CD's to assist in the process. Many different companies make software that allows consumers to create MP3 files. Millions of media files are attached to emails using Microsoft Outlook, and many others attach files to an AOL instant message. How is a consumer to figure out what they can do with the media companies' approval and what they can't do? Why is it that the media industry has not chosen to litigate against the companies that make these products?

StreamCast will continue to support the evolution of the P2P platform so that in the near future even consumers will be able to create content and securely publish it with micro commerce with any one around the world. StreamCast has developed the CintoA technology to allow content to be wrapped in a secure Morpheus wrapper so it actually becomes a software program. This program allows rules to be generated by the content owner. The wrapped content can be freely traded across the Morpheus User Network via downloads which eliminates the un-scalable cost of sales that affects centralized download and streaming initiatives. Once downloaded the consumer can listen to, view, and review the information. Each wrapper will include a buy button, which allows the Morpheus user to complete a Micro payments transaction and unwrap and then fully enjoy the content.

Two Buckets of Content and Two Ways to Look at Content

We believe there are two buckets of content in this brave new digital world. Consumer created and commercially created. There are also two ways to look at content, today backwards and today forward. Today back is the situation we are in today where content has been unprotected and today forward is the time when content owners choose to protect and wrap content. It is our strong opinion that the concept of today backwards and today forwards needs to be understood and different compensation models need to be created for each timeframe. The media companies are attempting to convince everyone, including Congress, that we need a one-bucket solution to a two-bucket problem.

We believe that a solution for today back is best represented by the continued perception of a free model represented by 75 years of successful experience in broadcast radio and television. In this model content is paid for by advertisers but perceived "free" by the consumers. The today forwards model most likely will require a pay to listen or pay to view. A one price fits all system does not benefit the consumer!

Today, Morpheus, with its 90 million software downloads, along with millions of other consumers using other decentralized P2P platforms, are being forced into discussion between the value of content companies and technology companies. I would argue that consumers are confused and wondering what this fight is really all about. Is it about copyright, creativity, and growth of science and the human spirit? Or is it about control, power, money and maintaining the status quo?

We Must Find Common Ground

We need to understand that there are two very important issues: one of content and technology and how they converge. One that can have a dramatic impact on both industries. At StreamCast we believe that P2P is an important technology that not only can create important societal changes but itself reflects important societal changes that have already taken place. Individuals—on their own, unaided by the communications giants—are finding their own new ways of connecting, of communicating, and of creating and controlling their own communication channels. Their will—connected and empowered—will prevail. It is prevailing now and we cannot forget them.

I have no doubt that P2P will become as ubiquitous as the telephone. To StreamCast this is not about content. It is not about media. It is about recognizing the freedom, and the power, of consumers to connect directly with each other and share and exchange information and communications. It is about developing an architecture that works with individuals, that provides tools that respect individual control and empowerment, and that offers pleasing and satisfying opportunities for communication and commerce. We must never lose sight of our common ground, that this is really all about the consumers and our future together with them.

PREPARED STATEMENT OF JACK VALENTI, PRESIDENT AND CHIEF EXECUTIVE OFFICER, THE MOTION PICTURE ASSOCIATION OF AMERICA

This document sets forth the goals that the American movie industry urges the Congress to seriously examine. The future of these unique creative story-telling works is in danger of being shrunk and squandered by an increasing thievery on the Internet. We cannot stand mute and observe the slow undoing of a formidable American economic and creative asset, which would cause terrible injury to the consumers of America.

Broadband (high speed, large pipe entry to the Internet) is an OPPORTUNITY to make available to consumers another delivery system for transporting visual entertainment to their homes. This means more freedom of choices for consumers.

The Economic Worth of the Copyright Industries

What kind of asset is at stake here and what does it mean to this country? The facts are these: The Copyright Industries (movies, TV programs, home video music, books and computer software) are America's greatest trade export prize. They are responsible for some five percent of the GDP of the nation. They gather in more international revenues than automobiles and auto parts, more than aircraft, more than agriculture. They are creating NEW jobs at three times the rate of the rest of the national economy. The movie industry alone has a SURPLUS balance of trade with every single country in the world. No other American enterprise can make that statement. And all this at a time when the country is bleeding from a $400 Billion trade DEFICIT.

Which is why we come to you with a clear statement of what is needed to preserve this extraordinary economic/creative engine of growth in a broadband world.

As you may surmise, producers of visual entertainment are enthusiastic, ready and eager to offer their creative works on the Net. And to dispatch those works LEGALLY, at a fair and reasonable price to those American homes who choose to view them. It should be noted that "fair and reasonable" will be defined by the consumer and no one else.

But there is an obstacle. Consider this: The cost of making and marketing movies, for example, has risen to nerve-shattering heights. In 2000, the total cost to the major studios for making and marketing their films was, on the average, an astounding $82 Million! Only two in ten films ever retrieve their total investment from U.S. theatrical exhibition. Those films must journey through various marketplace sequences: airlines, home video, satellite delivery, premium and basic cable, over the air TV stations and internationally. They must make that journey to try to breakeven or ever make a profit.

Today as that movie travels its distribution compass course, it is exposed to great peril, especially in the digital environment. If that movie is ambushed early on in its travels, and then with a click of a mouse, and without authorization, sent hur-

tling at the speed of light to every nook and cranny of this planet, its value will be seriously demeaned. Who on earth would continue to invest huge sums of private risk capital when the chances of redeeming that investment become remote, if not impossible?

Broadband entices and allows piracy of films and TV programs on a massive, unprecedented scale. And at this precise moment, movies and other visual entertainment works are in ever-multiplying numbers swarming illegally throughout so-called file-sharing sites (a more accurate description would be "file-stealing" sites). And this is in an environment where most people's broadband connections are not fast enough to enable speedy downloads of these illegally copied files (funny how people will wait a long time for something when it is free!).

Thus, the problem will only get worse as the speed of broadband increases. University-based piracy provides especially troubling evidence of this phenomenon, because university Ethernet systems are state-of-the-art, large pipe, highest speed broadband connections. These university systems are over-run and heavily burdened by student downloading of pirated movies and TV shows. It's easy. It's fast, and it's free. It is also illegal.

Gresham's Law works its will in such a landscape. Just as cheap money drives out good money, so we are afraid that pirated movies will spoil the market for broadband delivery of high-quality films with superior fidelity to sight, sound and color once these high-speed connections proliferate. A consulting firm has estimated that more than 350,000 movies are being illegitimately brought down EVERY DAY. Who would choose to pay for movies when you can have them delivered to you FREE? It is this infection which corrodes the future of creative works. But if through technological measures, producers of visual entertainment could defeat the spread of pirated movies populating "outlaw" Net sites, the Net would be cleared of illegal debris and able to hospitably welcome legitimate, superior quality entertainment in a user-friendly format. The Consumer Electronics and Information Technology industries have been working cooperatively with us to find methods to deliver our legitimate content in a more secure digital environment. The largest beneficiary of such an environment would be American consumers.

The THREE GOALS I outline below are designed to protect valuable creative works in visual entertainment, and at the same time expand the reach and attraction of broadband in the consumer society.

How to achieve these GOALS? First and foremost both the House Energy and Commerce Committee and the House Judiciary Committee must be involved because these goals are umbillically connected to the oversight jurisdiction of both Committee.

Our Three Goals, whose Objective it is to Protect movies, TV programs and other visual entertainment on the Net.

Goal One: to create a "broadcast flag" which would prevent broadcast programs exhibited on over the air TV stations from being re-distributed on the Net, which is a form of thievery.

Because just about all such TV creative material is in "deficit," (that is, its production costs are higher than the license fees it receives from the network) TV series and other high value broadcast material must go to "syndication" when they leave the network. Syndication means those programs must be licensed to local and international TV stations in order to recoup their total investments, and hopefully make a profit. If such programs are re-distributed on the Net while they are still on the network, it shrinks and decays the earning power of that program in the syndication market. As of last week, a technology for constructing the "broadcast flag" was nearing agreement among the Information Technology, Consumer Electronics and movie industry companies. We are deeply appreciative of these efforts.

Action: The parties will need to agree on how to achieve this goal, either through narrow congressional or agency action.

Goal Two: To "plug" the "analog hole."

This is technical jargon. Let me sort this out in plain English. All digital protection designs can only work in a digital environment, which is the environment of the Internet. When a digital signal comes down to a TV set in the consumer home, that TV set in 95% or more of American homes is an "analog" set. This means the digital signal is immediately transformed into an analog signal in order for the consumer to watch it. If the analog signal is then converted back to digital, it cannot be protected by any known protection device. This is called "the analog hole." One way to "plug the hole" could be through a "watermark detector." The "watermark" is an ingenious design, which commands the signal converter in the TV set to respond to the instructions on the movie. This can be accomplished through a concord agreed to by the Information Technology, Consumer Electronics and Movie industries.

Action: To reach this goal, Congressional assistance will be necessary.

Goal Three: To stop the avalanche of movie theft on so-called "file-sharing" Web sites, such as Morpheus, Gnutella, etc. (the more accurate name would be "file-stealing" sites).

Unhappily, neither the "broadcast flag" nor "plugging the analog" hole will stop this relentless thievery that is endemic.

We have not hesitated to spend considerable resources to fight these sites and services in the courts. But litigation alone cannot possibly provide an adequate solution, particularly as these services become increasingly decentralized, fragmented and anonymous. Constructive discussions need to take place with the Information Technology and Consumer Electronics industries to determine how best to develop effective technical solutions to crush online theft of our valuable creative works.

Action: Continuous negotiations must take place to develop technical solutions, which may require legislative enforcement.

There is one truth that sums up the urgency of this request to the Congress to enlist in the battle to preserve and protect an American economic and artistic asset, which attracts the enjoyment, the patronage and a most hospitable reception by every creed, culture and country throughout the world.

That truth is: If you cannot protect what you own, you don't own anything.

PREPARED STATEMENT OF THE VIDEO SOFTWARE DEALERS ASSOCIATION

The Video Software Dealers Association (VSDA), the international trade association representing the home video industry and video stores across the nation,[1] submits this statement for the record of the hearing on "Ensuring Content Protection in the Digital Age."

We respectfully suggest that Congress focus not only on protecting digital content from copyright infringement but also on protecting the rights of the owners of lawfully made copies of digital works. We are concerned that digital rights management constructs are being used not only to prevent piracy and to ensure payment for purchases, but also to circumvent constitutional and statutory limitations on the copyright monopoly.

For example, digital rights management systems can be used to:

1. Prevent a lawfully purchased, digitally delivered movie from being played more than a certain number of times, or from being played on any machine other than the first computer or player on which it is played (thereby preventing rentals, resales, lending, or gifts of previously viewed movies).
2. Lock out, delete, or disable lawfully made copies of motion pictures residing on a computer hard drive or other storage system.
3. Prevent consumers from privately performing a work over a home network.
4. Lock up material that is not copyrightable or is in the public domain.
5. Effectively expand the term of the copyright monopoly indefinitely.

This overreaching promises to undermine copyright law and the public policies it serves, suppress consumer choice and retail competition, and ultimately impede the development of online entertainment, to the detriment of consumers, retailers, and copyright owners.

COPYRIGHT LAW AND HOME VIDEO

Having built the world's first home distribution system for motion pictures on the strength of the first sale provision of the Copyright Act,[2] video retailers may have as much at stake in this discussion as any other market segment.

Copyright law provides the legal foundation that has facilitated the phenomenal growth of the home video industry over the past two decades. The copyright monopoly supplied motion picture copyright holders with the economic incentive to develop new markets for their motion pictures, which led first to the emergence of videocassettes, then digital versatile disks (DVDs), and most recently, Internet-based "video on demand." These innovations have enhanced the consumer's access to motion pictures and created a vibrant, competitive industry.

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[1] Established in 1981, VSDA is a not-for-profit international trade association serving the $19 billion home entertainment industry. VSDA represents more than 1,700 companies throughout the United States, Canada, and a dozen other countries. Membership comprises the full spectrum of video retailers (both independents and large chains), as well as the home video divisions of major and independent motion picture studios, and other related businesses that constitute and support the home video entertainment industry.

[2] 17 U.S.C. 109(a).

When videocassette recorders (VCRs) first emerged as a consumer electronics product in the late 1970s, few imagined how ubiquitous they would become in America's homes and how popular watching a prerecorded video of a motion picture would be. For an overwhelming majority of America's 250 million plus consumers, renting and buying prerecorded videocassettes and DVDs is an integral component of their entertainment options. More than 90% of the households in the U.S. own at least one VCR. And although the DVD is a relatively new format, it is projected that approximately 24 million U.S. households now own a DVD player. It is estimated that almost 3 billion videotapes and DVDs were rented in 2001. Approximately one-third of all video-equipped households rent a videotape or DVD weekly, while 50% rent at least once a month. More than 60% of video-equipped homes have a video library of some sort. The average videotape library contains 75 titles, while the average DVD collection contains 19 titles. Consumer spending on video rentals in 2001 was a record $8.42 billion. More than $10 billion was spent purchasing the most popular videotapes and DVDs in retail establishments.

Essential to the success of the home video industry is the first sale doctrine of copyright law, codified at 17 U.S.C. 109(a). By giving retailers the right to sell and rent lawfully made videos and video games without restriction by the copyright owner, the first sale provision benefits society by promoting retail competition and maximizing distribution of creative works.

Although the motion picture studios strenuously resisted the emergence of the VCR and the creation of the video rental industry, even going so far as petitioning Congress to eliminate the first sale doctrine for prerecorded videos of movies, the home video industry today is an enormously profitable enterprise for the studios. Over the past several years, revenue from home video has accounted for more than half of the studios' gross domestic film revenue. Total revenue to the studios from domestic video sales and rentals totaled $10.7 billion in 2000.

Video retailing, while experiencing some of the consolidation and slowing of growth of a maturing industry, remains a vibrant competitive enterprise. There are 24,000 video rental specialty stores in the U.S. These stores include the major public chains such as Blockbuster, Hollywood Video, and Movie Gallery, and a significant number of independent retailers. It is estimated that more than 40% of video specialty stores currently are single-store operations. Another 4,000 non-specialists, primarily supermarkets and drugstores, also rent video as a regular part of their business, and numerous other retail outlets sell prerecorded videos.

Home video has flourished precisely because copyright holders could not control the home video rental and resale market. The freedom to rent and resell videos guaranteed by the first sale provision has provided consumers with access to a wide variety of affordable, quality entertainment from different sources, generated a tremendous revenue stream for the copyright holders, and created a thriving industry with a high level of competition.

THE FIRST SALE DOCTRINE

Copyright law maintains a careful balance between protecting the intellectual property of copyright holders and promoting the broad dissemination and enjoyment of protected works. The Constitution provides Congress with the authority to enact copyright laws "[t]o promote the Progress of Science and the useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."[3] The intent of this provision is to encourage authors to create and to disseminate their works. Nevertheless, copyright law carefully limits the scope of the copyright monopoly. The copyright holder and the owner of a lawful copy of a copyrighted work each have distinct rights under the Copyright Act, and the rights of each must be respected.

One of the essential rights of an owner of a lawful copy is embodied in the first sale provision. Section 109(a) provides that, notwithstanding a copyright owner's distribution right, the owner of a particular copy lawfully made under U.S. copyright law "is entitled, without the authority of the copyright owner, to sell or otherwise dispose of the possession of that copy." The first sale provision applies to "copies," including digital copies fixed in a tangible medium,[4] without regard to where or how they were made. Moreover, the Copyright Act also makes clear that the first sale doctrine need not involve a sale. Rather, the pivotal question is whether the person asserting the first sale doctrine right is the "owner" of a "lawfully made"

[3] U.S. CONST., art. I, cl. 8.
[4] U.S. Copyright Office, "DMCA Section 104 Report," 78 (2001).

copy. There is no requirement that the tangible medium of expression have been sold by the copyright holder.

Copies can be mass produced at a factory or singularly by the consumer at a home computer. The owner of a lawfully made copy may assert his or her first sale rights regardless of whether the copy was purchased or, after the purchase of a blank medium, "made" by exercising a license to make a copy.[5]

Thus, a person who lawfully makes a copy of a motion picture through a digital download at a retail location or at home is authorized, under Section 109(a), to sell it to the highest bidder, loan it, trade it, or give it away, and the copyright owner is powerless under the Copyright Act to prevent it. Video retailers would also be free to rent them for profit, just as is the practice today with audiovisual works lawfully reproduced on videocassettes and DVDs.

PRIVATE PERFORMANCES

The Copyright Act gives copyright holders the exclusive right to perform a work "publicly," but reserves to the public the right to perform privately copies they own.[6] Theater owners need a license to show a motion picture, but the person who sneaks into a theater without paying infringes no right of the copyright owner. Owners of lawful copies need licenses to play them in public for pay, but need no one's permission to play them at home for private enjoyment. In short, there is no copyright to control or in any way limit private performances.[7] To limit such performances is like preventing parents from reading books to their own children.

"LIMITED DOWNLOADS" AND "ONLINE RENTALS"

Today, technological restraints have been fashioned to give copyright holders *de facto* control over the distribution and use of copyrighted works where *de jure* control has been denied to them. These restraints seek to disable the protections that copyright law provides to legal owners of lawfully made copies of copyrighted works—and expand the limited privileges granted to copyright holders by Congress in order to give them control over the lawful distribution and use of copyrighted materials, control Congress has expressly denied to them in the Copyright Act. They seek this control in order to impose a business model under which they can charge for repeated use or multiple users of copyrighted works.

Copyright holders have taken the position that they are free to control the distribution and use of digitally delivered copyrighted works by reclassifying the transfer of ownership of digitally delivered copies of copyright works as "limited downloads" or "online rentals." The classifications are imposed on the owners of lawfully made copies through digitial rights management constructs such as non-negotiable contracts and access control technology.

Non-negotiable contracts in the digital environment are most commonly presented as "click-thru end user license agreements." These contracts of adhesion typically incant that the download does not transfer ownership of the copy of the work and declare that there are restrictions on the length of time or number of times the purchaser can view or listen to the product, the ability to transfer ownership of the copy, and/or the number of devices on which the product may be played. The restrictions are enforced by "access control technologies" that automatically disable the copy after a certain amount of time or number of plays ("timing out") and/or prevent the copy from being played on any device other than the device on which it was downloaded ("tethering").

For example, a download from a soon-to-be-launched "video on demand" online delivery service for motion pictures reportedly will have to be watched within 30 days from the date of download and will be operable only for 24 hours after the first viewing, after which the movie will be rendered as inaccessible code. In addition,

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[5] *See United States v. Sachs,* 801 F.2d 839, 842 (6th Cir. 1986); *see also United States v. Cohen,* 946 F.2d 430, 434 (6th Cir. 1991) ("This [first sale] doctrine recognizes that copyright law does not forbid an individual from renting or selling a copy of a copyrighted work which was lawfully obtained or lawfully manufactured by that individual"); M. Nimmer and D. Nimmer, Nimmer on Copyright § 8.12[B][3][c].

[6] Under 17 U.S.C. 101, "[t]o perform or display a work 'publicly' means—(1) to perform or display it at a place open to the public or at any place where a substantial number of persons outside or a normal circle of a family and its social acquaintances is gathered; or (2) to transmit or otherwise communicate a performance or display of the work to a place specified by clause (1) or to the public, by means of any device or process, whether the members of the public capable of receiving the performance or display receive it in the same place or in separate places and at the same time or at different times."

[7] *Twentieth Century Music Corp. v. Aiken,* 422 U.S. 151, 155 (1975).

the download will be tethered to the computer on which it is downloaded. The video on demand service is a joint venture of copyright owners.

The limited download construct is designed to gain the revenue stream consumers might be willing to pay for access to public performances of these works, while at the same time enjoying the control and efficiencies (but not the limitations) of a single digital reproduction (the download). It is intended to turn every digital player into a pay-for-play video jukebox, where the consumers own the copies, but lose their federal right to privately perform them or transfer to others the physical medium on which they are lawfully recorded without permission from or further compensation to the copyright owner.

In fact, non-negotiable contracts and access control technology can be used to restrict the redistribution and use of a copyrighted work even after the copyright in the work has expired, effectively extending the copyright term in perpetuity.

Unfortunately, Section 1201 of the Digital Millennium Copyright Act, which prohibits circumvention of technological protection measures such as access control technologies, is being misinterpreted to apply even where the technological protection measure does more than just protect the copyright from infringement, but also furthers objectives unrelated to copyrights. Under this interpretation, which is contrary to Congress' intent,[8] technological protection measures cannot be circumvented so as to limit their effect to only lawful objectives.

Non-negotiable contracts and access control technology are being used not only to prevent piracy, but to restrict the legal rights of lawful owners to give away, sell, rent, and view the digital copies they own. Although technological measures may lawfully be used to prevent copyright infringement and to ensure payment for the reproduction, they should not be used to permanently control the lawful distribution and use of copies once the legal right to do so has been exhausted.

Because the first sale provision furthers the important public policies of promoting competition and maximizing dissemination of copyrighted works, the rights it confers cannot be extinguished either by non-negotiable contracts or technological controls. To conclude otherwise would make the rights granted by the first sale doctrine merely contingent on the technological prowess or goodwill of copyright owners.

ANTITRUST CONCERNS

Non-negotiable end-user license agreements and access control technology can be abused to suppress retail competition, to the detriment of consumers and retailers. It must be understood that entertainment products are not fungible. A consumer that seeks to view "Shrek" will not be fully satisfied by substituting "Training Day." Rather, for motion pictures, the retail competition occurs not between products, but between retailers, who compete on price, selection, terms, location, customer service, and other factors.

The proliferation of non-negotiable contracts and excessive access control technology will deprive consumers of the value and flexibility they currently receive from packaged entertainment. It could eliminate retail competition and substitute uniform pricing and other uniform terms and conditions on the sale of movies, effectively extending the carefully delineated rights contained in sections 106 and 106A of the Copyright Act into wholesale controls over distribution to the ultimate consumer.

Such technologies are also capable of being used to obliterate the lawful secondary market for used entertainment. Consumers could then be prevented from loaning movies to a family member or friend, reselling them, donating them to charitable organizations, or even, according to some of the current business models, bequeathing them in their wills.

The U.S. Copyright Office recognized the anticompetitive potential of these technologies in its DMCA Section 104 Report to Congress. The Copyright Office noted that access control technologies that tether digital downloads to a single computer and non-negotiable "click-thru" contracts that attempt to override copyright law may negatively impact consumer choice and retail competition.[9]

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[8] The anticircumvention provisions of the DMCA "[do] not apply to the subsequent actions of a person once he or she has obtained authorized access to a copy of the work . . . even if such actions involve circumvention of additional forms of technological protection measures." H. Rpt. No. 105-551, Part 1, at 18 (1998).

[9] U.S. Copyright Office, "DMCA Section 104 Report," 75-76, 164 (2001). We do take issue, however, with the Copyright Office's conclusion that the problems raised by access control technologies and non-negotiable contracts are speculative, or premature, or beyond the scope of its report. The restrictions on retailers' rights to distribute and consumers' rights to transfer and use fully the products they lawfully purchase and download are not speculative and consider-

Continued

Competition in the distribution of copyrighted works is largely non-existent until the product passes to distributors and retailers. If video retailers cannot participate in the distribution of digitally downloaded movies, either as a lawful reseller or a rental outlet, the neighborhood video store will rapidly fade from the scene. They would be replaced by a small number of approved providers, to the exclusion of competing retail channels. Consumer choice and competition would be further eroded.

CRITERIA FOR DIGITAL RIGHTS MANAGEMENT

Retailers are firm believers in protecting copyrighted works from piracy. In fact, because the retail sector often feels the most immediate effects of piracy, it is not unusual for retailers to complain that copyright holders are too lax in enforcing their copyrights against pirates who compete directly with retailers. Despite the strong leadership of retailers in fighting piracy, they are unwilling to give carte blanche to copyright holders to control all distribution and uses of their works.

Claims that the digital sky is falling as a result of piracy need not lead to a wholesale shift in power to copyright owners. First, copyright holders need not take away public rights to protect their copyrights. For example, the technology to prevent a motion picture from being copied is different from the technology needed to "lock" a legal copy 24 hours after its first use. In addition, the Supreme Court has admonished that the rights of the public as against copyright holders are just as important, under the Constitutional framework, as the rights of copyright holders against the public.[10]

Accordingly, there should be two criteria for security standards:

1. *The degree of security against copyright infringement.* As a practical matter, the only rights at issue here are the rights of reproduction (Section 106(1)) and public performance (Sections 106(4) and (6)).
2. *The degree of accountability for lawful reproductions and public performances.* That is, the extent to which the technology can assure that the copyright owner is being compensated for the number of reproductions or public performances actually licensed and made.

CONCLUSION

Copyright law is a balance between the protection of intellectual creations and the promotion of broad public dissemination of these creations in a manner that benefits society as a whole. Congress must ensure the proper balance is maintained between the rights of copyright holders on the one side and consumers and retailers on the other so that lawful digital distribution can move forward.

Security technologies that protect true intellectual property rights from infringement are commendable. Video retailers have long supported Macrovision encryption of analog copies of motion pictures and the CSS system of protecting DVD copies of motion pictures from unauthorized reproduction. Such systems derive their legitimacy from the fact that they only protect the right of reproduction from infringement.

However, VSDA is deeply concerned about the overreaching that is part of some technological controls for online entertainment. For the first time in history, copyright holders have the power to control mass distribution of their works (at least those in digital form) from the point of manufacture all the way to the end consumer and beyond. They are now able to distribute copies to millions of people in a matter of a few minutes, simultaneously distributing at the wholesale and the retail level. At the same time, digital technology gives copyright holders the unprecedented power to control and suppress the lawful use, resale, and rental of digitally delivered entertainment.

The issue is indeed quite simple. Copyright holders do not have a right of private performance, so they should not be permitted to force consumers to pay for private performances. Holders of copyrights in audiovisual works do not have a rental right,

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ation of their impact is not premature, as evidenced by the video on demand joint venture referenced above. These issues also fall squarely within the Copyright Office's mandate from Congress. Yet the Copyright Office's report makes no mention of the video on demand joint venture, despite the fact that it was public knowledge that this service was being developed. The problems created by overly restrictive access control technology and non-negotiable contracts need to be addressed now, not at some indefinite time in the future. To fail to do so leaves to the designers of access controls the allocation of rights between consumers and copyright owners, a function that previously was the exclusive responsibility of Congress.

[10] *See, e.g., Fogerty v. Fantasy, Inc.,* 510 U.S. 517, 527 (1994) (because of the social value of increased public exposure to a musical work, "a successful defense of a copyright infringement action may further the policies of the Copyright Act every bit as much as a successful prosecution of an infringement claim by the holder of a copyright").

so they should not be permitted to prevent rentals. No copyright holder has the right to control redistribution of lawfully made copies, whether made in a factory, in a retail store, or at home, so they should not be permitted to use technology to prevent redistribution, nor to charge the new owner or renter a fee for access.

Video retailers see tremendous possibilities in digital distribution and want to see this market grow. They do not fear a free market, and believe that copyright holders should not be able to expand the limited privileges granted to them under the Copyright Act to lock out or limit retail competition. They ask only for the opportunity to compete fairly for consumers in the digital marketplace. They disagree with the notion that any single participant in the marketplace should be allowed to dictate the winners and losers.

While it can be argued that, ultimately, business models that rely on consumer-unfriendly technology will fail, in the interim some retailers may be driven out of business and the development of the market for digital delivery will be severely impeded.

Therefore, public policies for digitally delivered copyrighted works must: (1) maintain the balance of rights and limitations of copyright; (2) promote competition for consumer allegiance; (3) protect consumer rights; and (4) stimulate creativity. Such policies are necessary to facilitate artistic, business, and technological innovation that benefits society, enhances the quality of life, and fuels economic growth.

Thank you for the opportunity to present our views.

PREPARED STATEMENT OF HILARY ROSEN, PRESIDENT AND CEO, RECORDING INDUSTRY ASSOCIATION OF AMERICA

I would like to thank the Subcommittee, under the leadership of Chairman Upton and Representative Markey, for the opportunity to submit written testimony today about the most important issue facing the recording industry—rampant digital music piracy and possible technological solutions to help control piracy.

The Piracy Problem

Any discussion concerning the use and protection of copyrighted works on the Internet, and certainly any discussion of digital music issues, has to begin with an understanding of how large a problem piracy is. Put simply, the quantity of digital music piracy is staggering. The International Federation of the Phonographic Industry ("IFPI") recently estimated that for every CD purchased legitimately, another one is "burned" on a computer. This rate of unauthorized reproduction—that is, 100% of the legitimate market—is unheard of in any industry. Just imagine if half of the automobiles, computers or shoes in the market were illegitimate.

The biggest sources of unauthorized copies of recordings are the various "peer-to-peer file sharing" systems. I use the term "peer-to-peer file sharing" because everyone does, but I should be clear that there is no true sharing involved. Everyone involved in the "sharing" process gets to keep his or her own copy. These services are also "peer-to-peer" only in the sense that there is no centralized storage of our works. That term obscures the fact that they are organized networks specifically designed and operated to further the unauthorized distribution of copyrighted works. And they accomplish their objective with great efficiency. Just *one* of these peer-to-peer services alone is responsible for over 1.8 billion unauthorized downloads per month. In fact, it appears that in any month this one service provides more infringing downloads than the total number of tracks contained on the legitimate products shipped by the entire U.S. recording industry.

These peer-to-peer systems are so widely used that one analyst recently estimated that over *half* of the broadband traffic in the United States is attributable to the unauthorized "file sharing" of copyrighted works. In some places it is worse—one university has found that over 80% of its network traffic is dedicated to the use of KaZaA, the leading peer-to-peer application.

Peer-to-peer systems aren't the only problem facing the recording industry. CD "ripping," which is the process of converting CD recordings into computer files, and "burning," which is the process of turning those computer files into CD recordings playable by conventional CD players, on a mass scale is also a substantial threat to our industry. The hardware and software necessary to rip and burn CDs has become standard equipment on personal computers. Indeed, 40% of active music consumers now own CD burners—up from 14% in 1999. This has led to troubling results:

- 77% of active music consumers with CD burners have used their burners to copy music.

- 50% of those who have downloaded music for free copy the downloaded music onto a burned CD or a portable MP3 player.
- 23% of active music consumers say they did not buy more music last year because they downloaded or copied music for free.

The piracy problem has reached a level that threatens to cause serious damage to those of us who create and market music. Last year, record sales in the United States were down 10%. IFPI recently reported that record sales were down almost 7% worldwide. Moreover, piracy has had particularly significant effects on sales of the top hits that provide the profits that allow us to invest in the development of new artists and creation of new music. In 2000, the top ten albums sold a total of 60 million units. In 2001 the top ten albums sold only 40 million units—a drop of 33%. These trends hurt all of us who earn our livelihoods from the music industry. They also hurt our business partners, the legitimate digital music services, which find it hard to compete against infringing services that provide consumers all of the same content for free.

It would be difficult to overestimate the long term consequences if these trends continue. The creation of new recorded music involves enormous levels of cost, amounting to hundreds of millions of dollars. Thereafter, the cost of marketing and promotion may amount to many hundreds of millions of dollars more in order to create a demand for the music. The current levels of piracy will not long allow us to sustain this level of investment. That not only will impose economic pain on every participant in the digital music value chain, but it also will deprive consumers of the rich musical diversity they have come to expect from our industry and of the promise the Internet provides for legitimate commerce in copyrighted works.

Technological Solutions

Despite the rather gloomy picture I've just painted for you, I truly believe that the music industry has a bright future. Record companies look forward to embracing technology in two ways—to curb piracy and to form new business models with technology partners and licensees to deliver music in new ways at new price points to consumers, offering more choices in the legitimate marketplace

Record companies are looking at and testing various digital rights management and copy protection technologies that balance personal use with the piracy concerns of both record companies and artists. There are technologies available that can offer some useful degree of protection against uncontrolled copying of recordings. For example, CDs can be copy protected to inhibit ripping. The mere protection of CDs alone, however, is not a solution to the piracy problem. It is very difficult to maintain the security of valuable intellectual property against the relentless incursions of new copying and distribution technologies so long as computer products and consumer electronic devices provide easy and open opportunities for piracy.

The solution to the piracy problem, then, lies not in any technological silver bullet, but in an ongoing cooperative relationship between the music and technology industries. Such a cooperative relationship could create robust systems for digital copy protection. For example, all commercially released CDs are encoded with certain copyright management information for use in those devices that support the Serial Copy Management System ("SCMS"), which is the system required by the Audio Home Recording Act. CD ripping products have access to this copyright management information too, but their designers have chosen to ignore it. Why shouldn't there be technological solutions that take advantage of this information and respect it in devices not covered by the AHRA as well as those that are covered by the AHRA? Perhaps these solutions could include "secure ripping," whereby CD ripping and burning products would protect the resulting copies, or simply refuse to copy, when appropriate given the available SCMS information. One could certainly imagine solutions built on other copyright management information, such as "watermarks," as well.

Cooperation between the copyright and technology industries also could make it possible to close what has been called the "analog hole," which is the ready ability of users to circumvent digital copyright protections through conversion from digital to analog to digital. The "analog hole" exists because digital music must be converted to analog sound waves to be audible to people—we humans can't just listen to 1s and 0s. In this process, a secure piece of digital music loses its security at some point in the transmission from processor to sound card to speaker. Currently, it is rather simple to turn analog signals back into digital copies without regard to the security in place on the original and without a significant degradation in sound quality. A cooperative relationship might produce technologies to close the analog hole, or at least make the process sufficiently difficult or result in such poor copies that most people would not bother to try to exploit it.

Similarly, there are possible technical solutions to the problems created by peer-to-peer networking. Technologies have been developed to recognize the "fingerprints" of copyrighted works, or to embed watermarks in those works, such that the unauthorized distribution of those works over the Internet can be recognized and either slowed or halted. Some universities and other Internet access providers are using software applications called "bandwidth shapers" that recognize peer-to-peer file sharing and can either stop or slow that activity. We saw some evidence of the success with which technologies can be used to address peer-to-peer file sharing in our litigation against Napster. During the early stages of the case, Napster vehemently protested that it would be impossible for it to screen for copyrighted works. Yet under the order of a court injunction, Napster blocked a substantial part of its former traffic in copyrighted music.

What is required to develop and implement the potential solutions is a commitment from the technology industries to be partners in the process of promoting legitimate commerce in copyrighted works by restricting the unauthorized distribution of copyrighted content. I am excited about the opportunities that the Internet, personal devices and other new technologies offer for the distribution and enjoyment of music, and by the developing market for digital music. I hope that the market for digital music will develop into one of the strongest components of the music industry and prove rewarding for artists, record labels, technology companies and service providers alike. Thus, I believe that both the copyright and technology industries could benefit from a cooperative relationship to promote legitimate distribution of music and prevent piracy.

We should be working together to develop technical standards that can be implemented in new devices and systems that will be secure and foster innovative business models, but avoid confusing or aggravating consumers through technical incompatibilities. Such standards could spur sales of both technology products and recorded music. At the same time, such standards would ensure that software and device manufacturers need only build certain technology into their products to provide access to works obtained through legitimate channels while helping control infringement.

The recording industry believes that the free market is always the best choice for the development of any of these types of technological standards, and would never embrace government regulation lightly. Congress should analyze, however, and actively monitor, whether the marketplace is creating the incentive for technology companies to work with copyright owners to protect copyrighted works. The rampant and growing digital music piracy has reduced the incentives of technology companies to cooperate with copyright owners. Technology companies may see little reason to protect content when their products and services are already selling, even though those products and services are being used to acquire intellectual property illegally. Indeed, the growing sales of CD burners and blank CDs may actually provide a disincentive for technology companies to engage in constructive efforts to protect copyrighted material. Thus, digital piracy is likely to continue to flourish. So long as voluntary negotiations of security and digital rights management standards are not adequately addressing these problems, there may be a role for the government in restoring the incentives for the technology and copyright industries to work together.

I again thank the Committee for its time and for the opportunity to address you on these important issues.

Statement of Gary J. Shapiro
Chairman
The Home Recording Rights Coalition

April 25, 2002

The Home Recording Rights Coalition has been working to protect consumer rights, practices, and expectations since October, 1981, when the first consumer VCR was declared illegal by a court. That decision's 1984 reversal by the U.S. Supreme Court marked a turning point in favor of innovation and consumer fair use. Today's hearing marks another potential turning point. Twenty years ago the question was whether product innovations such as the VCR should be suppressed, out of concern that recording within the home would damage content providers. Today the question is whether home-based consumer electronics and information technology products should be constrained in their operation, out of concern that non-home networks have become capable of delivering too much content.

Ironically, as Congress, the courts, and the motion picture and recording industries have acknowledged consumer fair use as a principle, the threat to actual consumer practices has grown and spread, even beyond home recording. For example, any manufacturer that would offer a DTV receiver or set-top product capable of connecting directly to a cable system would have to sign the "PHILA" license, which gives content owners the power not only to prevent home recording, but also to cut off or degrade the resolution of programs flowing over particular outputs. This is no trivial matter -- the interfaces in question include the only high-resolution inputs available on most of the 2.5 million DTV receivers sold to date.

Therefore, HRRC sees the task now before the Congress as twofold -- first, to make sure that regulatory agencies such as the Federal Communications Commission (which acknowledges jurisdiction over the PHILA license) act to promote rather than to suppress competition, and second, to look carefully at any new private sector requests for legislative assistance, to assure that they are balanced and respectful of reasonable and legitimate consumer practices and expectations.

Despite Welcome Public Disclaimers,
Provisions To Control Consumer Devices
Are Still In Force And Need To Be Lifted.
Inappropriate Legislative Proposals
Are Being Supported By Content Industries.

In the last few months, representatives of the motion picture industry have purported to move away from recent agendas aimed at controlling consumer in-home recording and viewing. However, these new positions have not been reflected in either the legislative proposals supported by the MPAA (e.g., S. 2048 -- Hollings / Stevens) or pending regulatory initiatives (the restrictive "PHILA" license under FCC consideration).

Through license and regulation, industry representatives have sought the power to *turn off* for all purposes (including *viewing)* home interfaces that a studio may consider insecure, such as the widely used "component video analog output" from broadcast, cable, and satellite set-top boxes. In appearances before the Senate Commerce Committee in February, the heads of the MPAA and major studios purported to drop all attempts to do this. They:

- characterized prior home taping concerns as "history,"
- said they have no present concerns over home recording so long as content is not uploaded to the Internet, and

- said they would no longer insist on the ability to shut off in-home product interfaces based on such concerns ("selectable output control" or "extended CCI").

While welcome, these positions are inconsistent with MPAA's subsequent endorsement of the broad and restrictive Hollings / Stevens bill (S. 2048). Nor have these positions been communicated to the cable industry, which still insists on such anti-consumer restrictions in its "PHILA" license (mandatory for attachment of competitive products), or to the FCC, which has direct oversight authority for the PHILA license.

Until the motion picture and cable industries disclaim such impositions on consumers, the HRRC will continue to urge the FCC to publish the PHILA license for direct comment by the public. On April 8, CableLabs, the cable industry consortium that has offered the PHILA license to device manufacturers, sent a letter re PHILA to Senators Leahy and Hatch, the chairman and ranking member of the Senate Judiciary Committee. This letter responded to HRRC testimony submitted to the Senate Judiciary Committee. This letter contained numerous items that can only be characterized as inaccuracies, misstatements, and distortions. To illustrate the seriousness of the PHILA issues, and the unfounded beliefs and assumptions of those who offer it, HRRC attaches a detailed discussion of this letter as Appendix A to this Statement.

HRRC Will Review All Proposals Carefully As to Fairness To Consumers And Impact On New Devices And Technology.

Despite its official endorsement of Hollings /Stevens, MPAA has in fact set out a different, more specific and layered, three-part agenda:

MPAA Agenda Items

(1) ***Implement*** a system to prevent the redistribution to the Internet of free, terrestrial DTV (unencrypted) broadcasts. Products with an ATSC tuner, or receiving signals from one, would be required to respect a "flag" sent with the content. Home recording would not be targeted. FCC regulation and perhaps some legislation would be required.

(2) ***Enable*** a means to secure "component video analog outputs" in ways similar to means available for digital video interfaces. Consensus "watermark" coding would be read by downstream analog-to-digital converters able to handle DTV content; the converted digital video would have to be handled "securely" in the same manner as digital interfaces for the same content. Legislation would be required.

(3) ***Impose*** a burden on all CE and IT devices to participate in an undefined system to avoid playback of content pilfered from studio in-house channels and distributed by "peer-to-peer" (*p-to-p*) means over the Internet. An undefined technical, regulatory, and legislative burden would be added to virtually all consumer products.

HRRC Positions

HRRC's present position on each of these elements is as follows:

(1) ***Internet redistribution of broadcast content.*** HRRC is participating in the multi-interest work group of the Copy Protection Technical Working Group (*CPTWG*). HRRC understands and shares concerns over mass Internet redistribution of content, but has not committed to endorse any specific measure to address it. HRRC remains open to fair, reasonable and balanced proposals, through narrowly targeted regulation or legislation if necessary, with the understanding that ***no limitations on consumer home recording rights***, or on consumer expectations based on their reasonable and customary practices, would be imposed.

(2) ***Addressing component analog video interfaces.*** HRRC believes these interfaces, on which millions of consumers already rely for DTV content, should not be subject to being turned off or

degraded by movie studios, or by cable or satellite program distributors. HRRC has offered for several years to work with those seeking to address this "analog hole" issue, provided: [1] any approach is subject to *reasonable* ***"encoding rules"*** *as per DMCA Section 1201(k),* to protect consumer practices, and [2] the technology involved represents a private sector ***consensus*** and can be applied to devices without damaging their performance.

(3) ***Undefined imposition on consumer electronics and computer devices.*** HRRC is unaware of any technical presentation defining or supporting this agenda, by MPAA or any member studio. ***Without knowing the precise objective, the means of implementation, or the necessary scope of regulation or legislation, HRRC cannot support this agenda.*** HRRC is skeptical that protection of pilfered content could be practicable, or fair to consumers, through a burden imposed on manufacturers of home reception or playback devices. But, if MPAA comes forward with a specific plan, HRRC will consider it in accordance with its well-established principles as to protecting consumer rights.

HRRC agrees with the views expressed by Senators Leahy and Hatch, and by some in the IT and content industries, that the private sector process should yield consensus before government should be prepared to act. Before Congress acts with respect to any of the measures on the MPAA agenda, HRRC also urges the Subcommittee to follow the advice of Representative Rick Boucher, who said in a recent Dear Colleague:

> [A]t a future time some limited government action may be necessary to ensure that all digital recording and playback units recognize and respond to the technical solutions agreed upon by these private sector parties. At that time, Congress can play a vital role by assuring that consumers receive the full benefit of all the bargains struck by content owners, consumer representatives and the manufacturers of digital equipment. As Congress demonstrated in developing Section 1201(k) . . . , it is possible to enact narrowly tailored legislation that resolves an identified problem in a way that preserves longstanding consumer expectations to engage in appropriate home recording, does not disrupt the development of new technology and fully protects the intellectual property rights of copyright owners.

Congress Should Ensure That Consumers Are Being Treated Fairly In Ongoing Regulatory Proceedings Before Launching New Ones

While consumer rights and expectations are winning increasing respect in the Congress, they are under immediate threat via the PHILA cable industry license governed by the Federal Communications Commission. In testimony before the Senate Judiciary Committee, HRRC explained how this came about:

> Ironically, the FCC today is in a position to enforce *anti-consumer* license provisions because of a provision passed by the Congress, in the 1996 Telecommunications Act, that was meant to be explicitly *pro-consumer.* Section 304 of the 1996 Telecommunications Act requires the FCC to assure in its regulations the competitive commercial availability of devices that attach directly to cable systems – breaking the 50-year monopoly, based on their concerns over theft of service, that cable multi-system operators have enjoyed. To achieve competitive entry with a range of new devices, as occurred in telephone deregulation, the FCC oversaw a standards development process that would also protect the security of cable signals from unauthorized use. CableLabs, the research consortium of the cable industry, volunteered, and was chosen by the FCC, to set such standards. But as presently drafted these standards, and the "PHILA" license agreement that would extend from the cable industry to device manufacturers, pose another threat to consumer enjoyment of home devices, and represent yet another part of a motion picture industry agenda represented before you today. Remarkably, though it fulfills a congressional mandate under FCC regulation, the text of the proposed PHILA license is held secret under non-disclosure agreements required by the cable industry.

Shortly thereafter, under pressure from Chairman Tauzin, CableLabs lifted the veil of secrecy from PHILA, revealing that all of the its anti-consumer provisions are still in tact. Here is how they were described by HRRC to the Senate Judiciary Committee on March 14:

Why HRRC Opposes The Imposition In FCC-Sanctioned Licenses Necessary For Competitive Devices To Attach To Cable TV Systems Of "Selectable Output Control" Or "Extended Copy Control Information" And Signal "Downresolution"

The technology that some studios supported at the FCC would allow them, or cable or satellite operators, to exercise direct, remote control over all product-to-product connections in the home. Once given this power, a movie studio, or cable or satellite operator, could simply turn off any interface at will, effectively making the consumer home network a part of its own distribution system.

Today, there are two standard all-digital interfaces being readied for widespread use in the home. One, known as IEEE 1394, iLink, or "Firewire," provides a bi-directional means of connecting TVs, VCRs, and other standard consumer products within a home network. This connection allows home recording to be either supported or disabled. The other digital interface, called "DVI," is a one-way, broader digital connection originally designed to hook personal computers to digital monitors. The DVI signal used in this interface is simply not recordable by any known consumer technology.

The "DTCP" license, referred to in the attached chronology, spells out when this technology may be used to block home recording of certain content, based on "encoding rules" that protect current consumer practices -- again, based on Section 1201(k) of the DMCA. There are no such encoding rules for DVI.

Each of these interfaces offers different advantages. Some consumer electronics companies envision home networks in which each interface connection would be available to consumers -- some TV receivers might be designed to rely on the "1394" inputs, some on DVI, some on both. Connections to digital VCRs, for example, would be made through the 1394 interface, meaning that copying would be controlled, but subject to balanced "encoding rules."

Mandated responses to "Extended Copy Control Information" coding, however, would allow commercial entities outside the home to remotely control, on a program by program basis, which one of these interfaces would be active in a home, and which would be switched off for all purposes. A studio, cable MSO, or satellite provider that did not want to permit any home recording on VCRs would simply turn off the "1394" interface, and the "encoding rule" protections for consumers, painfully negotiated over several years, would become irrelevant.

Even more disastrously for consumers, a consumer who had bought a state of the art HDTV receiver, with a copy-protected digital 1394 interface, would lose the signal from this interface for all purposes, including viewing the program. So even consumer high resolution viewing, on the newest frontline, digital products of the DTV transition, could be cut off at the discretion of the studio, cable, or satellite company.

Unfortunately, the damage to consumer living rooms from "selectable output control" would not stop even at the choice of digital interfaces. Neither of these digital interfaces is yet in general use. Most HDTV displays in the market today, and sold over the last three years, rely on the same sort of broadband interface that is used to deliver signals from PCs to computer monitors. (In computer terminology it is called "RGB." Its consumer electronics cousin is component video, also known as "Y, Pb, Pr".) A duty in the "PHILA" license to respond to such "Extended Copy Control Information would mean that the DTV-quality, broadband signals to the picneering Americans who have purchased these 2.5 million displays would simply be cut off and the screeen would go dark. (Only the standard analog, low-definition, signal would still be available.)

Representatives of the cable industry have said that these controls, and provisions giving content owners the power to remove 3/4 of the resolution from signals before they are transmitted over component video analog outputs, appear in the PHILA license only because the motion picture industry has requested them. HRRC has called on motion picture industry representatives to convey, directly to the cable industry, their recent statements that they no longer seek to impose selectable output control or Extended CCI, and to clarify its position as to signal downresolution.

HRRC Reply To
CableLabs Response Re PHILA

In a letter to Senators Leahy and Hatch dated April 8, the President of CableLabs took issue with these HRRC statements. Attached, as Appendix A, is a point-by-point discussion of CableLabs' claims. The number of errors, self-contradictions, and misrepresentations contained in the CableLabs Senate letter illustrates why it is vital for the FCC to require public, authoritative, and on the record comment from the cable industry, the motion picture industry, consumers, and all others concerned with the gatekeeper PHILA license; and for it to achieve the goals sought by the Congress when this Committee added Section 304 to the 1996 Communications Act.

APPENDIX

HRRC Comments On Allegations
Re PHILA In April 8 CableLabs
Senate Letter

CableLabs Claim -- That HRRC Misrepresented PHILA provisions.

The facts: Each of the assertions made by HRRC as to PHILA was accurate:

- PHILA and its associated Specifications (in particular the OCAP) require Licensed Products to prevent copying, recording or storage of Controlled Content (i.e., content which has been marked anything other than O,O) except as directed by the EMI bits. (see Compliance Rules § 3).

- Neither OCAP nor PHILA contains any "encoding rules" intended to limit the application of these restrictions. (see Definitions § 1.6) . Therefore the PHILA and OCAP are clearly capable of being used in a manner to deny consumers their Fair Use expectations regarding copying of all types of content.

- OCAP similarly contains the "tools" needed to enable selectable output control. Thus PHILA likewise enables cable operators, at the direction of content owners or otherwise, to turn off consumer TV sets "on a whim".

- Until this Committee intervened, manufacturers engaged in negotiations with Cable Labs were been bound by NDA to keep those negotiations secret. No public scrutiny of the PHILA or OCAP has occurred.

CableLabs Claim: -- "PHILA provides tools, not rules.... The PHILA provisions and OpenCable specifications do not require particular content to be restricted from copying, nor do they require and particular content to be carried in the clear."

The facts: A gun pointed at the head is also a "tool." The CableLabs response begs the question as to whether the power represented by the tool is lawfully acquired or applied by the one who wields it. As Chairman Tauzin has noted, tools can be abused.

All manufacturers other than cable MSOs must sign PHILA in order to get to market. From the beginning, this has been a process of public interest and responsibility: (1) Congress passed Section 304, added by this Committee to the 1996 Telecommunications Act, that required FCC rules to "assure" competitive product entry, (2) CableLabs and its MSO owners offered to the FCC to provide appropriate specifications to enable such devices to operate on all cable systems, and (3) the MPAA requested that the POD-Host interface be made robust against unconstrained digital recording.

This Committee and the Congress did *not*:

- vote to give MPAA members unconstrained power over consumer viewer and recording
- vote to give CableLabs the authority to confer such power on MPAA and its members
- decide that CableLabs could constrain competitive entry by arbitrarily assuming such powers, and requiring adherence to such provisions as a condition of allowing others to compete with its owners.

The "tool" argument also loses credibility in the face of recent authoritative statements by motion picture industry leaders that they (1) no longer desire the power conferred by "selectable output control," and (2) are no longer concerned over in-home recording so long as the copies are not conveyed over the Internet.

CableLabs says it cannot include limitations, such as those legislated by the Congress in Section 1201(k) of the DMCA, because it does not wish to "insert itself into the commercial relations between content providers and cable operators." It claims that such a balanced outcome, that recognizes and preserves consumer rights and expectations, would "institute a single business arrangement to replace thousands of detailed bi-lateral business arrangements." This argument boils down to:

- Rather than choose the balanced solution already crafted by the Congress as to a public trust, CableLabs chooses to put all power in one party, the one from whom it obtains content, and none in the other, the consuming public.

This is the epitome of elevating private business dealings over a public trust.

CableLabs Claim: "PHILA is respectful of time shifting for home use."

The facts: It helps to speak respectfully of the dead, but doing so does not bring them back to life.

CableLabs offers only one example of concern for home recording: hard drives embedded in the products that its parent MSOs lease to consumers. This set-top box product, not coincidentally, competes with the recorders that otherwise are shut down or disabled by PHILA. By discriminating in favor of products built into set-top boxes, CableLabs both feathers its owners' nests and implies that consumer time shifting must be limited to making copies which are bound to the device that records them.

PHILA still makes no provision whatsoever for licensing devices with removable media (the relevant provision remains blank) – therefore, no recording device containing other than a PVR can receive a POD or be hooked directly to a digital cable system. This is manifestly at odds with the intention of this Committee when it added Section 304 to the 1996 Telecommunications Act.

Cable Labs falsely claims that in this practice, "PHILA . . . follows a widely-accepted requirement (that consumer electronics manufacturers have accepted in similar licenses) that devices that make digital copies must be "robust" to prevent hacking that would defeat copy protection and to resist removal of hardware that stores the digital copy." This is simply not so. The "5C" and "4C" licenses referred to do not in fact limit the copying of content to "hardware" or any other non-removable media; the "4C" technology referred to in fact was specifically designed for removable media rather than "hard drives."

Having asserted that its PHILA restrictions are patterned after those imposed by consumer electronics manufacturers, CableLabs does an about face and claims, "CE manufacturers opposed any kind of copy protection." (If true, where did the licenses to which it refers come from?) In fact, consumer electronics and information technology companies, on a strictly private sector, voluntary basis, developed CSS, DTCP, CPRM, HDCP, and many other privately- licensed DRM and copy control technologies. They also were prominent in organizing the "BPDG" to address concerns about redistribution of broadcast content over the internet; CableLabs has provided a single consultant. FCC dockets and the Congressional Record are so replete with evidence as to positions and conduct that HRRC can only observe that CableLabs has either has never looked at these records or is willfully distorting them.

CableLabs Claim: "'Selectable output control' is an ordinary incident of different security systems for different outputs."

The facts: Apparently this statement is offered in the sense that "death is an ordinary incident of life." Otherwise HRRC can find no shred of meaning or validity to it.

According to the now-public PHILA draft, PHILA requires certified compliance with the specifications that incorporate selectable output control (*see* 6th whereas clause), and thus mandates responses, in devices, to the triggering mechanisms that shut off or degrade interfaces on which other devices rely, based on the *unconstrained whim of the content provider.*

CableLabs says euphemistically that selectable output control is a vehicle to "permit subscriber access to protected digital content in alternate ways." This may be so in the sense that not breathing is an "alternative" to breathing. The incontrovertible facts are:

- PHILA requires that, to be allowed to operate on a digital cable system, a device must respond and conform to "selectable output control" triggers.
- These triggers may instruct a device to turn off *any* of its outputs, irrespective of how effective copy protection on that output may be, or to degrade the resolution of the high-definition analog outputs.
- PHILA includes no governance, limitation, or other constraint as to which of these outputs may be triggered "off," at any time, by a content provider.
- As of April 8, MPAA and studio heads were indicating that they no longer seek this power, but it persists in PHILA and is still being defended, and insisted upon, by CableLabs.

Having tried to whitewash selectable output control through semantics, CableLabs returns to the argument that a PHILA provision is really no different from that found in licenses of consumer electronics companies. Thus it attempts to conflate and confuse the exercise of selectable output control over lawful devices with the *revocation* of certificates of *cloned devices.* This argument is particularly insidious because anyone sophisticated enough to make it surely must appreciate its falsehood:

- "Selectable output control" turns off the output from *all devices receiving the content*, even though the devices are lawful; it therefore affects all who own and rely on such lawful devices. It is applied as a business decision of the content provider, against the interest of law-abiding consumers.

- "Revocation" is a tool for enforcing encryption licenses -- when a device key has been "cloned" for a purpose contrary to the license, the key for *that device* is revoked; it therefore affects only the device that relies on the illegally cloned key, and any clone devices that were illegally made. Even so, the private sector licenses provide for "due process" notification and cure periods rather than cut off at whim. These provisions neither justify nor require imposition of selectable output control.

CableLabs' confusion as to control over law-abiding consumers and the revocation of cloned devices shows either alarming confusion for an organization entrusted with serious responsibilities, or contempt for the Congress.

CableLabs Claim: "Cable is not stranding or disabling the devices of purchaswers of first generation DTVs."

The facts: CableLabs here claims that the same manufacturers whose restrictive license provisions it supposedly copied in PHILA (but who also oppose all copy protection) are the real villains in the stranding and disabling of first generation DTVs, for "not having included" protected inputs on DTV receivers. The simple fact is that the inputs in the 2.5 million TVs sold to consumers are:

- the only ones available to match the outputs on *cable set-top boxes*
- the only ones available that can receive broadcast content from ATSC set-top boxes
- the only ones that support home recorders, at least until "5C" is accepted by more than two motion picture studios

While NCTA "announced" its support of the 5C-protected "1394" interface, its members -- who distribute 100% of all digital cable set-top boxes -- have not seen fit to incorporate this interface on any significant number of the *25 million* digital set-top boxes that they have received to date for distribution to consumers. In this context, the CableLabs assertion that TV manufacturers are at fault for attempting to provide a product that is compatible with those of its own parent MSOs is simply breath-taking.

Contrary to the underscored claim, PHILA would, indeed, strand consumers who have bought DTV receivers. Cable Labs says that it would remove the downresolution requirement if all studios were to agree and to remain bound by that decision. It does not, however, make a similar offer with respect to the use of encoding rules, or as to selectable output control.

CableLabs Claim: "The PHILA process was never 'held secret.' The current version is posted publicly.

The facts: The entire point of a "non-disclosure" agreement is to preserve secrets. It is mystifying why CableLabs would deny this. This Committee well knows that PHILA was held secret until Chairman Tauzin demanded to see a copy. Once CabeLabs was forced to disgorge copies, it became apparent that all of the negotiation since the last public, December 14, 2000, version, had not yielded any significant progress.

HRRC is also puzzled by the CableLabs claim that the "terms of the current PHILA have been shared with the FCC under the ordinary procedures for handling commercial confidential information at the agency." Does this claim refer only to the few weeks between CableLabs having finally agreed to show PHILA to public officials, and its posting on the OpenCable web site? Or does it imply a long-term, undisclosed *ex parte* sharing with the FCC?

CableLabs Claim: CableLabs specifications were reached through open processes in which manufacturers fully participated.

The facts: Much of the process in which manufacturers have been allowed to participate has, in fact, been under NDA. And not even CableLabs would claim that opinions of prospective entrant manufacturers have been given weight equal to those of its MSO owners or their longtime vendors. Nor were manufacturers invited to play any role in the initial formulation of PHILA.