

**Efficient Process or “Chilling Effects”?  
Takedown Notices Under Section 512 of the  
Digital Millennium Copyright Act**

**Summary Report**

Jennifer M. Urban  
Director, Intellectual Property Clinic  
University of Southern California  
and  
Laura Quilter  
Non-Resident Fellow, Samuelson Clinic  
University of California, Berkeley

## Introduction

This is a summary report of findings from a study of takedown notices under Section 512 of the Digital Millennium Copyright Act.<sup>1</sup> Section 512 grants safe harbor from secondary copyright liability (i.e., the copyright infringement of their end users) to online service providers (OSPs), such as Internet access providers or online search engines. In order to receive the safe harbor, online service providers respond to cease-and-desist letters from copyright complainants by pulling their users' information—web pages, forum postings, blog entries, and the like—off the Internet. (In the case of search engine providers, the link to the complained-of web site is pulled out of the index; in turn, the web site disappears from the search results pages. These notices are somewhat troubling in and of themselves, as merely providing a link is unlikely to create secondary liability for the search engine, in the first place.) Because the OSP is removing material in response to a private cease-and-desist letter that earns it a safe harbor, no court sees the dispute in advance of takedown.

In this study, we traced the use of the Section 512 takedown process and considered how the usage patterns we found were likely to affect expression or other activities on the Internet. The second level of analysis grew out of the fact that we observed a surprisingly high incidence of flawed takedowns:

- Thirty percent of notices demanded takedown for claims that presented an obvious question for a court (a clear fair use argument, complaints about uncopyrightable material, and the like);
- Notices to traditional ISP's included a substantial number of demands to remove files from peer-to-peer networks (which are not actually covered under the takedown statute, and which an OSP can only honor by terminating the target's Internet access entirely); and
- One out of 11 included significant statutory flaws that render the notice unusable (for example, failing to adequately identify infringing material).

In addition, we found some interesting patterns that do not, by themselves, indicate concern, but which are of concern when combined with the fact that one third of the notices depended on questionable claims:

- Over half—57%—of notices sent to Google to demand removal of links in the index were sent by businesses targeting apparent competitors;
- Over a third—37%—of the notices sent to Google targeted sites apparently outside the United States.

The specifics of our data set may limit the ability to neatly generalize our findings. Yet the findings are troubling, and seem to indicate a need to further study, and perhaps revisit entirely, the DMCA takedown process.

---

<sup>1</sup> A full research paper version of this study will be published in the March, 2006 edition of the *Santa Clara Computer and High Technology Law Journal*.

## I. **Background: Rationale & Mechanism of the Notice and Takedown Provisions of the Digital Millennium Copyright Act**

The On-Line Copyright Infringement Liability Limitation Act (OCILLA)—commonly known as Section 512 of the DMCA—was passed in 1998 as a compromise between the nation’s copyright and online service provider (“OSP”) industries<sup>2</sup>. OSPs, concerned about the direction of court decisions concerning their liability for their users’ copyright infringement, lobbied Congress and received various safe harbors from potential secondary liability. In exchange, OSPs must “accommodate” technical protection measures employed by copyright holders and implement policies for terminating the accounts of repeat infringers.<sup>3</sup> Further measures are also required of OSPs in some situations, including takedown in response to a copyright-holder complaint—the subject of this report.

Section 512 creates several categories of protection for OSPs. The broadest protection, provided by Section 512(a), is a safe harbor for OSPs who provide transmission and routing—broadband, DSL, dial-up, and high-speed Internet access providers. For these types of services, where the OSP is acting as a “mere conduit” through which information flows, there is no requirement that the OSP “take down” material; the law simply gives them safe harbor from their users’ infringements, so long as they adopt a policy for terminating repeat infringers and accommodate technical protection measures.

Hosting services and search engines, on the other hand, are required by Sections 512(c)-(d) to respond “expeditiously” to notices of copyright infringement by removing hosted content, or links to content, when they receive a notice alleging copyright infringement.<sup>4</sup> Section 512(c) applies to hosted content (websites, forums, social networking profiles, and the like), and requires OSPs to establish and maintain a complicated process. When an OSP receives a notice, it must: 1) take down the material “expeditiously”; 2) notify the alleged infringer that material has been removed; and 3) forward any counternotices from alleged infringers back to the original complainant. If after 10-14 days, the complainant has not notified the OSP that it has filed a lawsuit, then the OSP may reinstate the contested material.

Search engine services are covered by Section 512(d). While search engines are required to “expeditiously” remove complained-of links from their search indexes, they

---

<sup>2</sup> OCILLA is codified as Title II of the DMCA at 17 U.S.C. 512 (2000).

<sup>3</sup> The definition of “repeat infringer” continues to be debated. Some copyright holders press OSPs to terminate users who are the subject of notices. (Confidential Interview with ISP representative.) However, it is unclear when an alleged infringer becomes a “repeat infringer” whose service should be terminated under the statute: after 2 complaints? More? When a court actually adjudicates the target an “infringer”?

<sup>4</sup> Section 512(b) requires a notice-and-takedown process for some network providers who cache password-protected content for system efficiency. Our data contain no 512(b) notices..

are not required to notify the alleged infringer of removal. As search providers likely have no service relationship with the alleged infringer, they rarely have the ability to notify, in any case. Links to complained-of material are thus typically removed from the search engine's index based only on the copyright holder's cease-and-desist letter, without any other notice or process. Note that removing information from a private third-party search index may make it more difficult to locate, but does not actually remove it from the Internet.

Removing material in response to a DMCA notice earns OSPs safe harbor from contributory copyright infringement. In theory, this system has several benefits. First, it greatly diminishes any incentive created by fear of secondary liability for OSPs to monitor their users' Internet expression. Second, it is, at least theoretically, less burdensome on OSPs than any scheme that would require them to monitor their users' behavior. Third, it is a quick and easy way for victims of copyright infringement to short-circuit Internet distribution of copyrighted material—probably faster, and certainly much less expensive, than obtaining a temporary restraining order or preliminary injunction from a court. The alleged infringer is in the position of having material removed before any court review, but the counternotice procedure is also quick and easy. So the positive story of 512 is told.

One who is concerned about the 512 process might tell a different story. In this story, 512 provides victims of copyright infringement a quick, simple way to police their copyrights on the Internet, but concerns arise from two directions. First, implementing 512 is at least a moderate burden on OSPs, who have to establish procedures and absorb the cost of enforcement. For small providers especially, this may be a greater burden than anticipated during debate over 512. Second, and directly affecting substantial expressive and other individual rights, alleged infringers are subject to removal of their expressive materials, not only before a judge reviews the complaint, but likely even before they receive notice of a complaint. Further, while they have the opportunity to send a counternotice, the material, once removed,<sup>5</sup> must stay down *at least* 10 to 14 days according to the statute—for expressive materials, this could be a burden, indeed. Ten days to two weeks may greatly diminish the value of the call to a protest, the competitive price, or the newsworthy blog entry.

Those who are concerned about 512's possible effects point out that the question of secondary liability for OSPs was unsettled anyway, and that the medicine may prove

---

<sup>5</sup> The statute is silent as to the situation where a user does receive notice, and sends a counternotice back to the OSP *before* the material is removed. In an era of rapid communications, this situation is not unlikely. The two interpretations run like this. First, it could be argued that the statute describes only the takedown and putback process, and does not describe a "leaving up" process, and so the statute *implies* that the materials must be removed regardless of receipt of counternotice. Alternatively, it could be argued that receipt of the counternotice acts to restore the status quo in favor of the user unless the complainant files suit, and thus the OSP should *not* remove the material unless suit is filed.

worse than the disease of uncertainty.<sup>6</sup> In addition, while there was some conflicting caselaw on Section 512(c) (hosted material) situations, providing mere hypertext links through a search engine seems unlikely under current law to result in secondary liability for search OSPs in the first place, regardless of 512(d)'s putative "safe harbor."

As noted above, in order to receive the safe harbor in either context, the OSP must remove the content or link expeditiously upon receipt of a statutorily compliant notice, and generally before the alleged infringer has any opportunity to respond. Though OSPs may put material back up if after 10-14 days a lawsuit is not filed by the complainant, putback is not guaranteed. The Section 512(c) and (d) notice-and-takedown process, therefore, effectively constitutes an extra-judicial temporary restraining order, based solely on the copyright holder's allegation of copyright infringement. We have found little evidence of either counternotice use or putback. While this is a continuing research question for us, if putback is not occurring in appropriate circumstances, the process becomes more akin to an extra-judicial injunction than a TRO—a dramatic realignment of traditional legal procedures that protect defendants. In addition, the remedies available to alleged infringers whose expression is improperly subject to a takedown are generally limited to situations where there was "knowing material misrepresentation" by the entity filing the DMCA notice. Legally speaking, this is a difficult standard to meet.

If notices are generally sent when copyright infringement is clear-cut—the assumption behind the positive story of the DMCA—Section 512 may represent an efficient way to clear infringing materials from the Internet. If this is case, then shifting the burden to alleged infringers and costs to OSPs may represent a useful compromise. On the other hand, if notices are sent when copyright infringement is alleged but unclear, or defective notices are the norm—the assumption behind the negative story of the DMCA—Section 512 may represent a wolf in sheep's clothing, allowing cheap, expeditious, and unchecked removal of expressive material from the Internet.

With these competing visions of the DMCA in mind, we conducted an empirical study of the 512 takedown process to determine whether its use to date best supports the positive story or the negative one. In short: who uses the 512 process? Under what circumstances? How strong and clear are the claims of alleged infringement? Do counternotices allow alleged infringers to challenge takedown in appropriate circumstances? Although process-based concerns about statutory incentives to remove expression from the Internet without establishing infringement in an adversarial

---

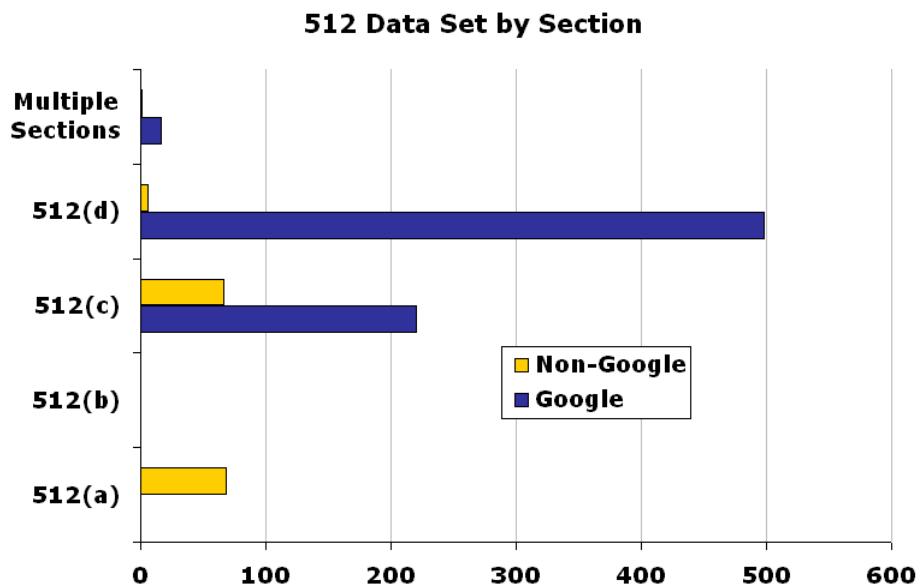
<sup>6</sup> The watershed case that came down prior to the passage of Section 512 is *Religious Tech. Ctr. v. Netcom On-Line Communication Servs., Inc.*, 907 F. Supp. 1361 (N.D. Cal. 1995); the court in this case said that an online service provider could be held liable for its users' infringement if it had notice of the infringement and materially contributed to it. It is not entirely clear that the caselaw would have continued to develop in this direction, though the Section 512 takedown procedures seem to assume a duty on the part of hosting and search OSPs.

procedure would remain, some empirical evidence of efficiency (or harm) would suggest whether 512 has struck a workable balance or reform is in order.

## II. The Study: The Chilling Effects Project, Methodology, Data Set

Studying the uses of the Section 512 notice-and-takedown procedure poses challenges, since it involves only private party action—cease-and-desist letters—and no public record-keeping. We have, however, developed a data set through the Chilling Effects project, which collects, annotates, and publishes cease-and-desist letters related to Internet expression. (See [www.chillingeffects.org](http://www.chillingeffects.org).) The Chilling Effects project consists of a consortium of law school clinics and the Electronic Frontier Foundation, and since January, 2002, the project has collected cease-and-desist letters on a variety of intellectual property and other speech-related doctrines such as defamation and unlawful speech. Students and faculty (including the authors, at various times) at the Samuelson Law, Technology & Public Policy Clinic, at University of California, Berkeley, have reviewed and annotated Section 512 notices for the site.

Our present data set includes 876 notices submitted to Chilling Effects through August, 2005; however, it often makes sense to split this into two effective data sets. First, the project includes all notices submitted to Google Inc., since March, 2002 (734 notices as of August, 2005). Second, the project also includes notices submitted, usually by recipients, to Chilling Effects through online web forms (142). See *Figure ES-1*.



*Fig. ES-1. The Chilling Effects 512 data set, broken down by DMCA Section and recipient OSP (Google and NonGoogle OSPs).*

The data set is subject to two obvious limitations. First, notices from Google—a single company—constitute 84% of the entire set; further, two-thirds of the Google data

are related to search services, rather than hosting. This predominance of search notices likely skews the entire set toward characteristics of search index takedowns. The Google data set, however, is very robust in that it contains all notices received by Google over the observed time period; as such, it provides a complete picture of a major online service provider's interaction with Section 512.

A second significant limitation is that the other set of notices is relatively small, and largely individually self-reported. As such, these notices may skew towards the substantively flawed; it seems plausible that individuals who have a strong defense (or at least believe there is a strong defense) are more likely to submit their notices to the Chilling Effects database.<sup>7</sup> We approached these notices cautiously; however, a third of the notices from Google relate to hosted material, rather than search index links. This gives us a non-self-selected group of notices related to hosted material, although, again, a group limited to one company. We make allowances for these flaws by separating the two sets in most analyses; additionally, we note places where our findings may be limited by the vagaries of the set.<sup>8</sup> Fortunately, the Chilling Effects project has also obtained an additional set of more than 1600 notices received by ThePlanet, a Texas-based web host and access ISP, from September 15, 2004 to the present. For near-future research, the ThePlanet data set will be very important for checking conclusions and comparing search engine and self-reported data with a complete set from a hosting service.

### **III. Preliminary Findings & Analysis**

We coded each notice for various types of information, including: sender, recipient OSP and “target” (the alleged infringer) identifying information and characteristics; copyright and other claims explicitly stated or implied in the notice; cognizable defenses or lack of copyright claim; compliance with statutory requirements; and characteristics of the complained-of material, where possible. A more detailed discussion of coding methodology is included in the full paper.

#### **General Observations**

The overall set of 876 cease-and-desist notices includes 514 notices (59%) making a complaint only under 512(d) (search engine index link); and 315 notices (36%) making a complaint only under 512(c) (hosted material). A few notices (22, or 3%) included claims under more than one statutory section. Of the 514 512(d) search engine claims, only a few were sent to search engines other than Google. The vast majority of these notices were sent to Google solely, and a few were sent to multiple ISPs including

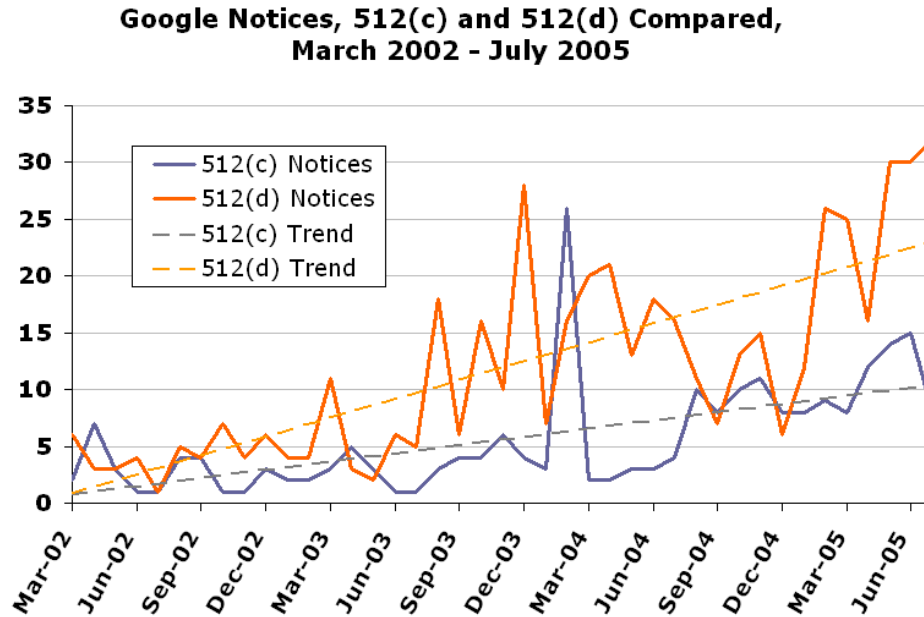
---

<sup>7</sup> The Chilling Effects project makes no determination on the merit of any notice, and publishes all notices regardless of whether they are problematic. Just the same, the very name of the site may lead people to over-report problematic notices. In any case, it seems probable that those who think they are in the “right”—whether senders or recipients of notices—are more likely to publish the notices on a public website.

<sup>8</sup> The full paper has a more complete explanation of methodology and the results in context.

Google. The high incidence of 512(d) claims is, of course, due to the predominance of notices to Google in our data set. While Google submits all of its notices to Chilling Effects, two-thirds of its notices are for its search engine listings. Google-provided hosting services—including Blogger, and UseNet and Google Groups archives—account for about a third of Google’s total notices. See *Fig. ES-1*, above.

We first note that there had been an increase over time in notices sent to Google. 512(c) and (d) notices are both increasing in the Google set. See *Fig. ES-2*.



*Fig. ES-2. Increase of 512(c) and 512(d) notices being sent to Google.*

Search index complaints seem to be rising fastest in our present data set: even while Google is increasing its hosting offerings, the rate of increase in the 512(d) search engine notices is markedly higher than the 512(c) hosted content notices sent to Google. We elected not to include the self-reported notices in this section, as any “trend” we see could be confounded by growing popularity of the Chilling Effects site, growing public knowledge about cease-and-desist letters, or a number of other factors. The Google set is too limited in nature to inspire conclusions about the rate of 512 notices, generally. However, our nascent research on notices from ThePlanet also shows a likely upward trend overall; and anecdotal evidence from a confidential interview with a service provider representative suggests this, as well.

Second, we note that nearly half the notices in the self-reported set were sent in response to a situation where 512(a) would apply—largely situations where alleged infringers are trading files across peer-to-peer networks. *Fig. ES-1*, above. In fact, 512(a) establishes a straightforward safe harbor for OSPs acting as conduits, with no notice-and-takedown procedure; further, because complained-of files reside on user machines,

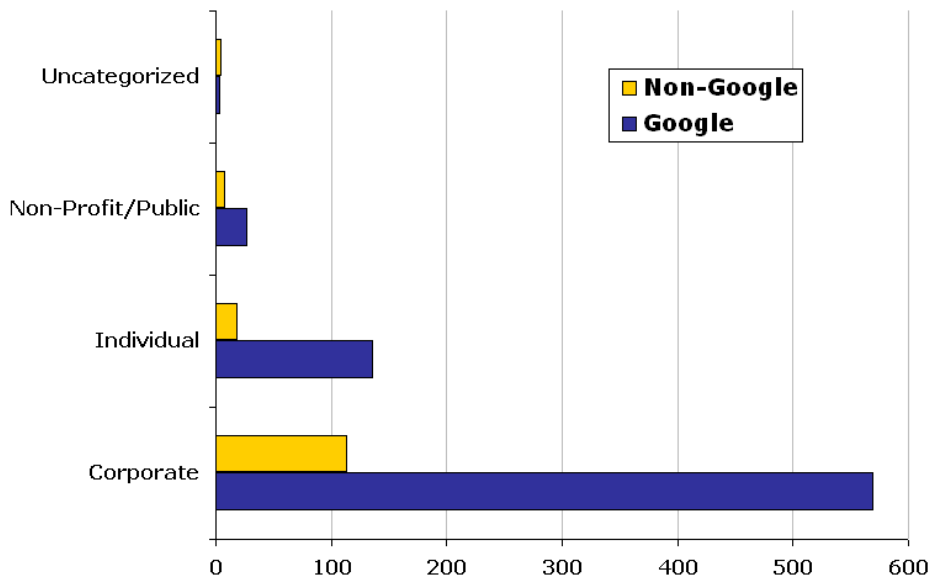


the OSP cannot take down the material in the first place. On the other hand, where simple distribution of copyrighted content is concerned, the underlying copyright claims are more likely to be strong. We discuss this result further below.

### Sender Characteristics

We examined the characteristics of those using the 512 processes. Corporations and business entities are the primary users of the 512(c) (hosting) and 512(d) (search) processes, and the primary senders of notices related to 512(a) services. *Fig. ES-3.*

#### Who Sends § 512 Notices



*Fig. ES-3. Categories of 512 Complainants.*

512(c) senders in our data set are often small Internet businesses. A large percentage of Google search notices—55% of the Google 512(d) notices—are competition-related. Entities send these notices to request the removal of links to their competitors.<sup>9</sup> (This phenomenon is discussed further, below.) The software and game industries sent 23% of the 512(c) notices (70 unique notices). These were largely related to circumvention of technological protection measures; a significant percentage included questionable copyright claims, including license restrictions, resales, game “cheats”, and the like.

Perhaps surprisingly, neither 512(c) search nor 512(d) hosting notices show significant use by the movie and music industries. While these industries anticipated and helped draft the notice and takedown provisions in 512(c) and (d), our data show them only rarely using these provisions. Corporate and business entities are generally responsible for the lion’s share of notices, but of the 512(c) notices specifically, only 6%

<sup>9</sup> A relatively high number, 35%, of Google notices are coded “unclassifiable” or “no information,” with respect to sender characteristics. This is because 512 notices do not always contain a great deal of detail. Given this, it may be that percentages are not entirely accurate across the data set.

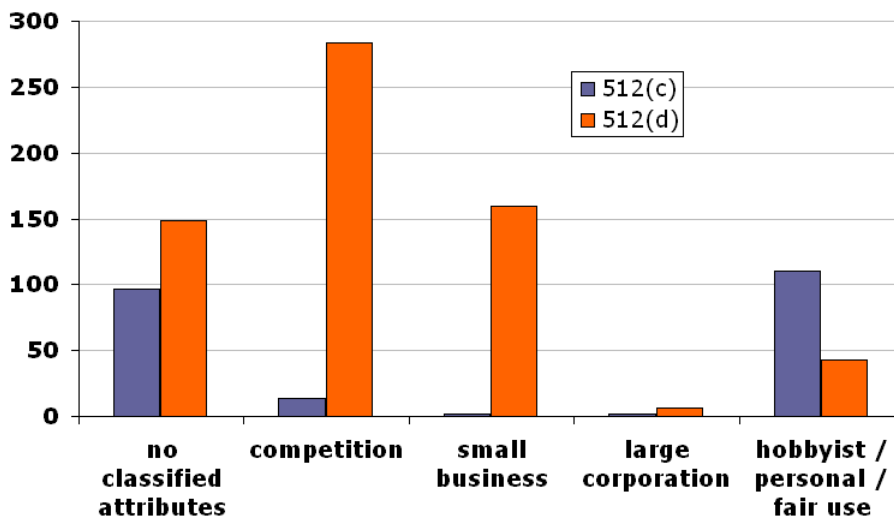
were sent by the movie and music industries combined. The lack of entertainment companies in our set may, at least in part, be because they choose not to send search engine complaints; however, we suspect that is not the entire story.

While it does not send 512(c) notices as often as expected, the movie industry, (followed by the computer software and games, and then music, industries) sends the vast majority of 512(a) “takedown notices”—where takedown is neither required nor possible, but where complaints about an alleged infringer might convince the OSP to terminate the alleged infringer’s service. Our data do not reflect the very high numbers (in the tens of thousands annually) of notices received by larger ISP’s, but the 512(a) trend apparent in our very limited data has been anecdotally verified through a confidential interview discussing numbers from larger OSPs. We look forward to verifying this empirically with data from ThePlanet. If the 512(a) effect is borne out, it seems likely that complaints about infringing movies and songs now focus on peer-to-peer networks, where the OSP acts only as a conduit. This change (unanticipated when the statute was drafted and passed) might explain the lack of the content industry’s use of 512(c) and (d) notices. If true, this suggests that the industry’s concerns about piracy are currently not well-addressed by the notice-and-takedown process.

### Target Characteristics

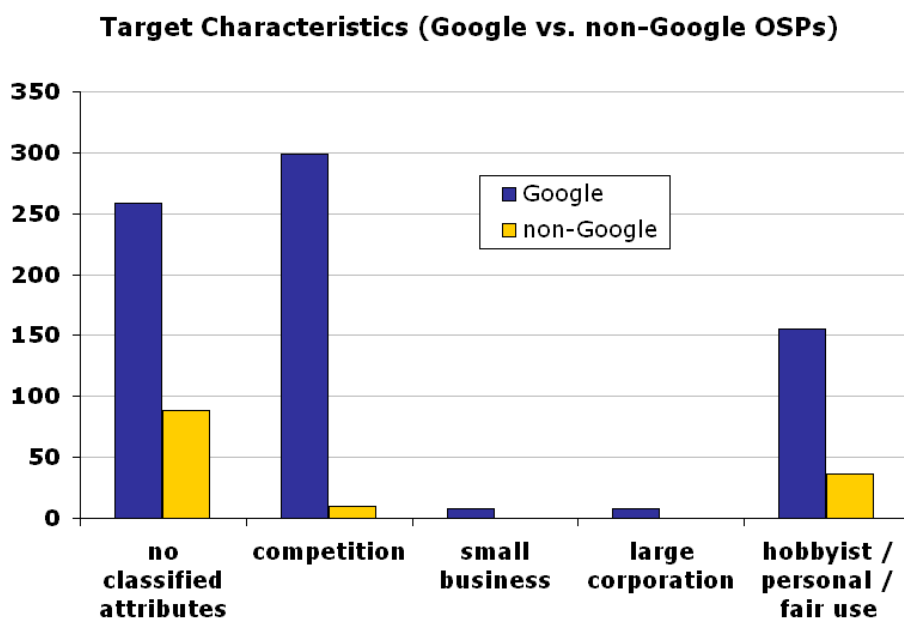
Examining the characteristics of the targets of the notices—the alleged infringers—we found that 41% of all Google notice targets can be classed as competitors of the complainants. *Fig. ES-4.* This is particularly significant for Google 512(d) complaints regarding links in the index, where 55% of all notices relate to competitors. A significant percentage of the 512(c) and (d) notices sent to Google—21%—target hobbyists, critics, and educational users.

**Target Characteristics Google 512(c) vs. Google 512(d)**



*Fig. ES-4. Characteristics of targets of 512(c) and (d) notices sent to Google.*

Comparison with the self-reported notices—including the 512(a) notices—shows that notices sent about competition are far more significant in the Google set than the self-reported set, and are particularly significant for search index complaints. This is unsurprising, given the fierce competition over search-result rank in Google’s index. The hobbyists, critics and educational uses are proportionally higher in the self-reported non-Google set, also perhaps unsurprising given the self-selecting nature of that set. *Fig. ES-5.*



*Fig. ES-5. Characteristics of targets of 512 notices.*

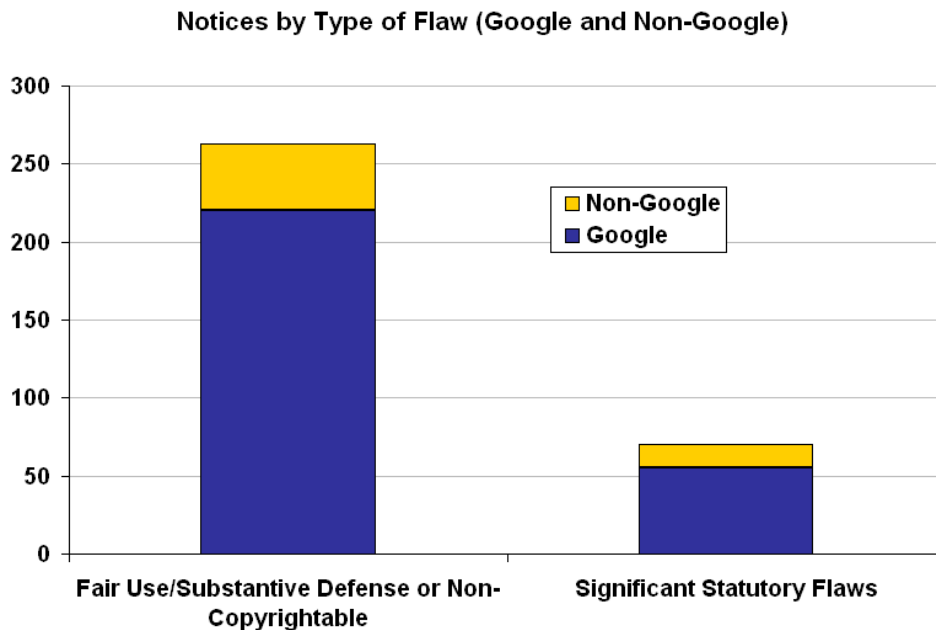
### **Enforceability, Substantive Legal Flaws and Process-Related Concerns**

Perhaps most striking, we found that a substantial portion of notices contain at least one of the major categories of flaws we evaluated. Each of these categories either pose significant questions with the claim’s enforceability in a court of law or invite serious concerns about the fairness of the process for targets. They are:

- substantive legal questions related to the underlying copyright claim;
- significant technical noncompliance that renders the notice unusable according to the statute; and
- notices sent in 512(a) situations.

**Issues with Underlying Copyright Claim.** We first examined significant questions related to the underlying copyright claim, including fair use defenses, other substantive defenses, very thin copyright, or non-copyrightable subject matter. *Fig. ES-*

6. A surprising thirty percent of the notices present claims that fall into this category.<sup>10</sup> As a rule of thumb, we tried to capture notices where a genuine dispute related to copyright infringement or defenses would clearly arise. Examples range from the clearly problematic—for example, recipes, prices and metatag information, which are unlikely to be covered by copyright—to instances of very thin copyright claims, such as website HTML “structure.” We also included notices where the target was likely to have a fair use defense. A much smaller number of notices in this category were counted due to other substantive concerns, such as questions regarding the ownership of the copyright in question: for example, a small number of notices appear to be sent not by the copyright holder or a representative, but by a party with some other interest in the material, such as the subject of a photograph. Among notices sent to Google, at least one type of flaw was apparent in 220 notices, or 30% of the Google set. Among the self-reported notices, 43, or, again, 30%, had at least one flaw.



*Fig. ES-6. Significantly flawed 512 notices.*

This category of “substantively flawed” claims obviously presents a wide variety of claims and analyses. We took a conservative approach with each of the sub-categories. Fair use is notoriously difficult to define, so we approached it carefully. We coded notices for favored use, such as parody, news, commentary and reporting. We avoided fair use claims that would rely only on the small amount of copying (though we did include non-copyrightable snippets such as titles in our substantively-flawed set). We looked particularly at the transformativeness of the work, the purpose, and the profit-status of the use, and steered clear of many arguable or borderline fair uses.

<sup>10</sup> Notices sometimes present multiple claims. This initial set includes notices with at least one problematic claim; in any instance of a problematic claim, material that should be subject to more thorough review may be removed.

We also took a conservative approach for “substantive flaws” other than fair use. For instance, for thin copyright and noncopyrightable subject matter, we took a narrow view. For example, numerous complaints cited “website design, layout” and the like, all of which pose questions of copyrightability or raise possible defenses along the line of copyrightability. However, we only counted such claims where the notice had no claims other than those relating to likely noncopyrightable or thinly copyrightable material.

**Statutory Flaws.** Significant statutory flaws plagued one out of every eleven notices. *Fig. ES-6, above.* By “significant” statutory flaws, we mean one of the four flaws that render a notice invalid according to the terms of the statute:<sup>11</sup> failure to identify the allegedly-infringing work; failure to identify the allegedly-infringed work; failure to provide a way to locate the allegedly-infringing work; or failure to provide contact information for the complainant. Other statutory flaws—the good faith and penalty of perjury statements, and the signature—do not exempt an OSP from responding to the notice, and they are not included in this figure. Takedowns based on notices with the significant flaws are problematic in a number of ways. A complaint failing to identify the infringed or infringing works fails to make any genuine showing of a controversy, however limited the review of the merits of the controversy may be. Complaints that do not identify the location of the allegedly infringing work may result in over- or under-inclusive takedowns. The complainant contact information is important because alleged infringers have no way to respond with a counternotice if the OSP cannot reach the complainant.

**512(a) Notices.** The non-Google data also show a high incidence of notices—48%, nearly half—where OSPs are actually acting merely as conduits, providing transmission and routing. Most complained-of material appeared to reside on users’ machines, made available over a peer-to-peer network. As noted above, transmission service falls under 512(a), under which OSPs receive a safe harbor without taking any material “down”; in fact, as the material resides on user computers rather than OSP servers, there is no way for the OSP to take material down, at all. We suspect that the advent of P2P has pushed some of 512’s intended beneficiaries—entertainment content providers—into sending notices where 512(a) would apply. Notice in a 512 (a) context cannot result in “takedown”, but it can result in a record of alleged infringers about whom multiple complaints are made. Given 512’s requirement that OSPs develop and promulgate a policy for determining “repeat infringers,” it seems likely that those who send notices in a peer-to-peer context are hoping to create a record that will convince OSPs to terminate users who are the subject of complaints. In fact, anecdotal evidence of correspondence from OSPs to their users in our database shows that some OSPs treat 512(a) notices in this way. Indeed, deeper analysis of the 512(a) notices in our data set reveals that OSPs sometimes threaten to cut off the user’s Internet access based solely on the single allegation mentioned in the notice.

---

<sup>11</sup> Section 512(c)(3)(A) sets forth the statutory requirements. Section 512(c)(3)(B)(ii) specifies which clauses constitute “substantial compliance” and require some action by the OSP.

**International Targets.** One surprising result was the large number of notices targeting material that appeared to reside outside the United States, particularly for Google notices (253, or 34%, of the Google notices). Further, a small number of notices (6) were sent to foreign OSPs. While the underlying claim might be strong in the United States, foreign targets may have local defenses; at the very least, foreign governments may look askance at the *ex ante* takedown process of Section 512. Of course, foreign-owned material may be hosted on a United States ISP's server, subject to United States laws. However, the vast majority of these notices are related to Google search index results. For these notices, the material resides offshore, and Google merely provides a link. This situation raises extremely complex questions related to U.S. jurisdiction over foreign actors who run afoul of United States copyright laws—questions that OSPs are almost certainly not in a position to answer when deciding whether to pull material out of an index.

**Claims Other than Copyright.** A number of notices (193) appear to have been sent by complainants with concerns in addition to, or instead of, copyright infringement—such as unfair competition, trademark-type claims, or privacy concerns. In some instances, a sender may have had a cognizable copyright claim, but their real concern appeared to be something other than copyright infringement. For example, 26 notices reflect strong concerns or details relating to privacy issues. Because 512 requires OSPs to develop a clear policy and establish a takedown procedure, it seems that senders sometimes shoehorn ill-fitting claims into a copyright complaint in order to obtain relief. Because of the small percentage of notices that reflect any one of these concerns, we take care with these results; this will be discussed further in the full paper.

**Lack of Counter Notification.** A final note: though the *ex ante* takedown of questionable material would still be troubling, concerns about the number of flaws revealed in our data would be somewhat diminished if we had found evidence of counternotices and putback. Only seven counternotices are included in the Chilling Effects dataset, and very few documented cases of putback can be found. Confidential conversations with service providers again suggest that our data reflect the overall experience of OSPs. However, this is anecdotal. One possible reason for the low incidence of putbacks is that it is easier for some alleged infringers to move material to another hosting service or web site, rather than accept the 10-14 day takedown. Further, our result may be an artifact of our data, which are so dominated by search index notices. As a search provider has no obligation under 512 (and generally, no ability) to notify the alleged infringer of takedown, there is little opportunity for targets to use the counternotice process. Google does provide hosting services, and we have a substantial number of 512(c) notices from it, but its hosting services are relatively new, and not the majority of notices from Google in our data set. Whether counternotices are more common in hosting situations is a certainly a question we intend to explore further when notices from The Planet (a hosting company) are analyzed.

#### IV. Discussion

Copyright infringement on the Internet is a serious issue—distribution of valuable works can occur in a flash, and value may be difficult to recapture—and the idea of a simple, inexpensive process to handle takedowns is a beguiling one. But at what cost comes this benefit? Our data reveal an unfortunately high incidence of questionable uses of the process. Copyright questions are often very dependant on individual facts. Even a sophisticated and careful sender may send a notice with claims that should be reviewed by a court before the target's material is removed. In many instances, questionable uses may be unintended: deeper investigation of individual notices reveals that some notice senders simply seem not to understand the parameters of copyright law, and why should they? Copyright law is an especially complex, nuanced and fact-specific body of legal rules. A clear, rigid, *ex ante* process such as 512 seems mismatched with a body of law that derives much of its value from flexibility and nuance.

Policy concerns related to questionable takedowns seem likely to increase in importance—however successful or problematic the process is, our data show that its use appears to be rising. Some notices are certainly sent in order to accomplish the paradigmatic goal of 512—the inexpensive takedown of clearly infringing hosted content or links to infringing web sites. But our data also show the process is commonly used for other purposes: to create leverage in a competitive marketplace, to protect rights not given by copyright (or perhaps any other law), and to stifle criticism, commentary and fair use.

These unanticipated or unintended uses of the process are having a continuous and perhaps unquantifiable effect on public discourse. OSPs have significant financial disincentive to attempt to distinguish between spurious and valid copyright claims. Doing a more detailed and costly check on notices would often simply result in an assessment of risk of secondary liability in a “grey” situation—exactly what OSPs hoped to avoid through legal safe harbors. In theory, such OSP behaviors might become a consumer choice-point, with consumers choosing OSPs more likely to resist overbroad takedowns, but the lack of public discussion of this issue suggests that consumers have little awareness of the issue or means to compare OSP behavior on this issue. Moreover, search engines, specifically, are not providers chosen by the beneficiaries of their service, and a target generally cannot simply recapture the value of a Google-indexed link by relying on another provider. Neither obvious legal nor marketplace mechanisms operate to check the growth in scope and breadth of what can be placed in a Section 512 notice. The simple process and the strong extrajudicial remedy provide a simple and expedient process available to victims and abusers alike, encouraging complainants to shoehorn a variety of ill-fitting claims into copyright.

Concerns about improper takedown are thrown into relief by the use of 512(a) “notices.” Based on our limited data—which does not allow us to draw conclusions—we

suspect that notices sent in 512(a) situations often represent the music and movie industries' attempts to reduce the untrammled trading of copyrighted music and movies over peer-to-peer networks. This is further confirmed by a confidential interview with a large-ISP representative, which revealed that larger ISP's received tens of thousands of notices—largely 512(a) complaints—in a year. The cost to ISPs of dealing with this many notices is high, indeed. The potential cost to an accused infringer is also high. If a sender succeeds in getting an OSP to respond to a 512(a) notice as if it were a 512(c) or (d) notice, all the OSP can do is terminate the target's service contract. Users suffer the harsh remedy of loss of Internet access, through an extrajudicial process with no guaranteed remedy of return. This remedy goes far beyond the stopping the user's copyright infringement and entirely removes her ability to obtain Internet-based information or to communicate on *any* topic through an Internet-based medium, be it a message board, blog commentary or email. Further, in many markets, there are only limited numbers of alternative providers of Internet service. Unfortunately, it is not clear that an offsetting benefit to copyright holders exists. Even if a user's account is terminated, that user is likely only one of many sources of the offending file. And when OSPs afford users little or no procedural opportunity to respond or dispute claims, senders have no feedback mechanism to improve their own accuracy and targeting methods.

The surprising number of questionable takedowns we observed, taken in conjunction with the *ex ante* removal of content, the minimal remedies for abuse of the process, and the lack of knowledge about the counternotice procedures, suggest that few are well-served by the current Section 512 process, and some or many individuals, as well as public discourse and the Internet's value as an expressive platform, may be harmed. Our data set, is, as noted, limited, so further research to prove or disprove these concerns, and to suggest the best reforms or remedies, is necessary.

We are grateful that Google Inc., ThePlanet, the Internet Archive, and all the individual contributors to the Chilling Effects database have chosen to increase the transparency of this private process by contributing notices; we hope that others will follow suit and increase the robustness of the data set.

We discuss proposals for change in the full paper.