



**Electronic Frontier Foundation**  
Protecting Rights and Promoting Freedom on the Electronic Frontier

## **Comments on the Final Report of the Broadcast Protection Discussion Group**

***May 29, 2002***

*filed on behalf of:*

Electronic Frontier Foundation

DigitalConsumer.org

Free Software Foundation

INTV, LLC

Specialized Systems Consultants, Inc. (publishers of *Linux Journal*)

Vereniging Open Source Nederland

Mark Cuban, founder and president, HDNet\*

Tim O'Reilly, founder and president, O'Reilly and Associates\*

### **Abstract**

Below, please find the comments of the Electronic Frontier Foundation and its co-signatories in response to the report of the co-chairs of the Copy Protection Technical Working Group's Broadcast Protection Discussion Group (BPDG).

The Electronic Frontier Foundation (EFF) is the foremost technology-oriented civil liberties group in the world. It is in this light that EFF has taken a keen interest in the proceedings of the BPDG, which present a threat to civil liberties. The BPDG's objective is to write a legally mandatory "standard" that will undermine public policy interests, fair use, First Amendment rights, and the innovation that is the sweetest fruit of a competitive marketplace.

We hope that readers of the Co-Chair's Report will find in this briefing, compelling evidence of the dangers presented by the BPDG recommendations and will recognize them as the self-interested aspirations of a small, partisan group seeking to write an anti-competitive law that protects its commercial interests at the public's expense.

The BPDG "process" has been rife with acrimony, arbitrariness and confusion, to an extent that cannot be fully ascribed to mere haste. EFF believes that the failings of the BPDG process stem directly from BPDG's efforts to cloak a inter-industry horse-trading exercise in the trappings of a public undertaking, with nominal participation from all "affected industries." In reality, the representatives were hand-picked by the conveners of the BPDG to minimize any

---

\* for identification only.

dissent, as is evidenced by the high degree of similarity between the original proposal brought to the group by its conveners and the final report that the co-chairs unilaterally present herein as the group's findings.

Throughout the process, the absence of any formal charter or process afforded the co-chairs the opportunity to manipulate the rules of the group to suit their true purpose while maintaining its illusory openness, as when the scope of the group's discussions was summarily expanded to encompass all unauthorized redistribution of feature films, as opposed to unauthorized redistribution over the Internet.

## Contents

### 1. The BPDG process is flawed

- i. A means to eliminate competition for undesirable products*
- ii. The myth of the “affected industries”*
- iii. A secret process is not an open process*
- iv. Without rules, the process was subject to manipulation*
- v. The scope of the BPDG recommendations is larger than is suggested*
- vi. The BPDG process addresses a non-existent problem*
- vii. A flawed process generates flawed conclusions*

### 2. The BPDG recommendations will abridge fair use rights

- i. Fair use, subject to Hollywood approval*
- ii. Existing fair uses are undermined*
- iii. Truncating the future of fair use*

### 3. The BPDG recommendations will harm free software and open source

- i. Free software can never be “tamper-resistant”*
- ii. The First Amendment safeguards code*

### 4. The BPDG recommendations will harm innovation

- i. Legislative relief from opportunity*
- ii. Innovation cannot be designed*
- iii. Interoperability is the mother of invention*

### 5. Conclusions

## **1. The BPDG process is flawed**

### **i. A means to eliminate competition for undesirable products**

The BPDG was nominally convened to afford all the affected industries the opportunity to discuss the “problem” of unauthorized redistribution of copyrighted Hollywood movies captured from unencrypted digital television broadcasts (see below: “The BPDG process addresses a non-existent problem”). The conveners were a group of major film studios and a technology consortium (the 5C group) who had developed copy-prevention technologies that the film studios had expressed an interest in licensing.

These copy-prevention technologies clearly infringe upon settled fair use practice and eliminate the ability of the market to evolve new fair uses (see section 2: “The BPDG recommendations will abridge fair use rights”). Past experience has demonstrated that an educated public will inevitably choose those tools that afford it the greatest flexibility and freedom (viz. the VCR versus the Discovision and personal MP3 players versus devices like the Sony MusicClip), suggesting that the 5C technologies had limited marketplace opportunities without the elimination of more flexible and hence more desirable competitors.

With this in mind, the 5C and MPAA companies called other vendors to the table, promising them all an opportunity to present their own technologies for inclusion in the standard. This promise also carried a threat: technologies that were not included in the standard would be barred from the marketplace. This is a self-fulfilling prophecy: by participating in the BPDG process, competing companies lent the group legitimacy, perpetuating the illusion that the BPDG was indeed an earnest attempt to openly discuss the characteristics of those technologies that would best eliminate the unauthorized redistribution of feature films on the Internet.

Operating under this rubric, the co-chairs (who, it must be noted, were not so much drawn from IT, CE and film industries as much as they were drawn for the most part from the 5C and MPAA companies) sat idly by as the MPAA directed the group to dismiss technologies that would effectively compete with their proprietary products, such as Microsoft DRM, Philips OCPS and GNU Radio. The end result was a “final” document that was nearly identical to the original 5C/MPAA proposal, largely authored by representatives of the 5C and MPAA companies, which downplayed objections as dissenting opinions from “a few companies.” BPDG’s work took a proposal from Fox as its starting point, and though the final document purports to represent the findings of an “open” group of the “affected industries,” it is substantially similar to this business-plan that Fox put forward. All technologies approved in the final report were likewise approved at the outset.

### **ii. The myth of the “affected industries”**

Even if this group had indeed been an honest and forthright attempt to eliminate unauthorized Internet redistribution, its work-product would be an unfit basis

for any policy decisions. The invitation extended by the 5C/MPAA companies at the group's inception blithely purported to exhaustively invite representatives from the "affected industries," said industries being consumer electronics, information technology and film and, later, broadcast/satellite/cable operators.

This is a wholly inadequate proxy for those parties with a compelling interest in the future of digital television, which include (but are not limited to): independent filmmakers and television producers, writers, recording artists, actors, directors, educators, archivists, students, consumer-rights groups, free-speech groups, civil liberties groups, free software and open source software developers, audience-members, disabled-rights groups, economists and legal fair use scholars. Each of these groups will be affected by the outcome of the BPDG process, yet none were invited to participate. Indeed, the concerns of many of these groups are explicitly dismissed from consideration by the BPDG co-chairs in their Final Report, which unilaterally eliminates fair use consequences of their recommendations from the scope of BPDG consideration.

Even the "affected industries" that the 5C/MPAA companies saw fit to invite representation from were significantly under-represented.

### **iii. A secret process is not an open process**

For all that, this skewed under-representation could have been largely corrected through the simple expedient of publicly acknowledging the group's existence through a cursory attempt at publicity. However, the BPDG did no such thing. Its existence was an open secret among the participating companies, and the BPDG maintained no Web site, issued no press-release announcing its existence.

The press was barred from attending its meetings, subscribing to its mailing-lists or participating in its conference calls, on the grounds that "self-censorship" would arise from the oversight of the fifth estate. The conveners made no public effort to explain the scope and consequences of their intended mandate to persons and companies unfamiliar with the process, or to accommodate interested parties who may not have been able to dedicate staff to travel and participate in the process.

EFF attempted to rectify this situation somewhat by means of its BPDG "weblog," an Internet information site that was regularly updated with news and information about the BPDG. We had limited success in this effort, bringing some of the excluded parties to the table, but were hampered by lack of public information regarding the implications of the highly technical BPDG debates. The BPDG weblog can be found at <http://bpdg.blogs.eff.org>

### **iv. Without rules, the process was subject to manipulation**

The group's own process was left largely undefined. No formal charter was adopted, no process for determining the group's findings was ever articulated. Instead, the co-chairs determined the process from moment to moment by means of unilateral dicta, which favored the interests of the 5C and MPAA companies. For example:

- The group's scope of work, which was initially understood by the invitees to concern itself with the establishment of a means whereby the unauthorized redistribution of feature films over the Internet could be restricted, was summarily expanded at the eleventh hour to encompass all unauthorized redistribution, without any substantial discussion or debate;
- The group's deadlines for comment were unilaterally determined by the co-chairs, without regard to the near-universal pleas for extension;
- Much of the group's meaningful discussion took place in private 5C and MPAA meetings (with one or more of the group's co-chairs present), and was presented to the group as a *fait accompli*;
- Formal BPDG meetings were sometimes hijacked by 5C and MPAA companies who simply convened a private meeting in an adjacent room (notably, one such meeting once proceeded for seven hours) leaving the remaining BPDG "participants" to bide their time while the true participants in the process deliberated in private.

These are but a few examples out of dozens, many of which have been noted by other commenters on the BPDG co-chairs' report.

#### **v. The scope of the BPDG recommendations is larger than is suggested**

While the BPDG has formally concerned itself with the regulation of digital television devices, it is a mistake to assume that the co-chairs' recommendations will only affect entertainment devices.

The requirement that all approved ("Table A") technologies be constrained by "Associated Obligations" gives the arbiters of Table A significant control over the characteristics of general-purpose computers and communication equipment.

For example, a vendor with a high-speed data-bus (let's call it "FireWire 2" for the sake of argument) will only secure placement on Table A if he promises through his Associated Obligations to only license his technology for inclusion in devices that adhere to a set of restrictions drafted by Table A's arbiters.

In this scenario, the group that controls Table A technologies not only controls the technologies listed on Table A, but also those technologies with which these technologies can interface. Inclusion of FireWire 2 on Table A will require the vendor to aver that any general purpose computer that he licenses FireWire 2 to will incorporate such ancillary copy-prevention technologies as are set out by Table A's arbiters and *not* include any technologies that are undesirable to those companies. Thus inventors of new technologies, even those not primarily designed for use with digital television broadcasts are faced with a tremendous incentive to device their technologies to support Table A technologies. PC

makers may still employ tamper-resistance restrictions in their designs in order to keep the door open to future inclusion on Table A.

Thus we have, in the “Associated Obligations,” a means whereby the 5C and MPAA companies can ultimately govern the design specifications of any device that incorporates a Table A technology.

#### **vi. The BPDG process addresses a non-existent problem**

Even if you accept Hollywood’s assertions of rampant unlawful Internet redistribution at face value, it does not follow that DTV creates a new problem or that the co-chairs’ recommendations address the existing problem

Unlawful Internet redistribution of copyrighted television programming already requires the “downsampling” of video to a visibly degraded, miniature file; high-definition broadcasts will require unattainably prodigious bandwidth to redistribute unless they are downsampled to the same quality inflicted on current unlawfully traded files.

Meanwhile, the co-chairs’ recommendations do not present any obstacle to the current state-of-the-art for unlawful Internet redistribution of television signals; namely the conversion of analog signals to digital files by means of commodity capture cards whose use cannot be restricted without significant abridgements of legitimate fair uses.

By starting the discussion from a faulty conclusion, the entertainment industry and the BPDG members who ally themselves with them preclude real solutions for reducing the damage done by actual unlawful Internet redistribution.

Thus we are presented with genuine restrictions on innovation and fair use that address imaginary infringements, while demonstrable unlawful activity is not curtailed in the slightest.

#### **vii. A flawed process generates flawed conclusions**

Given the BPDG’s many and profound flaws, it is hardly surprising not only advocates an incomplete and flawed proposal but also downplays the extent and nature of dissent surrounding it. In the following three sections, we outline some of the graver consequences of the co-chairs’ recommendations.

## **2. The BPDG recommendations will abridge fair use rights**

### **i. Fair use, subject to Hollywood approval**

The BPDG co-chairs' recommendations undermine fair use, both upsetting current fair use expectations and stunting the future evolution of the doctrine. Under the BPDG regime, the scope of fair use will be limited to those uses that Hollywood approves in advance, rather than those that would have been enabled by innovation in a competitive marketplace.

The doctrine of fair use has been a crucial element of copyright law in the United States for over a century, a founding element of the bargain between copyright owners and the public. Whether a particular use is fair depends upon a case-by-case analysis, undertaken by a federal judge. This indeterminacy is the source of the fair use doctrine's vitality, allowing courts to apply copyright law to technologies and activities as they arise in the marketplace.

The co-chairs' recommendations stand settled fair use principles on their head. Under the proposed standard, companies interested in building devices that interoperate with DTV signals are required to use one of the protection schemes in "Table A," or implement an "equally protective" technology.

The "equally protective" road is illusory. The "equally protective" criterion in the Tri-Group proposal provides no criteria that describe how a vendor can determine which side of the line a new technology may fall. As a result, few vendors will be willing to take their chances against such an amorphous rule, and those that do are certain to err on the side of including more restrictions that would be required by the technologies in Table A. So, in practice, the answer will be the Table A way or no way at all.

If Table A effectively defines the universe of possibilities for a DTV technology vendor, then the crucial question becomes how technologies get added to Table A. This issue has been lighting rod for BPDG controversy, with the entertainment companies originally demanding an absolute veto right over new technologies. The Tri-Group proposal has since receded to an arbitration process, whereby technology companies must overcome MPAA objections before a neutral arbitrator before new technologies will be added to Table A. The Tri-Group Proposal is hardly an improvement over the original MPAA proposal; technology companies will think twice before embarking on a long, expensive, and uncertain arbitration against well-heeled opponents familiar with legal maneuvering.

The upshot is simple: unlike in every other area of digital media technology, in the DTV arena no new technologies or devices will be permitted until and unless they have been approved by Hollywood. This will effectively make new fair uses contingent on the prior consent of Hollywood. Had this been the rule for



broadcast television in 1976, for example, the VCR would not have included the ability to time-shift programming and the Supreme Court would never have had the opportunity to vindicate the public's fair use rights in that activity. In other words, rather than allowing the marketplace to develop new uses, leaving the question of fair use to federal judges, the proposed standard restricts technologies in advance. The self-interested judgments of Hollywood are substituted for the open marketplace and wisdom of federal judges.

## **ii. Existing fair uses are undermined**

The proposed standard upsets existing fair use expectations. For example, imagine that a local sports-cast includes highlights from a college football game. A father spots his son in the clips, and would like to email the video to his mother, who lives across the country. Such a use would almost certainly be a fair use. Although the father could use a VHS video cassette to accomplish this, technology already makes it possible to attach a short video clip to an email message or post it to a personal home page. The proposed BPDG standard would make it impossible to manage this feat (assuming the newscast was marked as "protected").

Similarly, if your daughter were compiling a school report on the prevalence of sexual images in broadcast television programs, the fair use doctrine would almost certainly permit her to turn in her report with a compilation of excerpts of programs on a VHS tape. Under the proposed BPDG standard, however, she would not be able to do the same thing using her iMac and email her integrated multimedia presentation to her teacher and classmates.

Both of these examples represent uses that most viewers are able to accomplish with analog TV today using existing equipment. They are also activities that most would consider fair under copyright law. Under the BPDG regime, however, the public would lose these capabilities for DTV. Perhaps more troubling, the decision regarding whether these activities are fair uses would have been decided in advance, not by a court, but behind BPDG's closed doors.

## **iii. Truncating the future of fair use**

The BPDG standard also promises to stunt the future evolution of the fair use doctrine. Attempting to catalog the full range of fair use inevitably stunts the doctrine by neglecting the capabilities of future technologies. Had a group of industry representatives like BPDG met in 1972 to attempt to accommodate fair use, would they have predicted the VCR and permitted time-shifting?

It is impossible to know today what new, vibrant fair uses might never see the light of day because the technologies to make them possible never make it into Table A. When it comes to analog broadcast television, the public has been free to time-shift it, experiment with it, excerpt it, and do anything that does not exceed the boundaries of copyright law and fair use. These legitimate activities, meanwhile, have created a vibrant marketplace for video technologies that enable more fair uses: the VCR brought the camcorder, which in turn brought digital video tools like Apple's movie software.

The co-chair's recommendations ask us to mortgage all of our future fair use innovations. And for what? Other than giving Hollywood control over DTV technologies, the recommendations accomplish virtually nothing.

### **3. The BPDG recommendations will harm free software and open source**

#### **i. Free software can never be “tamper-resistant”**

The BPDG co-chairs’ recommendations include “Robustness” requirements for the construction of devices which are capable of receiving and recording digital television signals (see clause X.7 of the requirements). All devices manufactured in accordance with the recommendations must be “tamper-resistant”—they must be manufactured “in a manner clearly designed to effectively frustrate [User] attempts to modify [them]” or “to discover or reveal any secret keys or secret algorithms.”

This requirement effectively prohibits free software and open source computer code from interoperating with DTV signals. It would be impossible for free software and open source code to meet these requirements, since “tamper-resistance” is fundamentally incompatible with free software and open source’s key tenet that software be made available for subsequent end-user modification and adaptation through the provision of software in the “preferred form of work for making modifications to it,” which excludes “deliberately obfuscated code.”

As a result, the public will never see a DTV converter built on a commodity PC with free software, though such a device would substantially lower an end-user’s cost of making a transition to DTV.

#### **ii. The First Amendment safeguards code**

The tamper-resistance requirement also trammels the First Amendment rights of free software and open source programmers intent on exploring and sharing scientific insights relating to the reception and processing of digital television. It is now firmly settled law that software code is protected expression under the First Amendment. Since the co-chairs’ recommendations will effectively prohibit programmers from writing free software and open source code that might otherwise interoperate with components capable of receiving digital television signals, the co-chairs’ recommendations may interfere with the First Amendment by banning programmers from exploring digital television applications.

## **4. The BPDG recommendations will harm innovation**

### **i. Legislative relief from opportunity**

At every turn of history, technologists have brought to market new inventions that are simultaneously innovative and disruptive to existing social order. From Marconi's radio to Sony's Betamax, the technology industries have proven their capacity to create new markets for entertainment that expand the overall size of the market.

However, the entertainment industry rarely recognizes these opportunities when they present themselves. Entertainment interests have sought injunctive relief from the piano roll, the radio, the VCR, MP3 players, and most recently, the Personal Video Recorder (PVR).

The VCR is an illustrative example. In 1982, Jack Valenti testified on behalf of the MPAA companies to Congress that the VCR was to the American film industry as the "Boston Strangler is to a woman alone," and promised the speedy collapse of the film industry if the VCR were not kept off the market. Ironically, in order to prevent this "avalanche" of infringement, the studios suggested that a "broadcast flag" system be mandated as part of every VCR.

Twenty years later, pre-recorded video cassettes and DVDs account for 40 percent of the film industry's gross revenue, and box-office receipts (26 percent) are at an all-time high. In other words, the passage of twenty years has served to transform the VCR from the "Boston Strangler" to the single most important line-item on Hollywood's statement of income. It turns out that a "broadcast flag" mandate was not necessary in 1982; instead, robust and open competition in the technology marketplace, free from government mandates, benefited both the public and rights-holders.

Recent events suggest that the MPAA companies' concerns regarding an "avalanche" of Internet piracy should also be taken with a grain of salt. Despite the histrionics of the studios, despite the undeniable popularity of Internet file-trading, Hollywood is on-track to have the best box-office in history this summer. It is too early yet in DTV for government to intervene with technology mandates. In light of history, healthy skepticism is the only rational response to Hollywood's twenty-year commemorative call for "broadcast flags."

### **ii. Innovation cannot be designed**

It is therefore ironic and alarming that the same MPAA companies are demanding a role as arbiters of new digital media technology.

Innovation is defined as those uses that we have not yet imagined. The Internet's original architects never imagined their modest academic tool being used by hundreds of millions for purposes as variegated as booking airline tickets, organizing family reunions, buying collectible comic-books, and rapidly disseminating information about the survivors of terrorist attacks.

Innovation—the uses which we have not yet envisioned—can only be served through the application of least control. Not even the most visionary technologist is equipped to sit in judgment of all possible uses of fundamental new technologies.

### **iii. Interoperability is the mother of invention**

While innovation cannot be designed, it can be designed *for*. The ability of tinkerers and technologists to lawfully implement interoperable technology, without anyone's permission, is directly tied to innovation.

The co-chairs' recommendations explicitly stifle interoperability in two ways. First, the anti-tampering requirements are deliberately and admittedly designed to frustrate the efforts of technologists to understand the workings of DTV devices and create interoperable technologies; second, the requirement that new technologies must be approved before deployment means that interoperability with 5C technologies will be subject to the whims of companies with a proprietary interest in limiting competitors' access to the market.

## 5. Conclusions

It is our sincere hope that this document has served to illustrate the consequences—intentional and accidental—of the co-chairs' recommendations.

The policy objective of the BPDG is to drive public adoption of DTV. Perversely, the co-chairs' recommendations raise new obstacles to this end. By making DTV an unattractive and restrictive alternative to analog TV, the co-chairs' recommendations layers complexity and uncertainty on the DTV transition.

The operating principle of our free and vital economy, that the marketplace chooses its own winners, is substantially undermined by the recommendations in this report.

The suggestion that digital television devices should be produced without the "benefit" of an overarching mandate is not a radical suggestion. Rather, it reflects our status quo. Technologists make things, the public adopts the best of them and entertainers choose whether or not their work will be available in new formats, based on their perception of the market.

The co-chairs' recommendations invert this process, requiring technologists beg entertainers for permission to deploy their inventions and the public takes what it is given.

We urge you to consider the visible and obvious health of the technology and entertainment industries and contemplate the principles that underlie this robustness, and in so doing, set aside the co-chairs' recommendations in their entirety.