FOR PUBLICATION

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

COLUMBIA PICTURES INDUSTRIES, INC.; DISNEY ENTERPRISES, INC.; PARAMOUNT PICTURES CORPORATION; TRISTAR PICTURES, INC.; TWENTIETH CENTURY FOX FILM CORPORATION; UNIVERSAL CITY STUDIOS LLLP; UNIVERSAL CITY STUDIOS PRODUCTIONS, LLLP; WARNER BROS ENTERTAINMENT, INC., *Plaintiffs-Appellees*, v. GARY FUNG; ISOHUNT WEB TECHNOLOGIES, INC., *Defendants-Appellants*.	No. 10-55946 D.C. No. 2:06-cv-05578-SVW-JC OPINION

Appeal from the United States District Court
for the Central District of California
Stephen V. Wilson, District Judge, Presiding

Argued May 6, 2011
Submitted March 21, 2013
Pasadena, California

Filed March 21, 2013

Before: Harry Pregerson, Raymond C. Fisher, and Marsha S. Berzon, Circuit Judges.

Opinion by Judge Berzon

SUMMARY*

Copyright

The panel affirmed in part and vacated in part the district court's judgment in favor of film studios, which alleged that the services offered and websites maintained by the defendants induced third parties to download infringing copies of the studios' copyrighted works.

Affirming the district court's summary judgment, the panel held that under *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster Ltd.*, 545 U.S. 913 (2005), the defendants were liable for contributory copyright infringement on an inducement theory because the plaintiffs established (1) distribution of a device or product, (2) acts of infringement, (3) an object of promoting the product's use to infringe copyright, and (4) causation in the defendants' use of the peer-to-peer file sharing protocol known as BitTorrent.

The panel held that the defendants were not entitled to protection from liability under any of the safe harbor provisions of the Digital Millennium Copyright Act, including safe harbors provided by 17 U.S.C. § 512(a), (c),

* This summary constitutes no part of the opinion of the court. It has been prepared by court staff for the convenience of the reader.

and (d) for transitory digital network communications, information residing on systems or networks at direction of users, and information location tools. The panel nonetheless rejected the argument that inducement liability is inherently incompatible with protection under the safe harbors.

Reversing and modifying in part the district court's permanent injunction, the panel held that certain provisions of the injunction were too vague to meet the notice requirements of Fed. R. Civ. P. 65(d), and certain provisions were unduly burdensome.

COUNSEL

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OPINION

BERZON, Circuit Judge:

This case is yet another concerning the application of established intellectual property concepts to new technologies. *See, e.g.*, *UMG Recordings, Inc. v. Shelter Capital Partners, LLC*, — F.3d — (9th Cir. 2013); *Perfect 10, Inc. v. Visa Int'l Serv. Ass'n*, 494 F.3d 788 (9th Cir. 2007); *Viacom Int'l, Inc. v. YouTube, Inc.*, 676 F.3d 19 (2d Cir. 2012). Various film studios alleged that the services offered and websites maintained by Appellants Gary Fung and his company, isoHunt Web Technologies, Inc. (isohunt.com, torrentbox.com, podtropolis.com, and ed2k-it.com, collectively referred to in this opinion as "Fung" or the "Fung sites") induced third parties to download infringing copies of the studios' copyrighted works.[1] The district court agreed, holding that the undisputed facts establish that Fung is liable for contributory copyright infringement. The district court also held as a matter of law that Fung is not entitled to protection from damages liability under any of the "safe harbor" provisions of the Digital Millennium Copyright Act ("DMCA"), 17 U.S.C. § 512, Congress's foray into mediating the competing interests in protecting intellectual property interests and in encouraging creative development of devices for using the Internet to make information available. By separate order, the district court permanently enjoined Fung from engaging in a number

[1] Plaintiffs-Appellees are: Columbia Pictures Industries, Inc.; Disney Enterprises, Inc.; Paramount Pictures Corporation; Tristar Pictures, Inc.; Twentieth Century Fox Film Corporation; Universal City Studios LLLP; and Warner Bros. Entertainment, Inc.; collectively referred to as "Columbia."

of activities that ostensibly facilitate the infringement of Plaintiffs' works.

Fung contests the copyright violation determination as well as the determination of his ineligibility for safe harbor protection under the DMCA. He also argues that the injunction is punitive and unduly vague, violates his rights to free speech, and exceeds the district court's jurisdiction by requiring filtering of communications occurring outside of the United States. We affirm on the liability issues but reverse in part with regard to the injunctive relief granted.

TECHNOLOGICAL BACKGROUND

This case concerns a peer-to-peer file sharing protocol[2] known as BitTorrent. We begin by providing basic background information useful to understanding the role the Fung sites play in copyright infringement.

I. Client-server vs. peer-to-peer networks

The traditional method of sharing content over a network is the relatively straightforward client-server model. In a client-server network, one or more central computers (called "servers") store the information; upon request from a user (or "client"), the server sends the requested information to the client. In other words, the server supplies information resources to clients, but the clients do not share any of their resources with the server. Client-server networks tend to be relatively secure, but they have a few drawbacks: if the server goes down, the entire network fails; and if many clients make

[2] A "protocol" is a set of rules used by computers to communicate with each other over a network. *Webster's II Dictionary* 571 (3d ed. 2005).

requests at the same time, the server can become overwhelmed, increasing the time it takes the server to fulfill requests from clients. Client-server systems, moreover, tend to be more expensive to set up and operate than other systems. Websites work on a client-server model, with the server storing the website's content and delivering it to users upon demand.

"Peer-to-peer" (P2P) networking is a generic term used to refer to several different types of technology that have one thing in common: a decentralized infrastructure whereby each participant in the network (typically called a "peer," but sometimes called a "node") acts as both a supplier and consumer of information resources. Although less secure, P2P networks are generally more reliable than client-server networks and do not suffer from the same bottleneck problems. *See generally Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd. (*"*Grokster III*"), 545 U.S. 913, 920 & n.1 (2005). These strengths make P2P networks ideally suited for sharing large files, a feature that has led to their adoption by, among others, those wanting access to pirated media, including music, movies, and television shows. *Id.* But there also are a great number of non-infringing uses for peer-to-peer networks; copyright infringement is in no sense intrinsic to the technology, any more than making unauthorized copies of television shows was to the video tape recorder. *Compare A&M Records v. Napster, Inc.*, 239 F.3d 1004, 1021 (9th Cir. 2001) *with Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 456 (1984).

II. Architecture of P2P networks

In a client-server network, clients can easily learn what files the server has available for download, because the files

are all in one central place. In a P2P network, in contrast, there is no centralized file repository, so figuring out what information other peers have available is more challenging. The various P2P protocols permit indexing in different ways.

A. "Pure" P2P networks

In "pure" P2P networks, a user wanting to find out which peers have particular content available for download will send out a search query to several of his neighbor peers. As those neighbor peers receive the query, they send a response back to the requesting user reporting whether they have any content matching the search terms, and then pass the query on to some of their neighbors, who repeat the same two steps; this process is known as "flooding." In large P2P networks, the query does not get to every peer on the network, because permitting that amount of signaling traffic would either overwhelm the resources of the peers or use up all of the network's bandwidth (or both). *See Grokster III*, 545 U.S. at 920 n.1. Therefore, the P2P protocol will usually specify that queries should no longer be passed on after a certain amount of time (the so-called "time to live") or after they have already been passed on a certain number of times (the "hop count"). Once the querying user has the search results, he can go directly to a peer that has the content desired to download it.

This search method is an inefficient one for finding content (especially rare content that only a few peers have), and it causes a lot of signaling traffic on the network. The most popular pure P2P protocol was Gnutella. Streamcast, a *Grokster* defendant, used Gnutella to power its software

application, Morpheus. *See Grokster III*, 545 U.S. at 921–22.[3]

B. "Centralized" P2P networks

"Centralized" P2P networks, by contrast, use a centralized server to index the content available on all the peers: the user sends the query to the indexing server, which tells the user which peers have the content available for download. At the same time the user tells the indexing server what files he has available for others to download. Once the user makes contact with the indexing server, he knows which specific peers to contact for the content sought, which reduces search time and signaling traffic as compared to a "pure" P2P protocol.

Although a centralized P2P network has similarities with a client-server network, the key difference is that the indexing server does not store or transfer the content. It just tells users which other peers have the content they seek. In other words, searching is centralized, but file transfers are peer-to-peer. One consequent disadvantage of a centralized P2P network is that it has a single point of potential failure: the indexing server. If it fails, the entire system fails. Napster was a centralized P2P network, *see generally Napster*, 239 F.3d at 1011–13, as, in part, is eDonkey, the technology upon which one of the Fung sites, ed2k-it.com, is based.

[3] Gnutella is still around, but it is now a "hybrid" system, a concept discussed below. *Cf. Grokster III*, 545 U.S. at 921 n.3.

C. Hybrid P2P networks

Finally, there are a number of hybrid protocols. The most common type of hybrid systems use what are called "supernodes." In these systems, each peer is called a "node," and each node is assigned to one "supernode." A supernode is a regular node that has been "promoted," usually because it has more bandwith available, to perform certain tasks. Each supernode indexes the content available on each of the nodes attached to it, called its "descendants." When a node sends out a search query, it goes just to the supernode to which it is attached. The supernode responds to the query by telling the node which of its descendant nodes has the desired content. The supernode may also forward the query on to other supernodes, which may or may not forward the query on further, depending on the protocol. *See generally Grokster III*, 545 U.S. at 921.

The use of supernodes is meant to broaden the search pool as much as possible while limiting redundancy in the search. As with centralized P2P systems, supernodes only handle search queries, telling the nodes the addresses of the other nodes that have the content sought; they are not ordinarily involved in the actual file transfers themselves. Grokster's software application was based on a P2P protocol, FastTrack, that uses supernodes. *See Grokster III*, 545 U.S. at 921.

III. BitTorrent protocol

The BitTorrent protocol, first released in 2001, is a further variant on the P2P theme. BitTorrent is a hybrid protocol with some key differences from "supernode" systems. We discuss those differences after first describing BitTorrent's distinguishing feature: how it facilitates file transfers.

A. BitTorrent file transfers.

Traditionally, if a user wanted to download a file on a P2P network, he would locate another peer with the desired file and download the entire file from that peer. Alternatively, if the download was interrupted—if, for example, the peer sending the file signed off—the user would find another peer that had the file and resume the download from that peer. The reliability and duration of the download depended on the strength of the connection between those two peers. Additionally, the number of peers sharing a particular file was limited by the fact that a user could only begin sharing his copy of the file with other peers once he had completed the download.

With the BitTorrent protocol, however, the file is broken up into lots of smaller "pieces," each of which is usually around 256 kilobytes (one-fourth of one megabyte) in size. Whereas under the older protocols the user would download the entire file in one large chunk from a single peer at a time, BitTorrent permits users to download lots of different pieces at the same time from different peers. Once a user has downloaded all the pieces, the file is automatically reassembled into its original form.

BitTorrent has several advantages over the traditional downloading method. Because a user can download different pieces of the file from many different peers at the same time, downloading is much faster. Additionally, even before the entire download is complete, a user can begin sharing the pieces he has already downloaded with other peers, making the process faster for others. Generally, at any given time, each user is both downloading and uploading several different pieces of a file from and to multiple other users; the

collection of peers swapping pieces with each other is known as a "swarm."

B. BitTorrent architecture

To describe the structure of BitTorrent further, an example is helpful. Let us suppose that an individual (the "publisher") decides to share via BitTorrent her copy of a particular movie. The movie file, we shall assume, is quite large, and is already on the publisher's computer; the publisher has also already downloaded and installed a BitTorrent "client" program on her computer.[4]

To share her copy of the movie file, the publisher first creates a very small file called a "torrent" or "dot-torrent" file, which has the file extension ".torrent." The torrent file is quite small, as it contains none of the actual content that may be copyrighted but, instead, a minimal amount of vital information: the size of the (separate) movie file being shared; the number of "pieces" the movie file is broken into; a cryptographic "hash"[5] that peers will use to authenticate the downloaded file as a true and complete copy of the original;

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[4] The client program is the software application used to access the P2P network. Unlike Grokster or Napster, which were "closed" systems that permitted only authorized client programs to connect to their networks, BitTorrent is an "open" system, permitting the use of any number of client programs, nearly all of which are free. The Fung sites do not supply any of the client programs necessary to use dot-torrent files to download the copies of movies or other content files; users of the Fung sites have to download such a program from elsewhere.

[5] As Plaintiffs' expert explained, "A hash is a unique digital identifier of certain data. It is usually written as a forty-digit long hexadecimal number, where each digit can be 0–9 or A–F." *See also Arista Records LLC v. Lime Group LLC*, 784 F. Supp. 2d 398, 423 n.21 (S.D.N.Y. 2011).

and the address of one or more "trackers." Trackers, discussed more below, serve many of the functions of an indexing server; there are many different trackers, and they typically are not connected or related to each other.[6]

Second, the publisher makes the torrent file available by uploading it to one or more websites ("torrent sites") that collect, organize, index, and host torrent files. Whereas Napster and Grokster had search functionality built into their client programs, the standard BitTorrent client program has no such capability.[7] BitTorrent users thus rely on torrent sites to find and share torrent files. There is no central repository of torrent files, but torrent sites strive to have the most comprehensive torrent collection possible.

The Fung sites have two primary methods of acquiring torrent files: soliciting them from users, who then upload the files; and using several automated processes (called "bots," "crawlers," or "spiders") that collect torrent files from *other* torrent sites. Because of this latter route, which other torrent sites also routinely use, torrent sites tend to have largely overlapping collections of torrents. According to a declaration Fung signed in April 2008, there were then over 400 torrent sites. Because the torrent sites typically contain only torrent files, no copyrighted material resides on these sites.

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[6] In an April 2008 declaration, Fung averred that there are "close to two thousand different trackers run by various independent operators." The source of this statistic was not given.

[7] A few BitTorrent client programs have begun to integrate search and download processes in such a way that torrent sites become unnecessary, but that fact is not germane to any issue in this case.

Lastly, the publisher leaves her computer on and connected to the Internet, with her BitTorrent program running. The publisher's job is essentially done; her computer will continue to communicate with the tracker assigned to the torrent file she uploaded, standing ready to distribute the movie file (or, more accurately, parts thereof) to others upon request.

A user seeking the uploaded movie now goes to the torrent site to which the torrent file was uploaded and runs a search for the movie. The search results then provide the torrent file for the user to download. Once the user downloads the torrent file and opens it with his BitTorrent program, the program reads the torrent file, learns the address of the tracker, and contacts it. The program then informs the tracker that it is looking for the movie associated with the downloaded torrent file and asks if there are any peers online that have the movie available for download. Assuming that publishers of that movie are online, the tracker will communicate their address to the user's BitTorrent program. The user's BitTorrent program will then contact the publishers' computers directly and begin downloading the pieces of the movie. At this point, the various publishers are known as "seeders," and the downloading user a "leecher." Once the leecher has downloaded one or more pieces of the movie, he, too, can be a seeder by sending other leechers the pieces that he has downloaded.

A final few words on trackers. Although no content is stored on or passes through trackers, they serve as a central

hub of sorts, managing traffic for their associated torrents.[8] The tracker's primary purpose is to provide a list of peers that have files available for download. Fung avers that this function is the only one provided by his two trackers, discussed below.

Because trackers are periodically unavailable—they can go offline for routine maintenance, reach capacity, be shuttered by law enforcement, and so on—torrent files will often list addresses for more than one tracker. That way, if the first (or "primary") tracker is down, the user's client program can proceed to contact the backup tracker(s).

IV. Fung's role

Three of Fung's websites—isohunt.com ("isoHunt"); torrentbox.com ("Torrentbox"), and podtropolis.com ("Podtropolis")—are torrent sites. As described above, they collect and organize torrent files and permit users to browse in and search their collections. Searching is done via keyword; users can also browse by category (movies, television shows, music, etc.).[9]

[8] According to the record in this case, it is also possible, although less efficient, to distribute torrent files and to download their associated content without a tracker, using a technology called DHT, or distributed hash table.

[9] As torrent files are added, isoHunt uses an automated process that attempts to place the torrent file in the appropriate category by looking for certain keywords. Torrent files with the keywords "DVD" and "cam," for instance—the latter of which refers to a recording of a movie made with a handheld camcorder—would be categorized as movies.

IsoHunt, however, which appears to be Fung's "flagship" site, goes a step beyond merely collecting and organizing torrent files. Each time a torrent file is added to isoHunt, the website automatically modifies the torrent file by adding additional backup trackers to it. That way, if the primary tracker is down, the users' BitTorrent client program will contact the backup trackers, making it more likely that the user will be successful in downloading the content sought. In other words, isoHunt alters the torrent files it hosts, making them more reliable than when they are uploaded to the site.

Torrentbox and Podtropolis, in addition to being torrent sites, run associated trackers.[10] Their collections of torrent files appear to be fairly small. Every torrent file available on Torrentbox and Podtropolis is tracked by the Torrentbox and Podtropolis trackers, respectively, but the Torrentbox and Podtropolis trackers are *much* busier than the Torrentbox and Podtropolis websites. For example, a torrent file for the movie "Casino Royale" was downloaded from Torrentbox.com 50,000 times, but the Torrentbox tracker registered approximately 1.5 million downloads of the movie. This disparity indicates that users obtain the torrent files

[10] Fung's fourth website, ed2k-it.com ("Ed2k-it"), is similar to the torrent sites, but works through technology called eDonkey. eDonkey is mostly a centralized system like Napster, but eDonkey client programs—including the popular eMule—can also search other peers directly, as in a pure P2P network. For purposes of this case, however, the distinctions between the technologies are irrelevant; as the district court noted, Fung makes no argument that Ed2k-it should be treated differently than the torrent sites. *See Columbia Pictures Indus., Inc. v. Fung*, No. CV 06-5578, 2009 WL 6355911, at *2 n.4 (C.D. Cal. Dec. 21, 2009).

tracked by Torrentbox and Podtropolis from torrent sites other than Torrentbox.com and Podtropolis.com. The Torrentbox and Podtropolis websites both have continually-updated lists of, *inter alia*, the "Top 20 TV Shows," the "Top 20 Movies," and the "Top 20 Most Active Torrents." These rankings are based on the number of seeders and leechers for each particular torrent file, as measured by the Torrentbox and Podtropolis trackers. IsoHunt does not run a tracker, so it cannot measure how frequently the content associated with each torrent file is downloaded; instead, it keeps a continually updated list of the "Top Searches."

IsoHunt also hosts an electronic message board, or "forum," where users can post comments, queries, and the like. In addition to posting to the forum himself, Fung also had some role in moderating posts to the forum.

PROCEDURAL HISTORY

This suit, against Fung and several John Does, originally filed in the Southern District of New York, was transferred, on Fung's motion, to the Central District of California. *See Columbia Pictures Indus., Inc. v. Fung*, 447 F. Supp. 2d 306 (S.D.N.Y. 2006). Columbia then filed an amended complaint, alleging that Fung was liable for vicarious and contributory copyright infringement, in violation of 17 U.S.C. § 106.

On Columbia's motion for summary judgment on liability, the district court held Fung liable for contributory infringement, for inducing others to infringe Plaintiffs'

copyrighted material.[11] *See Columbia Pictures Indus., Inc. v. Fung*, No. CV 06-5578, 2009 WL 6355911, at *15 (C.D. Cal. Dec. 21, 2009). Although Fung sought protection in the DMCA safe harbors for "[t]ransitory digital network communications," 17 U.S.C. § 512(a), "[i]nformation residing on systems or networks at direction of users," *id.* § 512(c), and "[i]nformation location tools," *id.* § 512(d), the district court concluded that none of the safe harbors were applicable.

The district court later entered a permanent injunction that prohibits, generally speaking, "knowingly engaging in any activities having the object or effect of fostering infringement of Plaintiffs' Copyrighted Works, including without limitation by engaging in" certain specified activities. The injunction applies to a "list of titles" provided by Columbia. With regard to the initial list of titles provided, Fung was required to comply with the terms of the injunction—most likely, though not necessarily, by implementing a filtering device—within 14 calendar days. Columbia may supplement the list "without restriction"; Fung must comply with the terms of the injunction as to the new titles within 24 hours of receiving any supplemented list. The injunction binds both Isohunt Web Technologies, Inc., and Fung personally, "wherever they may be found, including, without limitation, in Canada" (where Fung is from).

[11] In light of its holding on the inducement theory, the district court did not evaluate whether Fung was liable under the "material contribution" theory of contributory infringement, *see Perfect 10, Inc. v. Amazon.com, Inc.*, 508 F.3d 1146, 1170–72 (9th Cir. 2007), or as vicarious copyright infringers, *id.* at 1173–75.

The day after the injunction was entered, Columbia served Fung with an initial list of over 23,000 titles of copyrighted works. Many of the titles were or contained generic terms, such as "10," "21," "Cars," "Dave," etc. Other titles were identical or substantially similar to titles of works in the public domain, including "Jungle Book" and "Miracle on 34th Street," or to titles of works to which Columbia does not own the copyrights. Citing those features of the initial list, Fung protested that the permanent injunction was too broad. In response, the district court modified the injunction to require that Columbia provide additional information about the listed copyrighted material, including the date the material was issued or reissued and the type of media their copyright covers (e.g., film or television show), so that Fung could more readily identify the material. At the same time, the court also admonished that Fung's concerns were somewhat overblown, as any technical or inadvertent violations would not support a civil contempt finding if all reasonable steps to comply with the injunction were taken.

Fung timely appealed, targeting both the liability determination and the scope of the injunction.

DISCUSSION

As always, we review the district court's grant of summary judgment de novo, *Au-Tomotive Gold Inc. v. Volkswagen of Am., Inc.*, 603 F.3d 1133, 1135 (9th Cir. 2010), and "may affirm the district court's holding on any ground raised below and fairly supported by the record," *Proctor v. Vishay Intertechnology Inc.*, 584 F.3d 1208, 1226 (9th Cir. 2009). As to the permanent injunction, we review the legal conclusions de novo, the factual findings for clear error, and the decision to grant a permanent injunction, as

well as its scope, for an abuse of discretion. *See Lemons v. Bradbury*, 538 F.3d 1098, 1102 (9th Cir. 2008); *Sandpiper Vill. Condo. Ass'n v. Louisiana-Pacific Corp.*, 428 F.3d 831, 840 (9th Cir. 2005); *Scott v. Pasadena Unified Sch. Dist.*, 306 F.3d 646, 653 (9th Cir. 2002). To review for abuse of discretion, "we first look to whether the trial court identified and applied the correct legal rule . . . [then] to whether the trial court's resolution of the motion resulted from a factual finding that was illogical, implausible, or without support in inferences that may be drawn from the facts in the record." *United States v. Hinkson*, 585 F.3d 1247, 1263 (9th Cir. 2009) (en banc).

I. Liability

A. Inducement liability under *Grokster III*

The "inducement" theory, on which the district court's liability holding was grounded, was spelled out in the Internet technology context by the Supreme Court in *Grokster III*. Considering how to apply copyright law to file sharing over P2P networks, *Grokster III* addressed the circumstances in which individuals and companies are secondarily liable for the copyright infringement of others using the Internet to download protected material.

Grokster III's inducement holding is best understood by first backtracking to *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417 (1984), the seminal Supreme Court case concerning the use of new technologies to reproduce copyrighted material. *Sony* considered whether secondary liability for infringement could arise solely from the distribution of a commercial product capable of copying copyrighted material—there, the Betamax video tape

recorder, made by Sony. Owners of copyrights to television programs maintained that Sony could be liable for copyright infringement when its customers used the Betamax to unlawfully tape television shows. There was no evidence that Sony sought to encourage copyright infringement through use of the Betamax or had taken steps to profit from unlawful taping. *See id.* at 437–38. Instead, the only conceivable basis for secondary liability was distribution of the product "with constructive knowledge of the fact that [Sony's] customers may use that equipment to make unauthorized copies of copyrighted material." *Id.* at 439.

Finding "no precedent in the law of copyright for the imposition of vicarious liability on such a theory," the Court borrowed from the "closest analogy" it could find, patent law's "staple article of commerce doctrine." *Id.* at 439–42. Under that doctrine, distribution of a component part of a patented device will not violate the patent if the component is suitable for substantial non-infringing uses. *See id.* at 440; 35 U.S.C. § 271(c). As *Sony* explained, the staple article of commerce doctrine balances competing interests,

> a copyright holder's legitimate demand for effective—not merely symbolic—protection of the statutory monopoly, and the rights of others freely to engage in substantially unrelated areas of commerce. Accordingly, the sale of copying equipment, like the sale of other articles of commerce, does not constitute contributory infringement if the product is widely used for legitimate, unobjectionable purposes. Indeed, it need merely be capable of substantial noninfringing uses.

464 U.S. at 442. As the Betamax was "capable of commercially significant noninfringing uses," the Court held Sony not liable for contributory copyright infringement.[12] *Id.*

The other major Supreme Court case addressing the mass copying of copyrighted material—there, music and films—through technological means, *Grokster III*, concerned the use of software applications based on "pure" and "hybrid" P2P network protocols. The defendants, the providers of the copying software to the public, argued for a contributory liability approach similar to that adopted in *Sony*: as their products were indisputably *capable* of substantial non-infringing uses, they maintained, they could not be secondarily liable based on their knowledge that their products could be used to infringe copyrights. Instead, the *Grokster* defendants suggested, they could be liable for contributory infringement only if they had actual knowledge of a *specific* infringement at a time when they were capable of preventing it. Accepting this theory and recognizing that there was no evidence regarding timely knowledge of specific acts of infringement, the district court granted summary judgment to the defendants, *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.* ("*Grokster I*"), 259 F. Supp. 2d 1029, 1046 (C.D. Cal. 2003), and we affirmed, *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.* ("*Grokster II*"), 380 F.3d 1154, 1167 (9th Cir. 2004).

[12] *Sony* declined, however, to "give precise content to the question of how much use is commercially significant." 464 U.S. at 442. The majority opinion in *Grokster III* also refused "to add a more quantified description of the point of balance between protection and commerce when liability rests solely on distribution with knowledge that unlawful use will occur," 545 U.S. at 934, though two concurring opinions discussed the issue at length, *see id.* at 941–49 (Ginsburg, J., concurring); *id.* at 949–66 (Breyer, J., concurring).

The Supreme Court did not see *Sony* as providing such broad insulation from copyright liability. Rather, said the Court, *Sony*

> limits imputing culpable intent as a matter of law from the characteristics or uses of a distributed product. But nothing in *Sony* requires courts to ignore evidence of intent if there is such evidence, and the case was never meant to foreclose rules of *fault-based* liability derived from the common law.

Grokster III, 545 U.S. at 934–35 (emphasis added). The "staple article of commerce doctrine" adopted in *Sony*, *Grokster III* explained, "absolves the *equivocal* conduct of selling an item with substantial lawful as well as unlawful uses, and limits liability to instances of more acute fault than the mere understanding that some of one's products will be misused." *Id.* at 932–33 (emphasis added). "Thus, where evidence goes beyond a product's characteristics or the knowledge that it may be put to infringing uses, and shows statements or actions directed to promoting infringement, *Sony*'s staple-article rule will not preclude liability." *Id.* at 935.

Grokster III went on to enunciate the "inducement rule," also borrowed from patent law, providing that "one who distributes a device with the object of promoting its use to infringe copyright, as shown by clear expression or other affirmative steps taken to foster infringement, is liable for the resulting acts of infringement by third parties." *Id.* at 936–37. This inducement principle, as enunciated in *Grokster III*, has four elements: (1) the distribution of a device or product, (2)

acts of infringement, (3) an object of promoting its use to infringe copyright, and (4) causation. *See id.*

i. Distribution of a "device" or "product"

In describing the inducement liability standard, *Grokster III* phrased it as applying to one who distributes a "device," *see id.*, although it also used the word "product," seemingly interchangeably, *see id.* at 934–37. The "device" or "product" was the software developed and distributed by the defendants—for Grokster, its eponymous software, based on FastTrack technology; and for StreamCast, also a defendant in *Grokster*, its software application, Morpheus, based on Gnutella. *See id.* at 940 (describing the "device" as "the software in this case").

The analogy between *Grokster III* and this case is not perfect. Here, Fung did not develop and does not provide the client programs used to download media products, nor did he develop the BitTorrent protocol (which is maintained by non-party BitTorrent, Inc., a privately-held company founded by the creators of the protocol). Fung argues that because he did not develop or distribute any "device"—that is, the software or technology used for downloading—he is not liable under the inducement rule enunciated in *Grokster III*.

We cannot agree. Unlike patents, copyrights protect expression, not products or devices. Inducement liability is not limited, either logically or as articulated in *Grokster III*, to those who distribute a "device." As a result, one can infringe a copyright through culpable actions resulting in the impermissible reproduction of copyrighted expression, whether those actions involve making available a device or product or providing some service used in accomplishing the

infringement. For example, a retail copying service that accepts and copies copyrighted material for customers after broadly promoting its willingness to do so may be liable for the resulting infringement although it does not produce any copying machines or sell them; all it provides is the "service" of copying. Whether the service makes copies using machines of its own manufacture, machines it owns, or machines in someone else's shop would not matter, as copyright liability depends on one's purposeful involvement in the process of reproducing copyrighted material, not the precise nature of that involvement.

Grokster III did phrase the rule it applied principally in terms of a "device." But that was because it was responding to the main argument made by the defendants in that case—that they were entitled to protection for commercial products capable of significant non-infringing uses, just as Sony was insulated from liability for infringing use of the Betamax. *See Grokster III*, 545 U.S. at 931–34. When explaining the *rationale* for permitting secondary infringement liability, *Grokster III* used more general language:

> When a widely shared *service or product* is used to commit infringement, it may be impossible to enforce rights in the protected work effectively against all direct infringers, the only practical alternative being to go against the distributor of *the copying device* for secondary liability on a theory of contributory or vicarious infringement.

Id. at 929–30 (emphases added); *see also id.* at 924 (describing Napster as a "notorious file-sharing service"); *id.*

at 925 (describing one defendant's efforts "to market its service as the best Napster alternative"); *id.* at 937–38; *id.* at 939 (describing the import of defendants' "efforts to supply services to former Napster users").

Since *Grokster III*, we have not considered a claim of inducement liability on facts closely comparable to those here. But we have, in two cases, considered claims of inducement liability against parties providing services as opposed to products, without suggesting that the difference matters. *Perfect 10, Inc. v. Visa Int'l Serv. Ass'n*, 494 F.3d 788, 800–02 (9th Cir. 2007); *Perfect 10, Inc. v. Amazon.com, Inc.*, 508 F.3d 1146, 1170 n.11 (9th Cir. 2007). The two *Perfect 10* cases confirm that, as one would expect, the inducement copyright doctrine explicated in *Grokster III* applies to services available on the Internet as well as to devices or products.

We hold that Columbia has carried its burden on summary judgment as to the first element of the *Grokster III* test for inducement liability.

ii. Acts of infringement

To prove copyright infringement on an inducement theory, Columbia also had to adduce "evidence of actual infringement by" users of Fung's services. *Grokster III*, 545 U.S. at 940. This they have done.

Both uploading and downloading copyrighted material are infringing acts. The former violates the copyright holder's right to distribution, the latter the right to reproduction. *See* 17 U.S.C. § 106(1) & (3); *Napster*, 239 F.3d at 1014. Based on statistical sampling, Columbia's expert averred that

between 90 and 96% of the content associated with the torrent files available on Fung's websites are for "confirmed or highly likely copyright infringing" material. Although Fung takes issue with certain aspects of the expert's methodology, he does not attempt to rebut the factual assertion that his services were widely used to infringe copyrights. Indeed, even giving Fung the benefit of all doubts by tripling the margins of error in the expert's reports, Columbia would still have such overwhelming evidence that any reasonable jury would have to conclude that the vastly predominant use of Fung's services has been to infringe copyrights.

In sum, as in *Grokster III*, "[a]lthough an exact calculation of infringing use, as a basis for a claim of damages, is subject to dispute, there is no question" that Plaintiffs have met their burden on summary judgment to warrant equitable relief. *Grokster III*, 545 U.S. at 940–41.

iii. With the object of promoting its use to infringe copyright

The third, usually dispositive, requirement for inducement liability is that the "device" or service be distributed "with the object of promoting its use to infringe copyright, as shown by clear expression or other affirmative steps taken to foster infringement." *Id.* at 936–37.

As an initial matter, Fung argues that this factor includes two separate elements—the improper object *and* "clear expression or other affirmative steps taken to foster infringement." Not so. "[C]lear expression or other affirmative steps" is not a separate requirement, but, rather, an explanation of how the improper object must be proven. In other words, *Grokster III* requires a high degree of proof

of the improper object. Confirming that understanding of the "clear expression" phrase, *Grokster III* emphasized, right after articulating the inducement factor, that the improper object must be plain and must be affirmatively communicated through words or actions:

> We are, of course, mindful of the need to keep from trenching on regular commerce or discouraging the development of technologies with lawful and unlawful potential. Accordingly, just as *Sony* did not find intentional inducement despite the knowledge of the [Betamax] manufacturer that its device could be used to infringe, mere knowledge of infringing potential or of actual infringing uses would not be enough here to subject a distributor to liability. Nor would ordinary acts incident to product distribution, such as offering customers technical support or product updates, support liability in themselves. The inducement rule, instead, premises liability on purposeful, culpable expression and conduct, and thus does nothing to compromise legitimate commerce or discourage innovation having a lawful promise.

Id. at 937 (citation omitted).

In *Grokster III* itself, the Court found ample evidence, of several types, to support inducement liability. *See id.* at 937–40. First, *Grokster III* relied in part on advertisements as proof of an impermissible, infringing purpose, noting that "[t]he classic instance of inducement is by advertisement or

solicitation that broadcasts a message designed to stimulate others to commit violations." *Id.* at 937. Both *Grokster III* defendants had engaged in such affirmative solicitation, advertising their software as an alternative to Napster—which notoriously facilitated wide-scale copyright infringement—at a time when Napster's unlawful activities were about to be shuttered. *See id.* at 937–38.

Second, *Grokster III* relied for proof of Grokster's infringing purpose on communications that, while not *in haec verba* promoting infringing uses, provided information affirmatively supporting such uses. "[B]oth companies," moreover, "communicated a clear message by responding affirmatively to requests for help in locating and playing copyrighted materials." *Id.* at 938. Thus, *Grokster* included as evidence of an infringing purpose an electronic newsletter distributed by Grokster that linked to articles promoting Grokster's ability to access copyrighted music. *See id.* at 938.

A third category of "clear expression" recognized in *Grokster III* as pertinent to proof of improper purpose was explicit internal communication to that effect. As to one of the defendants, Streamcast, "internal communications," including proposed advertising designs, provided "unequivocal indications of unlawful purpose." *Id.* at 938. The Court explained that "[w]hether the messages were communicated [to potential customers] is not . . . the point . . . . The function of the message in the theory of inducement is to prove by a defendant's own statements that his unlawful purpose disqualifies him from claiming protection." *Id.* Thus, the Court went on, "[p]roving that a message was sent out . . . is the preeminent but not exclusive way of showing

that active steps were taken with the purpose of bringing about infringing acts." *Id.*

Grokster III also mentioned two sorts of "other affirmative steps" as permissible evidence that support an inference of an intent to induce infringement, while cautioning that such sorts of circumstantial evidence would not be independently sufficient. The first was that "neither company attempted to develop filtering tools or other mechanisms to diminish the infringing activity using their software," which the Court said "underscore[d]" the defendants' "intentional facilitation of their users' infringement." *Id.* at 939. The Court was careful to caution that "in the absence of other evidence of intent, a court would be unable to find contributory infringement liability merely based on a failure to take affirmative steps to prevent infringement." *Id.* at 939 n.12.

Similarly, *Grokster III* pointed to the fact that the defendants "make money by selling advertising space, by directing ads to the screens of computers employing their software." *Id.* at 940. Because "the extent of the software's use determines the gain to the distributors, the commercial sense of their enterprise turns on high-volume use, which the record shows is infringing." *Id.* Here again, however, "[t]his evidence alone would not justify an inference of unlawful intent." *Id.*

Using these *Grokster III* evidentiary categories and cautions as templates, we conclude that there is more than enough unrebutted evidence in the summary judgment record to prove that Fung offered his services with the object of promoting their use to infringe copyrighted material. No reasonable jury could find otherwise.

As for the necessary "clear expression or other affirmative steps" evidence indicative of unlawful intent, the most important is Fung's active encouragement of the uploading of torrent files concerning copyrighted content. For a time, for example, isoHunt prominently featured a list of "Box Office Movies," containing the 20 highest-grossing movies then playing in U.S. theaters. When a user clicked on a listed title, she would be invited to "upload [a] torrent" file for that movie. In other words, she would be asked to upload a file that, once downloaded by other users, would lead directly to their obtaining infringing content. Fung also posted numerous messages to the isoHunt forum requesting that users upload torrents for specific copyrighted films; in other posts, he provided links to torrent files for copyrighted movies, urging users to download them.[13] Though not the exclusive means of proving inducement, we have characterized a distributor's communication of an inducing message to its users as "crucial" to establishing inducement liability. *See Visa*, 494 F.3d at 801 (quoting *Grokster III*, 545 U.S. at 937). That crucial requirement was met here. Like Grokster's advertisements—indeed, even more so—Fung's posts were explicitly "designed to stimulate

[13] In addition to statements made by Fung personally, the district court relied on statements made by individuals who served as "moderators" of the isoHunt forum, finding that there was an agency relationship between those individuals and Fung. Fung maintains that he did not have the requisite control over the moderators for an agency relationship to exist. In light of the other evidence of unlawful intent, we need not and do not rely on statements made by anyone other than Fung. Nor do we rely on the generic organizational structure of Fung's websites—i.e., that they organized files in browsable categories or used an automated indexing program that matched filenames with specific terms. These features as used by Fung do not themselves send the type of inducing "message" that would be adequate to prove an unlawful intent. *See Grokster III*, 545 U.S. at 937.

others to commit [copyright] violations," and so are highly probative of an unlawful intent. *Grokster III*, 545 U.S. at 937.[14]

As in *Grokster*, moreover, Fung "communicated a clear message by responding affirmatively to requests for help in locating and playing copyrighted materials." *Id.* at 938. The record is replete with instances of Fung responding personally to queries for assistance in: uploading torrent files corresponding to obviously copyrighted material, finding particular copyrighted movies and television shows, getting pirated material to play properly, and burning the infringing content onto DVDs for playback on televisions.

Two types of supporting evidence, insufficient in themselves—like the similar evidence in *Grokster III*—corroborate the conclusion that Fung "acted with a purpose to cause copyright violations by use of" their services. *Id.* at 938. First, Fung took no steps "to develop filtering tools or other mechanisms to diminish the infringing activity" by those using his services.[15] *Id.* at 939. Second, Fung generates revenue almost exclusively by selling advertising space on his websites. The more users who visit

[14] *See infra* pp. 34–35.

[15] Fung did attempt to keep certain types of torrents off his websites. First, because Fung is personally opposed to pornography, he took steps to keep torrent files related to pornography out of his sites' collections. Second, Fung attempted to remove torrent files that led to downloads of fake or corrupted content files. These efforts were not directed at "diminish[ing] the infringing activity" taking place, *Grokster III*, 545 U.S. at 939, and so are not pertinent to the inducement inquiry (except to show that Fung had the means to filter content on his websites when he chose to do so).

Fung's websites and view the advertisements supplied by Fung's business partners, the greater the revenues to Fung. Because "the extent of the [services'] use determines the gain to [Fung], the commercial sense of [his] enterprise turns on high-volume use, which the record shows is infringing." *Id.* at 940. Given both the clear expression and other affirmative steps and the supporting evidence, Fung's "unlawful objective is unmistakable." *Id.*

iv. Causation

Grokster III mentions causation only indirectly, by speaking of "*resulting* acts of infringement by third parties." *Id.* at 937 (emphasis added).[16] The parties here advance competing interpretations of the causation requirement adopted through that locution: Fung and amicus curiae Google argue that the acts of infringement must be caused by the manifestations of the distributor's improper object—that is, by the inducing messages themselves. Columbia, on the other hand, maintains that it need only prove that the "acts of infringement by third parties" were caused by the product distributed or services provided.

We think Columbia's interpretation of *Grokster III* is the better one. On that view, if one provides a service that could be used to infringe copyrights, with the manifested intent that the service actually be used in that manner, that person is

[16] As a reminder, *Grokster III*'s articulation was that "one who distributes a device with the object of promoting its use to infringe copyright, as shown by clear expression or other affirmative steps taken to foster infringement, is liable for the resulting acts of infringement by third parties." *Id.* at 936–37.

liable for the infringement that occurs through the use of the service. *See id.* at 937. As *Grokster III* explained:

> It is not only that encouraging a particular consumer to infringe a copyright can give rise to secondary liability for the infringement that results. Inducement liability goes beyond that, and the distribution of a product can itself give rise to liability where evidence shows that the distributor intended and encouraged the product to be used to infringe. In such a case, the culpable act is not merely the encouragement of infringement but also the distribution of the tool intended for infringing use.

Id. at 940 n.13; *see also* 3-12 Melville B. Nimmer & David Nimmer, *Nimmer on Copyright* § 12.04[A][4][b] (Matthew Bender, rev. 2010).

We are mindful, however, of the potential severity of a loose causation theory for inducement liability. Under this theory of liability, the only causation requirement is that the product or service at issue was used to infringe the plaintiff's copyrights. The possible reach of liability is enormous, particularly in the digital age.

Copyright law attempts to strike a balance amongst three competing interests: those of the copyright holders in benefitting from their labor; those of entrepreneurs in having the latitude to invent new technologies without fear of being held liable if their innovations are used by others in unintended infringing ways; and those of the public in having access both to entertainment options protected by copyright

and to new technologies that enhance productivity and quality of life. *See generally Grokster III*, 545 U.S. at 937; *Sony*, 464 U.S. at 428–32. Because copyright law's "ultimate aim is . . . to stimulate artistic creativity for the general public good," *Sony*, 464 U.S. at 432 (quoting *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 (1975)), it is important that we not permit inducement liability's relatively lax causation requirement to "enlarge the scope of [copyright's] statutory monopolies to encompass control over an article of commerce"—such as technology capable of substantial non-infringing uses—"that is not the subject of copyright protection." *Sony*, 464 U.S. at 421.

We emphasize a few points in this regard. First, as previously discussed, proper proof of the defendant's intent that its product or service be used to infringe copyrights is paramount. "[M]ere knowledge of infringing potential or of actual infringing uses" does not subject a product distributor or service provider to liability. *Grokster III*, 545 U.S. at 937. When dealing with corporate or entity defendants, moreover, the relevant intent must be that of the entity itself, as defined by traditional agency law principles; liability cannot be premised on stray or unauthorized statements that cannot fairly be imputed to the entity.[17] *See id.* at 937 (discussing the evidence that "StreamCast and Grokster," each a corporate entity, "communicated an inducing message to their software users").

Moreover, proving that an entity had an unlawful purpose at a particular time in providing a product or service does not

[17] There is no question in this case that Fung was authorized to and did speak on behalf of the corporate defendant, isoHunt Web Technologies, Inc.

infinitely expand its liability in either temporal direction. If an entity begins providing a service with infringing potential at time *A*, but does not appreciate that potential until later and so does not develop and exhibit the requisite intent to support inducement liability until time *B*, it would not be held liable for the infringement that occurred between time *A* and *B*. Relatedly, an individual or entity's unlawful objective at time *B* is not a virus that infects all future actions. People, companies, and technologies must be allowed to rehabilitate, so to speak, through actions actively discouraging the infringing use of their product, lest the public be deprived of the useful good or service they are still capable of producing. *See Grokster III*, 545 U.S. at 937; *Sony*, 464 U.S. at 432.

We also note, as Fung points out, that *Grokster III* seemingly presupposes a condition that is absent in this case: that there is but a single producer of the "device" in question. Only Sony sold the Betamax, and only Grokster and Streamcast distributed their respective software applications. Assessing causation was thus a straightforward task. In *Sony*, for example, there was no question that some customers would purchase and use the Betamax in ways that infringed copyright. Thus, in a "but-for" sense, there was no question that Sony *caused* whatever infringement resulted from the use of Betamax sets; the Court nonetheless held Sony not liable on the ground that even if Sony caused the infringement, it was not at *fault*, with fault measured by Sony's intent. But as *Grokster III* explained, "nothing in *Sony* requires courts to ignore evidence of intent if there is such evidence, and the case was never meant to foreclose rules of fault-based liability." 545 U.S. at 934. *Grokster III* thus held that where there is sufficient evidence of fault—that is, an unlawful objective—distributors are liable for causing the infringement that resulted from use of their products. *See id.* at 940. In

other words, *Grokster III* and *Sony* were able to assume causation and assess liability (or not) based on fault. In the present case, however, where other individuals and entities provide services identical to those offered by Fung, causation, even in the relatively loose sense we have delineated, cannot be assumed, even though fault is unquestionably present.

Fung argues, on this basis, that some of the acts of infringement by third parties relied upon by the district court may not have involved his websites at all. He points out, for example, that by far the largest number of torrents tracked by the Torrentbox tracker are obtained from somewhere *other* than Torrentbox.com. If a user obtained a torrent from a source other than his websites, Fung maintains, he cannot be held liable for the infringement that resulted. *Cf. Perfect 10, Inc. v. Google, Inc.*, 653 F.3d 976, 982 (9th Cir. 2011) (affirming the district court's denial of a preliminary injunction based on Google's alleged direct copyright infringement because the plaintiff, Perfect 10, failed to show "a sufficient causal connection between irreparable harm to [its] business and Google's operation of its search engine"); *Visa*, 494 F.3d at 796–802 (affirming the district court's dismissal under Federal Rule of Civil Procedure 12(b)(6) in part because the "causal chain" between defendant credit card companies' services and infringing activity by Internet users was too attenuated).

On the other hand, Fung's services encompass more than the provision of torrent files. Fung's trackers manage traffic for torrent files, obtained from Torrentbox and Podtropolis as well as other torrent sites, which enables users to download copyrighted content. If Plaintiffs can show a sufficient casual connection between users' infringing activity and the use of Fung's trackers, the fact that torrent files were obtained from

elsewhere may not relieve Fung of liability. *See Grokster III*, 545 U.S. at 940.

We do not decide the degree to which Fung can be held liable for having caused infringements by users of his sites or trackers. The only issue presently before us is the permanent injunction, which, as in *Grokster III*, does not in this case depend on the "exact calculation of infringing use[] as a basis for a claim of damages." 545 U.S. at 941. We therefore need not further entertain Fung's causation arguments at this time, but leave it to the district court to consider them, in light of the observations we have made, when it calculates damages.

In sum, we affirm the district court's holding that Columbia has carried its burden of proving, on the basis of undisputed facts, Fung's liability for inducing others to infringe Columbia's copyrights.

B. DMCA Safe Harbors

Fung asserts affirmative defenses under three of the DMCA's safe harbor provisions, 17 U.S.C. § 512(a), (c), and (d). Because the DMCA safe harbors are affirmative defenses, Fung has the burden of establishing that he meets the statutory requirements. *See Balvage v. Ryderwood Improvement and Serv. Ass'n, Inc.*, 642 F.3d 765, 776 (9th Cir. 2011).

Columbia argues, and the district court agreed, that inducement liability is inherently incompatible with protection under the DMCA safe harbors. This court has already rejected the notion that there can *never* be a DMCA safe harbor defense to contributory copyright liability, holding "that . . . potential liability for contributory and

vicarious infringement [does not] render[] the [DMCA] inapplicable per se." *See A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1025 (9th Cir. 2001). We note, in this connection, that the DMCA does not in terms exempt from protection any mode of copyright liability, including liability under the doctrine of inducement. Moreover, the DMCA's legislative history confirms that Congress intended to provide protection for at least some vicarious and contributory infringement. *See* S. Rep. No. 105-190, 40 (1998); *UMG Recordings, Inc. v. Shelter Capital Partners, LLC*, — F.3d — (9th Cir. 2013) (noting that § 512(c) does not exclude from its protection vicarious or contributory liability).

Nor is there any inherent incompatibility between inducement liability and the requirements that apply to all of the DMCA safe harbors. For example, a prerequisite for the safe harbors is that the service provider implement a policy of removing repeat infringers. *See* 17 U.S.C. § 512(i)(1)(A). Although at first glance that requirement that might seem impossible to establish where the requisites for inducing infringement are met, *see In re Aimster Copyright Litig.*, 334 F.3d 643, 655 (7th Cir. 2003), on closer examination the appearance of *inherent* incompatibility dissipates. In some instances, for example, the *Grokster* standard for inducement might be met even where a service provider has a policy of removing proven repeat infringers. It is therefore *conceivable* that a service provider liable for inducement could be entitled to protection under the safe harbors.

In light of these considerations, we are not clairvoyant enough to be sure that there are no instances in which a defendant otherwise liable for contributory copyright infringement could meet the prerequisites for one or more of the DMCA safe harbors. We therefore think it best to

conduct the two inquiries independently— although, as will appear, aspects of the inducing behavior that give rise to liability are relevant to the operation of some of the DMCA safe harbors and can, in some circumstances, preclude their application.

i. "Transitory digital network communications" (17 U.S.C. § 512(a))

The first safe harbor at issue, which Fung asserts only as to his trackers, provides as follows:

> A service provider shall not be liable for monetary relief, or, except as provided in subsection (j), for injunctive or other equitable relief, for infringement of copyright by reason of the provider's transmitting, routing, or providing connections for, material through a system or network controlled or operated by or for the service provider, or by reason of the intermediate and transient storage of that material in the course of such transmitting, routing, or providing connections, if—
>
> (1) the transmission of the material was initiated by or at the direction of a person other than the service provider;
>
> (2) the transmission, routing, provision of connections, or storage is carried out through an automatic technical process without selection of the material by the service provider;

> (3) the service provider does not select the recipients of the material except as an automatic response to the request of another person;
>
> (4) no copy of the material made by the service provider in the course of such intermediate or transient storage is maintained on the system or network in a manner ordinarily accessible to anyone other than anticipated recipients, and no such copy is maintained on the system or network in a manner ordinarily accessible to such anticipated recipients for a longer period than is reasonably necessary for the transmission, routing, or provision of connections; and
>
> (5) the material is transmitted through the system or network without modification of its content.

17 U.S.C. § 512(a). For purposes of this safe harbor only, "the term 'service provider' means an entity offering the transmission, routing, or providing of connections for digital online communications, between or among points specified by a user, of material of the user's choosing, without modification to the content of the material as sent or received." 17 U.S.C. § 512(k)(1)(A). The district court dismissed the application of this safe harbor in a footnote, stating that it did not apply to Fung "[b]ecause infringing materials do not pass through or reside on [Fung's] system."

The district court should not have rejected this safe harbor on the ground it did. *Perfect 10, Inc. v. CCBill LLC*, 488 F.3d

1102 (9th Cir. 2007), held that the § 512(a) safe harbor does not require that the service provider transmit or route infringing material, explaining that "[t]here is no requirement in the statute that the communications must themselves be infringing, and we see no reason to import such a requirement." *Id.* at 1116; *see also id.* ("Service providers are immune for transmitting all digital online communications, not just those that directly infringe.").

We could, perhaps, end our analysis of the § 512(a) safe harbor there. The district court seemingly held Fung liable for inducement based not on Fung's trackers' routing services, but, instead, on the dot-torrent files Fung collects and indexes. And it is not clear that Columbia is seeking to establish liability based directly on the tracking functions of Fung's trackers.

It appears, however, that Fung's trackers generate information concerning the torrent files transmitted that Fung then compiles and uses to induce further infringing use of his websites and trackers. In that sense, the tracking function is connected to the basis on which liability was sought and found. Without determining whether that information-generating use would itself affect the availability of the § 512(a) safe harbor, we hold that safe harbor not available for Fung's trackers on other grounds.

Unlike a P2P network like Napster, in which users select particular files to download from particular users, Fung's trackers manage a "swarm" of connections that source tiny pieces of each file from numerous users; the user seeking to download a file chooses only the file, not the particular users who will provide it, and the tracker identifies the source computers to the user seeking to download a work.

Given these characteristics, Fung's trackers do not fit the definition of "service provider" that applies to this safe harbor. The definition provides that a "service provider" provides "connections . . . between or among points *specified by a user*." 17 U.S.C. § 512(k)(1)(A) (emphasis added). Here, it is Fung's tracker that selects the "*points*" to which a user's client will connect in order to download a file. The tracker, not the requesting user, selects the publishers from which chunks of data will be transmitted.

We have held that § 512(a) applies to service provides who act only as "conduits" for the transmission of information. *UMG Recordings*, — F.3d at — & n.10 (noting that § 512(a) applies "where the service provider merely acts as a conduit for infringing material without storing, caching, or providing links to copyrighted material" (internal quotation marks omitted)); *Ellison v. Robertson*, 357 F.3d 1072, 1081 (9th Cir. 2004) (discussing the definition of a "service provider" for purposes of § 512(a)); H.R. Rep. 105-551(II), 63 (1998) (explaining that the § 512(a) safe harbor is limited to service providers performing "conduit-only functions"). Because they select which users will communicate with each other, Fung's trackers serve as more than "conduits" between computer users. Fung's trackers therefore are not "service providers" for purposes of § 512(a), and are not eligible for the § 512(a) safe harbor.

Fung asserts that these functions are "automatic technical processes" that proceed "without selection of any material by us." Even so, for the tracker to be a "service provider" for purposes of the § 512(a) safe harbor, the tracker, whether its functions are automatic or not, must meet the special definition of "service provider" applicable to this "conduit" safe harbor. If those functions go beyond those covered by

that definition, then it does not matter whether they are automatic or humanly controlled. *See UMG*, — F.3d at —; *Viacom Int'l, Inc. v. YouTube, Inc.*, 676 F.3d 19, 39 (2d Cir. 2012) (discussing "'conduit only' functions under § 512(a)"); *In re Charter Commc'ns, Inc., Subpoena Enforcement Matter*, 393 F.3d 771, 775 (8th Cir. 2005) (noting that § 512(a) "limits the liability of [service providers] when they do nothing more than transmit, route, or provide connections for copyrighted material—that is, when the [provider] is a mere conduit for the transmission").

ii. "Information residing on systems or networks at direction of users" (17 U.S.C. § 512(c))

This safe harbor provides:

> (1) In general. A service provider[18] shall not be liable for monetary relief, or, except as provided in subsection (j), for injunctive or other equitable relief, for infringement of copyright by reason of the storage at the direction of a user of material that resides on a system or network controlled or operated by or for the service provider, if the service provider—

[18] 17 U.S.C. § 512(k) defines "service provider" more broadly for purposes of subsection (c) than it does for subsection (a). "As used in [] section[s] other than subsection (a), the term 'service provider' means a provider of online services or network access, or the operator of facilities therefor, and includes an entity described in subparagraph (A)." *Id.* § 512(k)(1)(B).

> (A) (i) does not have actual knowledge that the material or an activity using the material on the system or network is infringing;
>
> (ii) in the absence of such actual knowledge, is not aware of facts or circumstances from which infringing activity is apparent; or
>
> (iii) upon obtaining such knowledge or awareness, acts expeditiously to remove, or disable access to, the material;
>
> (B) does not receive a financial benefit directly attributable to the infringing activity, in a case in which the service provider has the right and ability to control such activity; and
>
> (C) upon notification of claimed infringement as described in paragraph (3), responds expeditiously to remove, or disable access to, the material that is claimed to be infringing or to be the subject of infringing activity.

17 U.S.C. § 512(c).

The district court held that Fung is ineligible for this safe harbor for the same reason it rejected the § 512(a) safe harbor—that is, because the infringing material does not actually reside on Fung's servers. As with § 512(a), this holding was in error. As *CCBill* emphasized, we will not read requirements into the safe harbors that are not contained in the text of the statute. *See CCBill*, 488 F.3d at 1116.

Moreover, § 512(c) explicitly covers not just the storage of infringing material, but also infringing "activit[ies]" that "us[e] the material [stored] on the system or network." 17 U.S.C. § 512(c)(1)(A)(i). Here, as we have explained, the infringing activity associated with Fung—the peer-to-peer transfer of pirated content—relies upon torrents stored on Fung's websites. According to the record, sometimes those torrents are uploaded by users of the sites, while other torrents are collected for storage by Fung's websites themselves. The former situation would be at least facially eligible for the safe harbor, assuming the other criteria are met.

a. Actual and "Red Flag" Knowledge (512(c)(1)(A)(i)–(ii))

We nonetheless hold that Fung is not eligible for the § 512(c) safe harbor, on different grounds. The § 512(c) safe harbor is available only if the service provider "does not have actual knowledge that the material or an activity using the material on the system or network is infringing," 17 U.S.C. § 512(c)(1)(A)(i), or "is not aware of facts or circumstances from which infringing activity is apparent," *id.* § 512(c)(1)(A)(ii). In *UMG Recordings*, — F.3d at —, this court endorsed the Second Circuit's interpretation of § 512(c)(1)(A), that "the actual knowledge provision turns on whether the provider actually or 'subjectively' knew of specific infringement, while the red flag provision turns on whether the provider was subjectively aware of facts that would have made the specific infringement 'objectively' obvious to a reasonable person." *Viacom Int'l, Inc.*, 676 F.3d at 31.

Fung maintains that he lacked either type of knowledge, because Columbia failed to provide statutorily compliant notification of infringement. Under § 512(c)(3)(B), notification of infringement that fails to comply with the requirements set forth in § 512(c)(3)(A) "shall not be considered . . . in determining whether a service provider has actual knowledge or is aware of facts or circumstances from which infringing activity is apparent." 17 U.S.C. § 512(c)(3)(B)(i). And, as Fung points out, the district court noted that there was at least a "triable issue of fact as to the adequacy of the statutory notice that Plaintiffs provided to [Fung]."

We need not determine the adequacy of Columbia's notification of claimed infringement—indeed, as the district court held, it would not be appropriate to do so at this stage. Fung had "red flag" knowledge of a broad range of infringing activity for reasons independent of any notifications from Columbia, and therefore is ineligible for the § 512(c) safe harbor.

As noted, the record is replete with instances of Fung actively encouraging infringement, by urging his users to both upload and download particular copyrighted works, providing assistance to those seeking to watch copyrighted films, and helping his users burn copyrighted material onto DVDs. The material in question was sufficiently current and well-known that it would have been objectively obvious to a reasonable person that the material solicited and assisted was both copyrighted and not licensed to random members of the public, and that the induced use was therefore infringing. Moreover, Fung does not dispute that he personally used the isoHunt website to download infringing material. Thus, while Fung's inducing actions do not necessarily render him

per se ineligible for protection under § 512(c),[19] they are relevant to our determination that Fung had "red flag" knowledge of infringement.

Fung introduced no contrary facts with regard to identified torrents involved in these documented activities, responding only with the generalized assertion that he "ha[s] a robust copyright compliance system." But "conclusory allegations, standing alone, are insufficient to prevent summary judgment." *Newman v. County of Orange*, 457 F.3d 991, 995 (9th Cir. 2006) (internal quotation marks and citation omitted).[20]

As Fung has not carried his burden as the non-moving party of demonstrating a genuine dispute as to the material facts regarding his eligibility for the § 512(c) safe harbor, *see Newman*, 457 F.3d at 995; *see also* Fed. R. Civ. P. 56(c)(1)(A), Columbia is entitled to summary judgment as to this issue. Fed. R. Civ. P. 56(e)(3).

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[19] *See supra* pp. 37–39.

[20] We note that it is not clear from the language of § 512(c) or from the pertinent case law, whether exclusion from the § 512(c) safe harbor because of actual or "red flag" knowledge of specific infringing activity applies only with regard to liability for that infringing activity, or more broadly. *See Viacom Int'l, Inc.*, 676 F.3d at 31 (noting "[t]he limited body of case law interpreting the knowledge provisions of the § 512(c) safe harbor"). However, as we shall explain, that issue does not arise with regard to the § 512(c)(1)(B), "financial benefit/right to control" safe harbor. As we conclude that the § 512(c) safe harbor is not available to Fung on that ground as well, we need not question whether actual or red flag knowledge of specific infringing material or activity eliminates the § 512(c) safe harbor broadly, or only with respect to the known or objectively apparent infringing activity.

b. "Financial benefit" & "the right and ability to control" (§ 512(c)(1)(B))

Under § 512(c)(1)(B), a service provider loses protection under the safe harbor if two conditions are met: (1) the provider "receive[s] a financial benefit directly attributable to the infringing activity"; and (2) the "service provider has the right and ability to control such activity." 17 U.S.C. § 512(c)(1)(B). Fung meets both requirements and is therefore ineligible for protection under the § 512(c) safe harbor.

As to the first prong of § 512(c)(1)(B), we have held, in the context of service providers who charge for their services, that a service provider receives a direct financial benefit from infringing activity where "there is a causal relationship between the infringing activity and any financial benefit a defendant reaps, regardless of *how substantial* the benefit is in proportion to a defendant's overall profits." *Ellison*, 357 F.3d at 1079; *see also Napster*, 239 F.3d at 1023; *CCBill*, 488 F.3d at 1117–18 (holding that the *Ellison* "direct financial benefit" vicarious liability standard applies under 17 U.S.C. § 512(c)(1)(B)). Thus, where a service provider obtains revenue from "subscribers," the relevant inquiry is "'whether the infringing activity constitutes a draw for subscribers, not just an added benefit.'" *CCBill*, 488 F.3d at 1117 (quoting *Ellison*, 357 F.3d at 1079).[21]

[21] Our decisions interpreting the "financial benefit" prong of § 512(c)(1)(B) derive almost entirely from our earlier decisions discussing "direct financial benefits" in the context of vicarious liability for copyright infringement. Those cases also involved defendants who derived their revenue from consumers. In particular, our decision in *Fonovisa, Inc. v. Cherry Auction, Inc.*, 76 F.3d 259, 263–64 (9th Cir. 1996), has been the starting point for our subsequent § 512(c)(1)(B) decisions. In *Fonovisa*,

At the same time, our opinions have not suggested that the "financial benefit" prong of § 512(c)(1)(B) is peripheral or lacks teeth. *Ellison* ultimately concluded that the financial benefit standard was not met, because there was inadequate proof that "customers either subscribed because of the available infringing material or cancelled subscriptions because it was no longer available." *Ellison*, 357 F.3d at 1079. And *CCBill* similarly found that evidence that the service provider hosted, for a fee, websites that contain infringing material inadequate to establish the requisite financial benefit. In so holding, *CCBill* cited to DMCA legislative history stating that a direct financial benefit cannot be established showing that a service provider "receive[d] a one-time set-up fee and flat, periodic payments for service from a person engaging in infringing activities." 488 F.3d at 1118 (quoting H.R. Rep. 105-551(II), 54 (1998)).

Moreover, the structure of § 512(c)(1)(B) indicates that the lack of direct financial benefit prong of the safe harbor requirement is central, rather than peripheral. The statute sets out as the requirement that the service provider "not receive a financial benefit directly attributable to the infringing activity." It then states the "right and ability to control" in a dependent clause, describing a limitation on the financial benefit requirement to certain circumstances. The

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we held that swap meet operators "reap[ed] substantial financial benefits from admission fees, concession stand sales and parking fees, all of which flow[ed] directly from customers who want[ed] to buy the counterfeit recordings" available at the swap meets. 76 F.3d at 263. In doing so, we relied on district court decisions "imposing vicarious liability on the operator[s] of [dance hall] business[es] where infringing performances enhance[d] the attractiveness of the venue[s] to potential customers." *Id.* (citing *Polygram Int'l Publ'g, Inc. v. Nevada/TIG, Inc.*, 855 F. Supp. 1314, 1332 (D. Mass. 1994)).

grammatical emphasis, then, is on the lack of direct financial benefit requirement, with the right to control prong secondary.

Against this background, we note that we have never specified what constitutes a "financial benefit *directly* attributable to the infringing activity," 17 U.S.C. § 512(c)(1)(B) (emphasis added), where, as here, the service provider's revenue is derived from advertising, and not from users. We do so now.

Here, the record shows that Fung generated revenue by selling advertising space on his websites. The advertising revenue depended on the number of users who viewed and then clicked on the advertisements. Fung marketed advertising to one advertiser by pointing to the "TV and movies . . . at the top of the most frequently searched by our viewers," and provided another with a list of typical user search queries, including popular movies and television shows. In addition, there was a vast amount of infringing material on his websites—whether 90-96% or somewhat less—supporting an inference that Fung's revenue stream is predicated on the broad availability of infringing materials for his users, thereby attracting advertisers. And, as we have seen, Fung actively induced infringing activity on his sites.

Under these circumstances, we hold the connection between the infringing activity and Fung's income stream derived from advertising is sufficiently direct to meet the direct "financial benefit" prong of § 512(c)(1)(B). Fung promoted advertising by pointing to infringing activity; obtained advertising revenue that depended on the number of visitors to his sites; attracted primarily visitors who were seeking to engage in infringing activity, as that is mostly what

occurred on his sites; and encouraged that infringing activity. Given this confluence of circumstances, Fung's revenue stream was tied directly to the infringing activity involving his websites, both as to his ability to attract advertisers and as to the amount of revenue he received.

With respect to the second prong of § 512(c)(1)(B), we recently explained in *UMG* that the "right and ability to control" infringing activity involves "something more" than "merely having the general ability to locate infringing material and terminate users' access." *UMG*, — F.3d —. Adopting the Second Circuit's interpretation of § 512(c)(1)(B), we held that "in order to have the 'right and ability to control,' the service provider must [also] 'exert[] substantial influence on the activities of users.'" *Id.* (quoting *Viacom Int'l, Inc.*, 676 F.3d at 38) (second alteration in original). In doing so, we noted that "'[s]ubstantial influence' may include . . . purposeful conduct, as in *Grokster*." *Id.* In the absence of any evidence of inducement or any other reason to suggest the defendant exerted substantial influence over its users' activities, we concluded the defendant was not ineligible for protection under this provision. *Id.*

Here, we are confronted with the opposite situation. Fung unquestionably had the ability to locate infringing material and terminate users' access. In addition to being able to locate material identified in valid DMCA notices, Fung organized torrent files on his sites using a program that matches file names and content with specific search terms describing material likely to be infringing, such as "screener" or "PPV." And when users could not find certain material likely to be infringing on his sites, Fung personally assisted them in locating the files. Fung also personally removed "fake[], infected, or otherwise bad or abusive torrents" in

order to "protect[] the integrity of [his websites'] search index[es]."

Crucially, Fung's ability to control infringing activity on his websites went well beyond merely locating and terminating users' access to infringing material. As noted, there is overwhelming evidence that Fung engaged in culpable, inducing activity like that in *Grokster III*. Although Fung's inducement actions do not *categorically* remove him from protection under § 512(c), they demonstrate the substantial influence Fung exerted over his users' infringing activities, and thereby supply one essential component of the financial benefit/right to control exception to the § 512(c) safe harbor.

Because he meets both prongs of § 512(c)(1)(B), Fung is not eligible for protection under the § 512(c) safe harbor.

We have no difficulty concluding that where the § 512(c)(1)(B) safe harbor requirements are not met, the service provider loses protection with regard to any infringing activity using the service. *See supra* note 20. As we held in *UMG*, the § 512(c)(1)(B) "right and ability to control" requirement does not depend only upon the ability to remove known or apparent infringing material. — F.3d at —. Instead, there must also be substantial influence on the infringing activities of users, indicating that it is the overall relationship between the service provider and infringing users that matters. Also, to the degree this DMCA provision had its origin in vicarious liability concepts, *see CCBill* 488 F.3d at 1117, those concepts rest on the overall relationship between the defendant and the infringers, rather than on specific instances of infringement. *See Napster*, 239 F.3d 1023–24 (discussing Napster's general ability to "control[] and

patrol[]" content on its system); *id.* at 1022 (noting that "[v]icarious copyright liability is an 'outgrowth' of respondeat superior" (quoting *Fonovisa*, 76 F.3d at 262)). The term "right and ability to control such activity" so reflects, as it emphasizes a general, structural relationship and speaks of "such activity," not any particular activity.

We therefore hold that because Fung does not meet the requirements of § 512(c)(1)(B), he is outside of the § 512(c) safe harbor with respect to all infringement activity on the sites that are the subject of this suit.

iii. "Information location tools" (17 U.S.C. § 512(d))

The last safe harbor Fung invokes provides:

> A service provider shall not be liable for monetary relief, or, except as provided in subsection (j), for injunctive or other equitable relief, for infringement of copyright by reason of the provider referring or linking users to an online location containing infringing material or infringing activity, by using information location tools, including a directory, index, reference, pointer, or hypertext link, if the service provider—
>
> > (1) (A) does not have actual knowledge that the material or activity is infringing;
> >
> > (B) in the absence of such actual knowledge, is not aware of

> facts or circumstances from which infringing activity is apparent; or
>
> (C) upon obtaining such knowledge or awareness, acts expeditiously to remove, or disable access to, the material;
>
> (2) does not receive a financial benefit directly attributable to the infringing activity, in a case in which the service provider has the right and ability to control such activity; and
>
> (3) upon notification of claimed infringement as described in subsection (c)(3), responds expeditiously to remove, or disable access to, the material that is claimed to be infringing or to be the subject of infringing activity, except that, for purposes of this paragraph, the information described in subsection (c)(3)(A)(iii) shall be identification of the reference or link, to material or activity claimed to be infringing, that is to be removed or access to which is to be disabled, and information reasonably sufficient to permit the service provider to locate that reference or link.

17 U.S.C. § 512(d).

We affirm the grant of summary judgment to Columbia on Fung's claim to the § 512(d) safe harbor for the reasons just discussed with regard to § 512(c): Fung was broadly "aware of facts or circumstances from which infringing activity [wa]s apparent." 17 U.S.C. § 512(d)(1)(B). Moreover, he received a direct financial benefit from that infringing activity, and had the "right and ability to control such activity." *Id.* § 512(d)(2).

II. Injunction

Under 17 U.S.C. § 502(a), a district court is empowered to grant a permanent injunction "as it may deem reasonable to prevent or restrain infringement of a copyright." Fung does not challenge the issuance of injunctive relief generally, only the scope of the injunction issued.

In particular, Fung argues that the permanent injunction is vague and unduly burdensome.[22] We consider each argument in turn.

A. Vagueness

Rule 65(d) requires "[e]very order granting an injunction" to "state its terms specifically" and to "describe in reasonable detail—and not by referring to the complaint or other document—the act or acts restrained or required." Fed. R.

[22] Fung also maintains that the injunction is impermissibly extraterritorial, but that argument is wrong as a matter of fact. The injunction explicitly applies only to acts of infringement "that take place in the United States." Fung also challenges the injunction in other respects not discussed in the text. We have considered them and find them without merit.

Civ. P. 65(d)(1)(B)–(C). "'[O]ne basic principle built into Rule 65 is that those against whom an injunction is issued should receive fair and precisely drawn notice of what the injunction actually prohibits.'" *Fortyune v. Am. Multi-Cinema, Inc.*, 364 F.3d 1075, 1086–87 (9th Cir. 2004) (quoting *Union Pac. R.R. v. Mower*, 219 F.3d 1069, 1077 (9th Cir. 2000)). "The Rule was designed to prevent uncertainty and confusion on the part of those faced with injunctive orders, and to avoid the possible founding of a contempt citation on a decree too vague to be understood." *Id.* (quoting *Schmidt v. Lessard*, 414 U.S. 473, 476 (1974)). Generally speaking, "an ordinary person reading the court's order should be able to ascertain from the document itself exactly what conduct is proscribed." 11A Charles A. Wright et al., *Federal Practice & Procedure* § 2955 (2d ed.). Several provisions of the permanent injunction fail to meet this standard.

First, the injunction's definition of a key phrase, "Infringement-Related Terms," is too vague to provide the notice required by Rule 65(d). The injunction prohibits Fung from "including Infringement-Related Terms in metadata for any webpages"; "creating, maintaining or providing access to browsable website categories of Dot-torrent or similar files using or based on Infringement-Related Terms"; and "organizing, harvesting or categorizing Dot-torrent or similar files using or based on Infringement-Related Terms." But subsection (ii) of the definition of the phrase "Infringement-Related Terms" states that it includes "terms that are widely known to be associated with copyright infringement (for example 'warez,' 'Axxo,' 'Jaybob,' 'DVD Rips,' 'Cam,' 'Telesync,' 'Telecine,' 'Screener,' or 'PPV.')." Beyond the specifically-named examples, no one reading this injunction

can tell what it means for a term to be "widely known to be associated with copyright infringement."

We understand the desire to build flexibility into the injunction. But Rule 65(d), overall, prefers certainty to flexibility. *See Fortyune*, 364 F.3d at 1086–87. Subsection (ii) of the injunction's definition of "Infringement-Related Terms" therefore must be modified to state simply that the phrase includes specifically named terms. Given that the district court has jurisdiction to enforce the injunction, Columbia can request modification in the future to add, upon competent proof, specific other terms as well.

Other provisions suffer from similar problems. Paragraph 3(j) prohibits "soliciting or targeting a user base generally understood, in substantial part, to be engaging in infringement of, or seeking to infringe, Plaintiffs' Copyrighted Works." This language targets a *Grokster*-like situation, in which Grokster sought to attract former Napster users. But the language used is simply too imprecise, as the resort to the term "generally understood" indicates. How is one to determine what is "generally understood"—whose knowledge matters, and how widespread must the understanding be? And what is a "user base," an undefined term? It is also unclear whether the "in substantial part" refers to the "user base," the "generally understood" phrase, or the "engaging in infringement" phrase. Unless it can be rewritten to comply with the requirements of Rule 65(d) for fair notice through adequate specificity and detail, Paragraph 3(j) must be excised. *See* Rule 65(d); *Fortyune*, 364 F.3d at 1086–87.

Similarly, paragraph 3(l) prohibits "indexing or providing access to Dot-torrent or similar files harvested or collected from well-known infringing source sites, such as 'The Pirate

Bay.'" Here again, Rule 65(d) requires more specificity. Paragraph 3(l) must be amended to omit the vague words "well-known infringing source sites, such as," and to specify the particular infringing sites covered—with the caveat, again, that Plaintiffs can seek to amend the list in the future.

Another provision of the injunction states that after receiving a list of titles from the Plaintiffs, Fung is required to have a mechanism in place to ensure that he is not facilitating the infringement of those titles. Fung complains that Plaintiffs' lists of titles are error-filled and that Fung "[is] compelled to locate and correct [the errors] under threat of contempt proceedings." Although the injunction is reasonably clear in this regard, we clarify that Fung has no burden to correct Plaintiffs' errors.

B. Unduly burdensome

Fung maintains, and we agree, that certain provisions of the injunction could be interpreted to prevent Fung from ever working for any technology company whose services others might use to infringe copyright, even if those other companies are not themselves liable for primary or secondary copyright infringement. Fung argues that such a restriction would be unduly burdensome.

"'[I]njunctive relief should be no more burdensome to the defendant than necessary to provide complete relief to the plaintiffs' before the court." *L.A. Haven Hospice, Inc. v. Sebelius*, 638 F.3d 644, 664 (9th Cir. 2011) (quoting *Califano v. Yamasaki*, 442 U.S. 682, 702 (1979)). We agree that insofar as the injunction can be interpreted to prohibit Fung from seeking legitimate employment, it is more burdensome than necessary to provide Plaintiffs relief. Accordingly, the

permanent injunction should be amended appropriately to limit the employment prohibition. We leave the final wording to the district court.

CONCLUSION

In sum, we affirm the district court's grant of summary judgment to Plaintiffs on liability. We also affirm summary judgment to Plaintiffs on Fung's claims that he is entitled to the safe harbors provided by 17 U.S.C. § 512(a), (c), and (d), albeit on grounds different than those relied upon by the district court. The permanent injunction is modified as noted above. Costs are awarded to the Plaintiffs.

AFFIRMED IN PART, VACATED IN PART, INJUNCTION MODIFIED IN PART.