**Mass Joinder of Anonymous Defendants in BitTorrent Litigation**

Santa Clara University, School of Law

Tyler Seymour

May 10, 2016

**Table of Contents**

1. Introduction ...................................................................................................................3
2. Background ...................................................................................................................5
3. Copyright Law ..................................................................................................5
4. The Business Model of Copyright Trolling ......................................................7
5. BitTorrent Technology ......................................................................................9
   * + 1. The Mechanics of BitTorrent File Sharing ...........................................9
       2. Locating Peers: Trackers and Distributed Hash Tables ......................10
       3. Connecting to Peers and Downloading Content..................................12
       4. The Future of BitTorrent File Sharing.................................................13
6. Early Discovery in the Context of BitTorrent .................................................16
7. Joinder .........................................................................................................................19
8. Permissive Joinder of Doe Defendants ...........................................................19
9. Temporal Proximity Standard ............................................................ 22
10. Logically Related Standard..................................................................23
11. Applying the Standards to PopcornTime ........................................................25
12. Severance ....................................................................................................................27
13. Judicial Economy ............................................................................................27
14. Prejudice to the Parties ...................................................................................30
15. Balancing the Prejudice to the Parties ............................................................29
16. Conclusion ..................................................................................................................3
17. **INTRODUCTION**

The term “copyright troll” is used pejoratively to describe a variety of litigious plaintiffs who assert copyrights as a business model.[[1]](#footnote-1) One subset of these plaintiffs, BitTorrent trolls, allege copyright infringement against hundreds or thousands of anonymous “John Doe” defendants – identifiable only by their Internet Protocol (“IP”) addresses – for sharing copyrighted content on the BitTorrent network. BitTorrent is a file-sharing protocol which allows users to transfer files, including movies, music, software and literature directly from one user to another, without relying on an intermediary service, such as Dropbox or Gmail, to facilitate the transfer. Armed with the IP addresses of defendants, the plaintiff joins a large number of anonymous defendants in a single suit and seeks leave of court to discover the true identity of the defendants by subpoenaing the internet service provider’s records. Then, after learning the identity of the defendants, the plaintiff issues settlement demands to them before amending the complaint to name them in a lawsuit.

In a typical-file sharing case, a copyright owner brings infringement claims against a group of defendants for distributing copyrighted materials over a peer-to-peer (“P2P”) network, such as BitTorrent. These networks are the source of wide spread sharing of copyrighted music, movies, software and textbooks, and so it not surprising that 1,791 file-sharing cases were pending at some point in 2015, alone.[[2]](#footnote-2) One characteristic that distinguishes file-sharing cases from traditional copyright infringement cases is the numerosity of the defendants.[[3]](#footnote-3) Many district courts, such as the Northern District of Illinois and the Eastern District of Michigan, permit joinder of thirty or more defendants in a single action.[[4]](#footnote-4) For this reason, the actual number of individual defendants involved in this type of litigation, in 2015 alone, is some multiple of 1,791. The numerosity of the defendants allows plaintiffs to monetize copyrighted works through litigation by settling with each defendant individually, for far less than his or her potential liability. Aggregating these settlements, plaintiffs are able to realize significant profits which makes mass joinder of BitTorrent defendants a viable business model.

In deciding whether to permit joinder of defendants, courts look to the doctrine of permissive joinder under the Federal Rules of Civil Procedure.[[5]](#footnote-5) Courts permitting joinder, on the one hand, reason that the actions of the defendants merely need to be “logically related” to each other, which is readily satisfied.[[6]](#footnote-6) Other courts, such as the Northern District of California, choose to sever all but one defendant, requiring that the plaintiff re-file the complaint against each defendant, individually, instead of permitting a plaintiff to proceed against them *en masse*.[[7]](#footnote-7) These courts reason that the defendants’ actions are not part of the “same transaction or occurrence” for purposes of joinder, even though they were sharing the same file, because the defendant did not share the file on the BitTorrent network “at the same time” as another defendant, or close enough so that sharing was “temporally proximate.”[[8]](#footnote-8)

The temporal proximity standard fails, however, to account for the rapid changes taking place in BitTorrent technology. New BitTorrent technologies, such as PopcornTime[[9]](#footnote-9) and PopcornExpress,[[10]](#footnote-10) will render joinder under the temporal proximity standard virtually impossible to satisfy. Because the logically related standard can adapt to a quickly-changing technology without foreclosing the possibility of joinder, it should supplant the temporal proximity standard in jurisdictions where the latter standard is being used.

Part II of this article provides background information regarding the relevant copyright law, the business model and litigation dynamics of trolling, BitTorrent technology, and early discovery in the context of file-sharing litigation. Part III, discussing joinder, has two subsections. Subsection 1 discusses the different standards for permitting joinder in BitTorrent cases, namely, the temporal proximity and logically related standards. Subsection 2 of Part III applies these two standards to PopcornTime, concluding that the logically related standard is superior to the temporal proximity standard. In Part IV, regarding severance, has three subsections. Subsection 1 analyzes the effect of joinder on judicial economy; subsection 2 analyzes the perceived prejudice to both the plaintiff and defendant; and subsection 3 balances the relative prejudice to each party, in light of considerations of judicial economy, to conclude that joinder of parties, at least during the early-discovery phase of litigation, is appropriate. Part V concludes that joinder is justified in light of the technological trend toward decentralization and the increasing number of limitations on the number of defendants that can be named in a single lawsuit.

1. **BACKGROUND**
   1. **Copyright Law**

“Copyright protection subsists… in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.”[[11]](#footnote-11) The Copyright Act provides a non-exhaustive list of categories of works that qualify as works of authorship, including (1) literary works, (2) musical works, (3) dramatic works, (4) pantomimes and choreographic works, (5) pictorial, graphic, and sculptural works, (6) motion pictures and other audiovisual works, (7) sound recordings, and (8) architectural works.[[12]](#footnote-12) In P2P file-sharing cases, the majority of litigation concerns sound recordings and motion pictures,[[13]](#footnote-13) but the same potential for infringement over a P2P network exists for any work of authorship that can be transferred online, such as e-books or software.

If an author has a valid copyright in a work of authorship, he or she has the exclusive right to do or authorize any of the following: (1) to reproduce the copyrighted work in copies or phonorecords; (2) to prepare derivative works based upon the copyrighted work; (3) to distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending; (4) to perform the copyrighted work publicly; (5) to display the copyrighted work publicly; and (6) in the case of sound recordings, to perform the copyrighted work publicly by means of a digital audio transmission.[[14]](#footnote-14)

To prevail in a case of copyright infringement, a plaintiff must demonstrate (1) ownership of a valid copyright, and (2) violation of an exclusive right.[[15]](#footnote-15) In the posture of a typical file-sharing case, the plaintiff will present a certificate of copyright registration as *prima facie* evidence of ownership and validity of the copyright.[[16]](#footnote-16) With respect to the violation of an exclusive right, the copyright owner claims that its exclusive right to reproduce and distribute the work has been violated in the process of a transmission from one person to another.[[17]](#footnote-17)

Plaintiffs may elect elect one of two monetary remedies for copyright infringement: (1) actual damages and any additional profits of the infringer, or (2) statutory damages of not more than $150,000 per work infringed.[[18]](#footnote-18) Generally speaking, statutory damages will outweigh any actual damages caused by the distribution of a file; after all, the cost of downloading a song or movie is negligible compared to the potential liability created by statutory damages. Thus, in some cases, it may be more profitable to sue for copyright infringement than it is to actually sell copies of the work to the public.

* 1. **The Business Model of Copyright Trolling**

Copyright trolling is a business model of monetizing a copyrighted work through litigation, as opposed to (or in addition to) exploiting the work through typical channels of commerce. Plaintiffs typically will send out hundreds or thousands of settlement demands, offering to settle for a fraction of the amount of potential liability, usually between $3,000 - $5,000 from each defendant. As one court put it, “[plaintiffs] offer to settle-for a sum calculated to be just below the cost of a bare-bones defense.”[[19]](#footnote-19) Such low settlement offers, in light of potential statutory damages and the cost of hiring an attorney, incentivize defendants to settle at the outset of the lawsuit instead of putting up a defense. As a result of this leverage, nearly every case settles for the demanded amount, and very few defendants are ever named in the lawsuit. If enough people are sharing the file, the aggregated settlements can be very lucrative for the copyright owner.

Much of the case law surrounding mass joinder of anonymous BitTorrent defendants is the product of a small group of copyright plaintiffs whose litigation tactics are especially reprehensible or “extortionate.”[[20]](#footnote-20) In these cases, defendants face tremendous pressure to settle infringement claims before being named in the lawsuit because the copyrighted work is pornographic in nature. When a complaint is filed, the claims are initially alleged against a pseudonymous IP address, for example, “Doe 192.64.118.224” or “Does 1-1058” (where each enumerated Doe corresponds to an IP address). If a defendant does not accept the settlement demand, the plaintiff names them in a lawsuit using their true identity, forever preserving the embarrassing dispute in the public record, regardless of culpability. One court described the tactics as a "strategy [that] was highly successful because of statutory copyright damages, the pornographic subject matter, and the high cost of litigation."[[21]](#footnote-21) For defendants, “resistance is futile; most reluctantly pay rather than have their names associated with illegally downloading pornography. So now, copyright laws originally designed to compensate starving artists allow starving attorneys in this electronic-media era to plunder the citizenry.”[[22]](#footnote-22)

As a result of these “bad actors,” the case law in many circuits skews in favor of protecting the defendants from prejudice and away from enabling a business model of settlements. Nonetheless, some legitimate copyright owners also seek to enforce their copyrights and monetize the works through litigation. The balance between protecting defendants from potential prejudice and allowing owners of valid copyrights to enforce their intellectual property is difficult to strike.

* 1. **BitTorrent Technology**
     + 1. *The Mechanics of BitTorrent File Sharing*

BitTorrent is a peer-to-peer (P2P) file-transmission protocol. Put another way, it is a set of rules that participants use to facilitate the transfer of files directly from one person to another, without an intermediary or centralized server such as DropBox or Gmail. In a BitTorrent file transmission, one peer downloads small pieces of a single file from many other peers, all of whom are sharing a copy of the same file.[[23]](#footnote-23)

There are two types of participants in a P2P file transmission: “leechers” and “seeders.” Leechers are peers downloading a file; seeders are peers uploading a file.[[24]](#footnote-24) For any given file, uniquely identified by its “infohash,” there may be many seeders and leechers downloading and uploading at the same time. Collectively, the leechers and seeders are known as a “swarm,” and a swarm will continue to exist, i.e. serve the file to leechers, so long as there is at least one seeder.[[25]](#footnote-25) Also, it is common for a leecher simultaneously to be a seeder of the same file.[[26]](#footnote-26) That is to say, even if a leecher has not downloaded the entire file, the BitTorrent client (or “client software”) starts to upload small pieces of the file to other leechers in order to make the file more available. In fact, most implementations of the BitTorrent protocol incentivize or require simultaneous seeding of the target file.[[27]](#footnote-27) In a way, the swarm takes on a life of its own and continues to grow or shrink in size as peers connect and disconnect to the swarm.

By contrast, in a centralized file transmission, there is a single “seeder” – the server. YouTube, for example, hosts movies on its centralized server. For copyright owners, it is easier to stop the unlawful distribution of a work on a centralized server because there is only one server providing access to the file. If the server is offline, the file is offline; or, if the centralized host disables access to the file, the file becomes inaccessible. In many cases, issuing a DMCA takedown notice to a centralized host will suffice to remove or disable access to the content.[[28]](#footnote-28) But in a BitTorrent swarm, on the other hand, there can be thousands of simultaneous seeders serving the file at any time. Because of this redundancy, stopping one seeder will not stop the continued transmission of the file because other seeders in the swarm are still available to serve the file. Thus, it can be nearly impossible to stop a swarm from unlawfully distributing a copyrighted work if it is supported by a significant number of seeders in different jurisdictions.

* + - 1. *Locating Peers: Trackers and Distributed Hash Tables*

To initiate a file transfer, a leecher must locate peers who have a copy of the target file. This is accomplished in one of two ways. First, the leecher could locate a metainfo file, which typically has a .torrent extension. The metainfo file contains a list of resources available to download, for example, the filename of every song on an album. It also contains the URL of a “tracker,” a web server that returns the IP addresses of peers seeding the file when queried by the client software.[[29]](#footnote-29) Generally speaking, a leecher can search a website, such as RARBG[[30]](#footnote-30) or (previously) isoHunt, for the name of the target file in order to retrieve the metainfo file. The leecher then opens the metainfo file with the BitTorrent client software, announcing itself to the tracker by sending a request to the tracker URL.[[31]](#footnote-31) In turn, the tracker returns the IP addresses of peers seeding the file.[[32]](#footnote-32)

The second method of locating peers seeding a file is to use a “magnet link,” a method of “identifying files by their content, via cryptographic hash value, rather than by their location.”[[33]](#footnote-33) Magnet links are displayed on webpages as plain-text links, which in turn launch a leecher’s BitTorrent client. The Pirate Bay exclusively uses magnet links in order to link to content. The cryptographic hash value, another name for the file’s “infohash,” is analogous to a digital fingerprint of the file. When initially seeding a file, a cryptographic hashing function is performed on the files’ contents by the user’s BitTorrent client. The value returned by this function uniquely identifies the file by its content – not its location – to ensure that every peer is sharing the same file.

Each seeder broadcasts the availability of its files to a distributed hash table (“DHT”), a “decentralized key-value store that is implemented as a peer-to-peer network.”[[34]](#footnote-34) Like trackers, DHTs enable leechers to connect to peers by returning a list of seeding IP addresses when provided with an infohash. Unlike trackers, which run on a centralized web server, DHTs are distributed databases running on the local machine of each seeding peer.

For copyright owners, DHTs represent a troubling shift from tracker-based torrents. If a copyright owner is successful is shutting down a tracker, the internet loses access to the file simply because leechers do not know where it is located. In the Netherlands, for example, the tracker service Mininova was found liable for the Dutch analog of inducing copyright infringement, requiring the tracker service to filter its database for infringing infohashes.[[35]](#footnote-35) With the advent of DHTs, however, leechers can reference the target file without relying on a centralized tracker. Thus, copyright owners have turned to suing individual seeders to enforce their copyrights because shutting down a tracker has little or no affect on the availability of the file.

* + - 1. *Connecting to Peers and Downloading Content*

Once it obtains a list of IP addresses, the client software then sends a “handshake message” to each IP address in the swarm to determine whether the seeding peer in fact has a copy of the requested file.[[36]](#footnote-36) If the seeder does have the file, the software responds affirmatively with a “bitfield” message, letting the leecher know which parts of the file are available for download.[[37]](#footnote-37) Each part, known as a “piece,” contains contains a small portion of the total file, usually no more than 512 kB of data.[[38]](#footnote-38) If the file is of substantial size, as is common in a feature-length film, a leecher may need to download thousands of individual blocks in order to get a complete copy of the file. To make this process more efficient, the leecher’s software attempts to handshake many different seeders in the swarm at the same time, with each one returning a bitfield message with a list of available pieces.[[39]](#footnote-39)

The leecher’s client software prioritizes the downloading of pieces according to a “piece-picking strategy.” Many clients select pieces in random order, or in “rarest-first” order, to increase the availability of blocks with fewer seeding peers than others.[[40]](#footnote-40) This feature aids in the overall distribution of the file by contributing to the health of the swarm.

While the blocks are downloading, the leecher’s software simultaneously seeds the pieces that it has already downloaded, thus increasing overall availability of the file for the swarm. Initially, the blocks are saved into RAM and then, after a leecher has downloaded every block, the file is reassembled into a whole on the hard drive and the RAM copy is deleted. After this process is complete, the user can play the song or movie, or in the case of software, launch the file.

* + - 1. *The Future of BitTorrent File Sharing*

The BitTorrent protocol is substantially the same today as it was when it was invented by Bram Cohen in 2001.[[41]](#footnote-41) However, small changes in the way clients interact through the protocol have allowed the technology to adapt to new uses. Advances in the piece-picking strategy have lead to streaming torrent applications such as PopcornTime, the so-called “Netflix for Pirates.”[[42]](#footnote-42) Unlike traditional BitTorrent clients, PopcornTime allows users to “stream” content over the BitTorrent network from a curated selection of magnet links.

The Motion Picture Association of America (“MPAA”) summarized their initial efforts to deal with the software in a 2014 email, writing:

The Content Protection team scored a major victory in shutting down key developers of “Popcorn Time,” a BitTorrent-based desktop application that allowed users to stream high quality movie and TV content.  The investigative and enforcement effort required real-time, cross-border collaboration on three continents – and may have prevented Popcorn from becoming a major piracy threat before it could become popular.[[43]](#footnote-43)

By virtue of PopcornTime’s open-source code, however, many forks,[[44]](#footnote-44) such as PopcornExpress[[45]](#footnote-45) or BrowserTime,[[46]](#footnote-46) have emerged to provide even more features and functionality on top of the original PopcornTime code. For copyright owners seeking to enforce their intellectual property rights, the open-source nature of the software, and the ability to easily fork the project using tools such as Github,[[47]](#footnote-47) has lead to a whack-a-mole enforcement problem, wherein successfully shutting down one code repository leads to many others popping up.

Mechanically speaking, the technology that enables streaming torrents is a different piece-picking strategy. Instead of picking pieces in random order or rarest-first order, PopcornTime and the other “Popcorn clients” pick pieces in sequential order.[[48]](#footnote-48) By utilizing a sequential piece-picking strategy, users can download enough pieces of a movie to stream the next few seconds of the movie without having to wait to download a full copy. Unlike traditional BitTorrent clients, Popcorn clients save the content only in random access memory (RAM), which is automatically removed after the user user exits the program or webpage. Because the content is automatically removed when the RAM is cleared, Popcorn clients only seed the file to the network while it is streaming from RAM. So, in the case of a peer watching a movie on a Popcorn client, the maximum duration the peer would seed to the swarm is the length of the movie. After the movie is over, the user would presumably exit the client and seeding ends. Traditional BitTorrent clients, on the other hand, would continue to seed the file after the download is complete, absent some action by the user to stop the seeding, such as deleting the file or moving it out of the “shared” directory. The implications of this feature are far-reaching.

Traditionally, a user would need to download a BitTorrent client, install the software package, and then launch the application from their desktop if they want to seed or leech. Additionally, the user would also need to locate the metainfo file or magnet link. The process is the same for PopcornTime users who want to stream content, except that PopcornTime clients come with a curated list of content, so there is no need to locate the metainfo file or magnet link. New Popcorn forks, however, including PopcornExpress and BrowserTime, simplify tallow users to stream movies through an ordinary web browser, so no additional software or plugins need to be installed. This feature is especially worrisome for copyright owners because it reduces a significant barrier to downloading content by eliminating the installation step.

Popcorn clients also do away with the process of locating a metainfo file or magnet link on a torrent site such as The Pirate Bay or isoHunt. Instead, the available content appears as a curated feed of high quality movies or TV shows. With a traditional client, the process of deciding on a movie, locating a reliable infohash, downloading and launching that movie are burdensome. With a Popcorn client, however, the content is curated by one or more “release groups” such as YIFY or BOZX who disseminate magnet links to copyrighted content.[[49]](#footnote-49) The Popcorn client automatically reads these feeds and aggregates the links for the user, so that the search for the magnet link is automated by the Popcorn client. By doing so, Popcorn clients greatly simplify the pirating process and make the viewing of copyrighted content seamless and easy.

* 1. **Early Discovery in the Context of BitTorrent Litigation**

Early discovery of the defendants’ identity plays a critical role in the litigation. The scope of permissible discovery is set forth in Rule 26(b)(1):

Parties may obtain discovery regarding any matter, not privileged, which is relevant to the subject matter involved in the pending action, whether it relates to the claim or defense of the party seeking discovery or to the claim or defense of any other party, including the existence, description, nature, custody, condition and location of any books, documents, or other tangible things and the identity and location of persons having knowledge of any discoverable matter. It is not ground for objection that the information sought will be inadmissible at the trial if the information sought appears reasonably calculated to lead to the discovery of admissible evidence.[[50]](#footnote-50)

Under Rule 26(d)(1), “[a] party may not seek discovery from any source before the parties have conferred as required by Rule 26(f), except in a proceeding exempted from initial disclosure… or when authorized by these rules, by stipulation, or by court order.”[[51]](#footnote-51) Thus, discovery generally is available only after the 26(f) conference, which requires the parties to meet and confer “as soon as practicable” after service of summons upon a named defendant. [[52]](#footnote-52) The content of the conference includes “the nature and basis of their claims and defenses and the possibilities for promptly settling or resolving the case; mak[ing] or arrang[ing] for the disclosures required by Rule 26(a)(1); discuss[ing] any issues about preserving discoverable information; and develop[ing] a proposed discovery plan.”[[53]](#footnote-53) Rule 26(d)(1) also reserves the court’s discretion to authorize discovery by court order, before the 26(f) conference.

At the outset of a file-sharing case, the defendant can only be identified by an IP address. In order to discover the name of the person behind the IP address, the plaintiff must subpoena the Internet Service Provider (“ISP”) for the identity of the account owner using the IP address at the time of alleged copyright infringement. In P2P file-sharing cases, where individuals have not been named as defendants, “the only potential avenue for discovery is Rule 26(d)(1), which provides for discovery ‘by court order.’”[[54]](#footnote-54) If the court does grant an order for the plaintiff to take early discovery to identify the Doe defendants, the order must comply with Rule 26(b)(1)'s general requirements that the discovery be "[f]or good cause" and be “relevant to the subject matter involved in the action."[[55]](#footnote-55)

Good cause is satisfied where “the need for expedited discovery, in consideration of the administration of justice, outweighs the prejudice to the responding party.”[[56]](#footnote-56) In file-sharing cases, the plaintiff cannot identify the person behind an IP address without seeking early discovery; so, without the identity information, the plaintiff cannot serve the defendants with summons. In other words, not permitting a plaintiff to discover the identifying information of the Doe defendants would prevent it from pursuing its case, thus significantly prejudicing the plaintiff. Thus, plaintiffs readily satisfy the requirement that discovery be for good cause.

In addition, the discovery must be relevant to the subject matter in the case.[[57]](#footnote-57) The Supreme Court has implicitly acknowledged that early discovery is permissible for the limited purpose of allowing one party to discover the identity of another party in order to effectuate service. In *Oppenheimer Fund, Inc. v. Sanders*,[[58]](#footnote-58) the Court acknowledges that discovering class members’ names and identities for the purpose of sending class notice was relevant to the action and therefore permissible. On the other hand, where the plaintiff does "not seek [discovery] for any bearing that it might have on issues in the case,"[[59]](#footnote-59) and the plaintiff was attempting “to gather information for use in proceedings other than the pending suit… discovery properly is denied."[[60]](#footnote-60) However, where there is no improper discovery purpose, courts regularly permit “limited discovery to ensue after filing of the complaint to permit the plaintiff to learn the identifying facts necessary to permit service on the defendant.”[[61]](#footnote-61)

Although plaintiffs generally are granted leave to take early discovery in order to identify a defendant, early discovery may be denied if “it is clear that discovery would not uncover the identities, or that the complaint would be dismissed on other grounds.”[[62]](#footnote-62) One such ground is dismissal for lack of personal jurisdiction. In *AF Holdings v. Does 1-1058,*[[63]](#footnote-63) for example, the D.C. Circuit Court of Appeals held that the plaintiff’s discovery demands were overbroad because “it made no attempt to limit its inquiry to those subscribers who might actually be located in the District. It could have easily done so using what are known as geolocation services, which enable anyone to estimate the location of Internet users based on their IP addresses.”[[64]](#footnote-64) In other words, to demonstrate a reasonable likelihood of personal jurisdiction over the defendant, the plaintiff must, at a minimum, geolocate the IP address.

*AF Holdings* represents a significant practical limitation on the number of file-sharing defendants that proceed in a single case by limiting the court’s jurisdiction to defendant IP addresses seeding in the same district. After *AF Holdings*, virtually all courts require that the plaintiff identify the Doe defendants “with sufficient specificity by providing the unique IP addresses assigned to an individual defendant on the day of the allegedly infringing conduct, and by using ‘geolocation technology’ to trace the IP addresses to a physical point of origin.”[[65]](#footnote-65) In any event, copyright plaintiffs now routinely observe this requirement and properly geolocate the defendant’s IP address when pleading personal jurisdiction.

In file-sharing cases, defendants sometimes argue that plaintiffs do not have a permissible discovery purpose because they seek to use the discovered contact information to extract settlements under the threat of being named in a lawsuit. Some courts have found that a “[p]laintiff’s motive for seeking joinder is to keep its own litigation costs down in hopes that defendants will accept a low initial settlement demand. However, filing one mass action in order to identify hundreds of Doe defendants through pre-service discovery and facilitate mass settlement, is not what the joinder rules were established for.”[[66]](#footnote-66) That is to say, the issues of early discovery and joinder are inextricably related to each other: if a plaintiff is able to proceed with early discovery against *multiple* defendants, its costs are dramatically reduced.

1. **Joinder**
   1. **Permissive Joinder of Doe Defendants**

Rule 20(a)(2) provides that “[p]ersons… may be joined in one action as defendants if: (A) any right to relief is asserted against them jointly, severally, or in the alternative with respect to or arising out of the same transaction, occurrence, or series of transactions or occurrences; and (B) any question of law or fact common to all defendants will arise in the action.”[[67]](#footnote-67) Rule 20 must be read in connection with Rule 21, which provides: “Misjoinder of parties is not a ground for dismissing an action. On motion or on its own, the court may at any time, on just terms, add or drop a party. The court may also sever any claim against a party.”[[68]](#footnote-68)

The Supreme Court has interpreted the Rules to “entertain[] the broadest possible scope of action consistent with fairness to the parties; joinder of claims, parties and remedies is strongly encouraged.”[[69]](#footnote-69) While encouraging joinder, the Rules reserve discretion for the judge to join or sever parties in the interest of fairness, which may be raised by any party or *sua sponte*.[[70]](#footnote-70) In addition, in deciding issues of joinder, the Rules “should be construed, administered, and employed by the court and the parties to secure the just, speedy, and inexpensive determination of every action and proceeding.”[[71]](#footnote-71) Balancing the competing interests of the parties to the lawsuit, as well as the court’s interest in judicial economy, however, is a difficult task.

Rule 20(a)(2)(B) generally is not at issue in file-sharing cases because the cases are factually similar (or indistinguishable) and thus always have a question of of law or fact common to all defendants. For example, it is a common question whether the plaintiff has a valid copyright in the work, or whether defendants are sharing the same copyrighted work.

Instead, Rule 20(a)(2)(A) usually is the contested issue in file-sharing litigation. There is a split of authority regarding what constitutes a “series of transactions or occurrences” under Rule 20(a)(2)(A) for purposes of joining Doe defendants in a single action. On the one hand, some courts find joinder is permissible only if the defendants were simultaneously present in the same swarm at the same time.[[72]](#footnote-72) However, due to the nature of peer-to-peer file sharing, this can be difficult to prove because plaintiffs must identify two or more Doe defendants who are in the same jurisdiction and seeding to the swarm at the same time. These limitations reduce the pool of potential defendants that can be joined in a single action. Moreover, as the technology moves from traditional BitTorrent clients to Popcorn clients, the pool of defendants that can feasibly be joined in a single action is reduced even more.

Thus, courts that permit joinder under 20(a)(2)(A) generally allow plaintiffs a second evidentiary route: joinder is proper if the defendants participated in the swarm in such close temporal proximity that it can be inferred that they were simultaneously present in the same swarm at the same time.[[73]](#footnote-73) Effectively, this is a temporal requirement whereby defendants may be joined if they participated in the same swarm in a sufficiently close period of time. However, it is ambiguous how much time is permitted to pass before individuals who participated in the same swarm are no longer part of the “same transaction or occurrence” for purposes of joinder.

In other courts, joinder may be permissible regardless of whether defendants participated in the same swarm at the same time because the cases are “logically related.” Courts taking this position argue that a temporal requirement impermissibly narrows the intended scope of Rule 20 and that instead, the Rules require nothing more than a logical relation among the cases. Thus, defendants who did not contemporaneously participate in the swarm may nonetheless be joined as defendants in these jurisdictions.

Courts that theoretically would permit joinder under the temporal requirement, in practice, generally do not permit joinder. On the other hand, courts that permit joinder under the logically related standard generally do permit joinder.

*Temporal Proximity Standard*

Only one appellate court has ruled on the issue of joinder in peer-to-peer file sharing litigation. In *AF Holdings v. Does 1-1058*,[[74]](#footnote-74) the D.C. Circuit acknowledged that “we may assume that two individuals who participate in the same swarm at the same time are part of the same series of transactions within the meaning of Rule 20(a)(2),” reasoning that “the individuals might well be actively sharing a file with one another, uploading and downloading pieces of the copyrighted work from the other members of the swarm.”[[75]](#footnote-75) Without direct evidence of participation in the same swarm at the same time, the court turned to the question of temporal proximity. It concluded that “[t]wo individuals who downloaded the same file five months apart are exceedingly unlikely to have had any interaction with one another whatsoever,”[[76]](#footnote-76)and held that those individuals were not part of the same transaction or occurrence.

In *Hard Drive Productions, Inc. v. Does 1-188*,[[77]](#footnote-77) the Northern District of California did not permit joinder because the defendants’ allegedly infringing conduct occurred over a period of six weeks. It reasoned that “[i]n this age of instant digital gratification, it is difficult to imagine, let alone believe, that an alleged infringer of the copyrighted work would patiently wait six weeks to collect the bits of the work necessary to watch the work as a whole.”[[78]](#footnote-78) Ultimately, the Court held that “merely committing the same type of violation in the same way does not link defendants together for purposes of joinder.”[[79]](#footnote-79) Thus, the Court severed the defendants under Rule 21.

* + - 1. *Logically Related Standard*

Courts permitting joinder reject the requirement that defendants must participate in the same swarm at the same time or a temporally proximate time. For example, in *reFX Audio Software, Inc. v. Does 1-111*,[[80]](#footnote-80) the Northern District of Illinois permitted joinder under the logically related standard, reasoning,

[T]he argument that joinder is appropriate only if defendants participated in the same swarm at the same time . . . ignores the fact that permissive joinder under Rule 20(a) does not require that defendants act in concert with each other, nor does it have as a precondition that there be a temporal distance or temporal overlap. All that is required is a logical relationship between the separate causes of action. To require plaintiffs to establish that the joined defendants shared information directly with each other construes Rule 20 too narrowly. Rule 20 is satisfied if defendants indirectly interact with one another through participation in a single swarm.[[81]](#footnote-81)

Proponents of joinder argue that “it is important to consider that while a peer directly uploads to only a small number of peers, those peers in turn upload pieces to other peers that later join the swarm. Thus, a defendant’s ‘generation’ of peers—peers that a defendant likely directly uploaded to—helped pass on pieces of the [file] to the next ‘generation’ of active peers.”[[82]](#footnote-82) This “generational” characterization of the transactions or occurrences in a swarm is strikingly different than the temporal requirement that two defendants interacted with each other, or at least had a reasonable likelihood of doing so. Thus, under the generational characterization of a “series of transactions and occurrences,” defendants could be joined, even in light of evidence that the parties participated in the swarm at *different* times.

The court in *reFX Audio Software* held that:

The alleged conduct of each Doe defendant shares an aggregate of operative facts that give rise to [the plaintiff's] claims of infringement against each Doe defendant, such that the “logical relationship” test is satisfied at this early stage of the litigation. In other words, [the plaintiff] has sufficiently pleaded that its claims arise out of the same “transaction, occurrence, or series of transactions or occurrences…” The shared operative facts are not solely that each Doe defendant used Bit-Torrent but that “each Doe defendant downloaded the same Torrent file that was created by the same initial seeder, intending to: (1) utilize other users' computers to download pieces of the same [Copyrighted Works], and to allow his . . . own computer to be used in the infringement by other peers and defendants in the same swarm.[[83]](#footnote-83)

There are many courts that permit joinder of multiple defendants under the logically related standard. For example, in *Cobbler Nevada, LLC v. John Does 1-15*,[[84]](#footnote-84) the plaintiff was permitted to join defendants who were alleged to have participated in a swarm over a period of 26 days.[[85]](#footnote-85) The same plaintiff, suing in the District of Colorado, was similarly permitted join 15 defendants in a single action, where the allegedly infringing IP addresses were alleged to have participated in the swarm over a span of four days.[[86]](#footnote-86) But to say that joinder was permitted in these cases is somewhat of a misnomer. Instead, it is more accurate to say that courts did not have to address joinder because none of the defendants raised the issue, and because the court did not address the issue *sua sponte*.

Nonetheless, other district courts have made clear their position on non-contemporaneous participation in a swarm. In *TCYK, LLC v. Does 1-44*,[[87]](#footnote-87) the court held that “Regardless of whether these forty-four defendants contemporaneously participated in the swarm, shared bits of the seed file with each other, or even shared bits of the file at all, each joined the swarm knowing that his participation increased the swarm's ability to disseminate a common seed file quickly and efficiently. The Court therefore concludes that a logical relationship exists among the actions of the Defendants such that joinder is proper.”[[88]](#footnote-88) Put another way, under the logically related standard, “a defendants' actions comprise the same series of transactions or occurrences for the purpose of Rule 20, by virtue of the cooperative and interdependent nature of the BitTorrent platform.”[[89]](#footnote-89)

* 1. **Applying the Standards to PopcornTime**

Applying the temporal proximity standard to PopcornTime users is problematic. Remember that most leechers simultaneously seed the file to the swarm to support the swarm’s health. However, with Popcorn clients, the pieces are downloaded into a temporary directory, in sequential order, and are deleted after the desktop or browser-based client terminates. This means that the leecher acts as a seeder only as long as the pieces are stored in the temporary directory; in other words, the leecher is simultaneously a seeder until the user closes the window playing the movie. Thus, for purposes of the temporal proximity standard, the defendant only participates in the swarm for a very short amount of time; in the case of a feature-length film, about 90 to 120 minutes. Thus, plaintiffs litigating in jurisdictions that apply the temporal proximity standard must prove that the defendants participated in the swarm within an impracticably short window to be considered part of the same transaction or occurrence for purposes of joinder.

Combined with the requirement that Plaintiffs geolocate every IP address to properly plead personal jurisdiction, the likelihood that a court applying the temporal proximity standard will permit defendants to be joined is increasingly slim. For example, consider a swarm of 1000 IP addresses from around the world. Because the plaintiffs are limited to seeking joinder for IP addresses originating in the same district, a plaintiff alleging copyright infringement would first geolocate each IP address to select those IP addresses originating in the district where the plaintiff is suing. Then, in order to effectuate joinder, the plaintiff must demonstrate that the defendants participated in the swarm at the same time. Under the temporal proximity standard, if defendants are seeding a 90-minute film, the plaintiffs would be required to prove that the defendants participated in the swarm within 90 minutes of each other to reasonably infer that any two peers were participating in the same swarm at the same time.

This window shrinks even more for browser-based Popcorn clients, such as BrowserTime, where the client only stores a buffer comprising of a few minutes of streaming content. These pieces are downloaded sequentially into RAM and are deleted immediately upon being played.[[90]](#footnote-90) In that case, plaintiffs may need to offer evidence that the defendants were participating in the swarm within several minutes of each other to properly infer participation in swarm at the same time.

The temporal proximity requirement effectively limits the number of defendants to one. So even though courts applying this standard theoretically have an avenue for joinder of multiple defendants, in practice, they are limited to single-Doe cases. Temporal proximity fits more neatly in the context of traditional BitTorrent clients where the file is seeded even after the initial downloading of pieces, i.e., after the RAM copy of the pieces have been reassembled into a whole on the hard drive. But in the case of streaming torrents, where the pieces are deleted after the program terminates, temporal proximity does not fit so neatly.

As technology continues to advance, the temporal proximity standard will effectively mandate single-Doe lawsuits in file-sharing cases. The logically related standard, on the other hand, does not require contemporaneous participation in the swarm and is more appropriate for changing technology where, as is the case with PopcornTime clients, it may be impossible to satisfy the requirements of temporal proximity.

1. **Severance**

Against the backdrop of permissive joinder, Rule 21 functions to give the judge broad discretion to sever Doe defendants, even if they are otherwise properly joined under Rule 20(a)(2). Rule 21 provides: “Misjoinder of parties is not a ground for dismissing an action. On motion or on its own, the court may at any time, on just terms, add or drop a party. The court may also sever any claim against a party.”[[91]](#footnote-91) In P2P file-sharing cases, judges rely on considerations of judicial economy and possible prejudice to the defendants when deciding whether to sever. As a subset of prejudice to the defendants, some courts consider the “extortionate” litigation tactics of plaintiffs, especially in pornography cases.

* + - 1. *Judicial Economy*

Proponents of joinder argue that joinder of multiple defendants in a single action promotes judicial economy. For instance, in *Malibu Media, LLC v. John Does 1-6*,[[92]](#footnote-92) the court reasoned that "[a]t the pleading stage, it is more efficient to join Doe Defendants in one action than to require separate lawsuits. Individual litigations, at least at the early stages of litigation, would be needlessly expensive for both [Plaintiff] and the courts and would frustrate the judicial efficiency policies at the heart of Rule 20."[[93]](#footnote-93) Put another way, "[t]he flexibility of this standard enables federal courts to promote judicial economy by permitting all reasonably related claims for relief by or against different parties to be tried in a single proceeding under the provisions of Rule 20."[[94]](#footnote-94) This is a common thread among courts permitting joinder.

On the other hand, courts that sever defendants argue that joinder actually frustrates judicial economy because “it would result in a logistically unmanageable case,” and “permitting joinder would force the Court to address the unique defenses that are likely to be advanced by each individual Defendant, creating scores of mini-trials involving different evidence and testimony.”[[95]](#footnote-95)

Courts permitting joinder do not necessarily dispute that proceeding to trial with hundreds of defendants would be unmanageable. For example, it is plausible that each defendant’s right to take discovery or sit for depositions could significantly frustrate judicial economy or make the litigation “unwieldy.” In practice, however, this harm is never felt because these cases never proceed to trial.[[96]](#footnote-96)

Instead, courts permitting joinder for reasons of judicial economy distinguish between procedural phases of the litigation. Many courts have permitted joinder before the Rule 26(b) conference, for the limited purpose of discovering the identity of a Doe defendant from the ISP, but add the caveat that, “it may sever the defendants at a later time if their continued joinder becomes unwieldy or if the defendants’ individual defenses raise legal or factual differences that make their continued joinder inappropriate.”[[97]](#footnote-97) At least on its face, permitting joinder at this early-discovery stage seems to be in the interest of judicial economy. On the other hand, if defendants are coerced into settlement before they are named a party to the suit, the court’s promise to sever at a later stage is an empty one.

* + - 1. *Prejudice to the Parties and Coercive Litigation Tactics*

The issue of prejudice to the parties caused by joinder overlaps with the considerations of judicial economy. For example, defendants argue that mass joinder would prevent each defendant from fully presenting his or her case, causing “scores of mini-trials” that make case management unwieldy for judges.[[98]](#footnote-98) In addition, mini-trials have the potential to confuse the jury by making it difficult to compartmentalize each mini-trial and attribute the facts of each defense to the proper defendant. As a result, juries may attribute the liability of one codefendant to all codefendants. Thus, joinder arguably may prejudice the defendants.[[99]](#footnote-99)

Proponents of severance argue that the case should proceed against a single defendant and that the remaining Does should be severed. Plaintiffs argue, on the other hand, that before the defendants have been identified, severance is premature because discovery may be granted only for the limited purpose of identifying Doe defendants in order to serve them with process. Until such time as defendants have been named, i.e. in the pre-trial phase of litigation when the prejudice of mini-trials will not arise, joinder will not prejudice the defendants.

Permitting plaintiffs to proceed against large numbers of anonymous defendants, even if limited to the early-discovery period, conceivably prejudices the defendant by providing the plaintiff a “discount” on the $400 federal filing fee, which he or she would otherwise have to pay for each case. Stated differently, however, plaintiffs are arguably prejudiced by the burden of having to paying $400 to discover the identity of each person alleged to have infringed their copyrights. In cases such as *Call of the Wild Movie, LLC v. Does 1-1,062*,[[100]](#footnote-100) with more than a thousand defendants, this expense might have been prohibitive if required to sever. In Q1 2016, however, only a few cases in the Northern District of Illinois had more than thirty defendants in a single action.[[101]](#footnote-101) This number is the result of cases such as *AF Holdings’* geolocation limitation, a practical limitation on the number of defendants that can be joined in an action. Thus, even if “[p]laintiff’s motive for seeking joinder… is to keep its own litigation costs down in hopes that defendants will accept a low initial settlement demand,”[[102]](#footnote-102) the benefit to the plaintiff in batches of thirty defendants, as opposed to batches of a thousand or more, is much less significant as a result of the practical limitations imposed by personal jurisdiction.

* + - 1. *Balancing the Prejudice to the Parties*

Even in the Northern District of Illinois, judges are willing to sever defendants after early discovery if the plaintiff is named in the suit.[[103]](#footnote-103) This approach preserves the court’s interest in judicial economy by allowing plaintiffs to proceed against multiple defendants in a single action. Additionally, by severing defendants *after* the early discovery-phase, the prejudice to the defendant arising from so-called “mini-trials” and a diversity of defenses is never felt. To the extent that defendants argue they are prejudiced by the plaintiff’s seeking early discovery at a discounted rate, practical limitations on the number of defendants that can joined in an action, resulting from the geolocation rule, mitigate this monetary advantage.

File-sharing cases involving pornographic works present special considerations of prejudice that must be balanced; such works are more prejudicial to defendants than non-pornographic works because the embarrassment a defendant would suffer by being named in the lawsuit incentivizes settlement. In response to this perceived coercion, courts routinely provide protective orders permitting defendants to proceed anonymously for a period of time.[[104]](#footnote-104) In the case of non-pornographic works, however, courts have less sympathy for the defendant and, in the Northern District of Illinois, facilitate the exploitation of copyrights through litigation by permitting joinder of multiple defendants. One court balanced the prejudice to the parties in a non-pornographic work where there were no other indicia of extortionate or unfair litigation tactics:

[W]hile many BitTorrent copyright infringement cases arise in the context of pornographic movies, others, including this case, do not. Thus, none of the concerns that animate many of the district court opinions rejecting joinder in BitTorrent cases involving pornographic films—such as the potential for unfair, if not extortionate, settlement practices—are present in this case. In any event, courts should be hesitant to fashion rules that may be based more on distaste for the copyrighted works or the nature of a plaintiff's business rather than on application of neutral legal principles.[[105]](#footnote-105)

This approach stands in contrast to the approach of courts severing before the pre-trial discovery phase of litigation. In those cases, courts should consider that jurisdictional requirements such as geolocation, which provide practical limitations on the numerosity of the defendants, allow courts to resolve more disputes while limiting abuse of the system

1. **Conclusion**

PopcornTime is just the beginning of technologies that will make copyright enforcement on the internet difficult for plaintiffs. Technologies such as IPFS[[106]](#footnote-106) and Ethereum[[107]](#footnote-107) will eventually do away with HTTP and IP addresses altogether in the context of file sharing, at which point plaintiffs will need to re-think the ways they collect forensic evidence of infringement. In other words, BitTorrent technologies such as PopcornTime and PopcornExpress are just the beginning of new, decentralized technologies that will make enforcement difficult for copyright owners.

The temporal proximity standard fails to account for the rapid changes taking place in BitTorrent, let alone these other, emerging technologies. Courts should take particular care at this juncture to protect copyright owners from rampant infringement of their intellectual property rights by giving them the tools tools they need, such as mass joinder, in order police their works. Because the logically related standard can better adapt to a quickly-changing technology without foreclosing the possibility of joinder, it should supplant the temporal proximity standard in jurisdictions where the latter standard is being used. Mass joinder is therefore justified in these cases at the pretrial stage.

1. Copyright Trolls, <https://www.eff.org/issues/copyright-trolls> (last visited May 9, 2016). [↑](#footnote-ref-1)
2. Lex Machina Dashboard Statistics (generated April 21, 2016), <http://www.lexmachina.com/>. [↑](#footnote-ref-2)
3. AF Holdings, LLC v. Does 1-1058, 752 F. 3d 990 (D.C. Cir. 2014). [↑](#footnote-ref-3)
4. Cobbler Nevada, LLC v. Does 1-38, 1:15CV05283, 2015 WL 9791781 (N. D. Ill. Oct. 7, 2015). [↑](#footnote-ref-4)
5. Fed. R. Civ. P. 20. [↑](#footnote-ref-5)
6. reFX Audio Software, Inc. v. Does 1–111, No. 13 C 1795, 2013 WL 3867656 (N.D. Ill. July 23, 2013). [↑](#footnote-ref-6)
7. Hard Drive Productions, Inc. v. Does 1-188, 809 F. Supp. 2d 1150 (N.D. Cal. 2011). [↑](#footnote-ref-7)
8. *Hard Drive Productions*, 809 F. Supp. 2d at 1163. [↑](#footnote-ref-8)
9. Popcorn Time, <http://popcorn-time.to> (last visited April 21, 2016). [↑](#footnote-ref-9)
10. Browser Time, <https://github.com/KeizerDev/Browsertime> (last visited April 21, 2016). [↑](#footnote-ref-10)
11. 17 U.S.C. § 102 (2012). [↑](#footnote-ref-11)
12. *Id.* [↑](#footnote-ref-12)
13. Lex Machina Dashboard Statistics (generated April 21, 2016), <http://www.lexmachina.com/>. [↑](#footnote-ref-13)
14. 17 U.S.C. § 106 (2012). [↑](#footnote-ref-14)
15. 17 U.S.C. § 501(a) (2012). [↑](#footnote-ref-15)
16. 17 U.S.C. 410(c) (2012). [↑](#footnote-ref-16)
17. Complaint at 8, Hard Drive Productions, Inc. v. Does 1-188, 809 F. Supp. 2d 1150 (N.D. Cal. 2011) (No. 1). [↑](#footnote-ref-17)
18. 17 U.S.C. § 504 (2012). [↑](#footnote-ref-18)
19. Ingenuity 13 LLC v. John Doe, 2:12-CV-8333-ODW JCX, 2013 WL 1898633, at 1 (C.D. Cal. May 6, 2013). [↑](#footnote-ref-19)
20. Bicycle Peddler, LLC v. Does 1-12, 295 F.R.D. 274, 279 (N.D. Ill. 2013). [↑](#footnote-ref-20)
21. *Ingenuity 13*, 2013 WL 1898633 at 6-7. [↑](#footnote-ref-21)
22. *Id.* at 1. [↑](#footnote-ref-22)
23. Bram Cohen, *The BitTorrent Protocol Specification* (last modified October 11, 2013), <http://www.bittorrent.org/beps/bep_0003.html>. [↑](#footnote-ref-23)
24. Bittorrent Protocol Specification v.1.0 (last modified March 29, 2016), [https://wiki.theory.org/BitTorrentSpecification](https://wiki.theory.org/BitTorrentSpecification#Tracker_HTTP.2FHTTPS_Protocol). [↑](#footnote-ref-24)
25. *Id.*  [↑](#footnote-ref-25)
26. *Id.* [↑](#footnote-ref-26)
27. Comparison of BitTorrent Clients, <https://en.wikipedia.org/wiki/Comparison_of_BitTorrent_clients> (last modified April 17, 2016). [↑](#footnote-ref-27)
28. A copyright owner can issue a notice under the notice-and-takedown provisions of 17 U.S.C. § 512. [↑](#footnote-ref-28)
29. Cohen, *supra* note 23. [↑](#footnote-ref-29)
30. RARBG (last visited April 21, 2016), <https://rarbg.to/index8.php>. [↑](#footnote-ref-30)
31. Cohen, *supra* note 23. [↑](#footnote-ref-31)
32. *Id.*  [↑](#footnote-ref-32)
33. Magnet URI Scheme (last modified April 15, 2016), <https://en.wikipedia.org/wiki/Magnet_URI_scheme>. [↑](#footnote-ref-33)
34. Scott Wolchock and J. Alex Halderman, *Crawling BitTorrent DHTs for Fun and Profit*, *WOOT* (August, 2010), <http://static.usenix.org/events/woot10/tech/full_papers/Wolchok.pdf>. [↑](#footnote-ref-34)
35. Mininova Litigation (created August 26, 2009) <http://deeplink.rechtspraak.nl/uitspraak?id=ECLI:NL:RBUTR:2009:BJ6008>. [↑](#footnote-ref-35)
36. Handshake (last modified April 15, 2016), <https://wiki.theory.org/BitTorrentSpecification#Handshake>. [↑](#footnote-ref-36)
37. *Id.*  [↑](#footnote-ref-37)
38. Torrent Piece Size (last modified March 2, 2010), <https://wiki.vuze.com/w/Torrent_Piece_Size>. [↑](#footnote-ref-38)
39. Handshake, *supra* note 36. [↑](#footnote-ref-39)
40. Piece Downloading Strategy (last modified April 15, 2016), <https://wiki.theory.org/BitTorrentSpecification#Piece_downloading_strategy>. [↑](#footnote-ref-40)
41. Bram Cohen (last modified March 23, 2016), <https://en.wikipedia.org/wiki/Bram_Cohen#BitTorrent>. [↑](#footnote-ref-41)
42. Ernesto Van der Sar, *Netflix Sees Popcorn Time as a Serious Competitor,* TORRENT FREAK (January 21, 2015), <https://torrentfreak.com/netflix-sees-popcorn-time-as-a-serious-competitor-150121/>. [↑](#footnote-ref-42)
43. Email from Chris Dodd, Chairman and CEO of the Motion Picture Association of America, to Association members (April 17, 2014) (available at <https://wikileaks.org/sony/emails/emailid/101424)>. [↑](#footnote-ref-43)
44. A fork is a clone of a project, which “allows you to freely experiment with changes [to the code] without affecting the original project.” *See* <https://help.github.com/articles/fork-a-repo/>. [↑](#footnote-ref-44)
45. PopcornExpress (last visited April 21, 2016), <http://www.popcornexpress.me/>. [↑](#footnote-ref-45)
46. Browser Time (last visited April 21, 2016) <https://github.com/KeizerDev/Browsertime>. [↑](#footnote-ref-46)
47. Github (last visited Apri 21, 2016), <http://www.github.com/>. [↑](#footnote-ref-47)
48. Popcorn Time, (last modified April 21, 2016) <https://en.wikipedia.org/wiki/Popcorn_Time>. [↑](#footnote-ref-48)
49. BOZX Feed (last visited April 21, 2016), <https://thepiratebay.se/user/BOZX/>. [↑](#footnote-ref-49)
50. Fed. R. Civ. P. 26(b)(1). [↑](#footnote-ref-50)
51. Fed. R. Civ. P. 26(d)(1). [↑](#footnote-ref-51)
52. Fed. R. Civ. P. 26(f)(1). [↑](#footnote-ref-52)
53. Fed. R. Civ. P. 26(f)(2). [↑](#footnote-ref-53)
54. *AF Holdings,* 752 F.3d at 995. [↑](#footnote-ref-54)
55. *Id.* [↑](#footnote-ref-55)
56. Semitool, Inc. v. Tokyo Electron America, Inc., 208 F.R.D. 273, 276 (N.D. Cal 2002). [↑](#footnote-ref-56)
57. *Supra,* note 53 [↑](#footnote-ref-57)
58. Oppenheimer Fund, Inc. v. Sanders, 437 U.S. 340, 98 S.Ct. 2380, 57 L.Ed.2d 253 (1978). [↑](#footnote-ref-58)
59. *Id.* at 57. [↑](#footnote-ref-59)
60. *Id.* at 352 n. 17. [↑](#footnote-ref-60)
61. Columbia Insurance Company v. Seescandy.com, 185 F.R.D. 573, 577 (N.D. Cal. 1999). [↑](#footnote-ref-61)
62. 808 Holdings, LLC v. Collective of December 29, 2011 Sharing Hash E37917C8EEB4585E6421358FF32F29C D63C23C91, 12CV00186 MMA RBB, 2012 WL 1648838, at 3 (S.D. Cal. May 4, 2012). [↑](#footnote-ref-62)
63. AF Holdings, LLC v. Does 1-1058, 752 F. 3d 990 (D.C. Cir. 2014). [↑](#footnote-ref-63)
64. *Id.* at 996. [↑](#footnote-ref-64)
65. *808 Holdings*, 2012 WL 1648838 at 3. [↑](#footnote-ref-65)
66. IO Group, Inc. v. Does 1-435, C 10-04382 SI, 2011 WL 445043, at 6 (N.D. Cal. Feb. 3, 2011). [↑](#footnote-ref-66)
67. Fed. R. Civ. P. 20(a)(2). [↑](#footnote-ref-67)
68. Fed. R. Civ. P. 21. [↑](#footnote-ref-68)
69. United Mine Workers v. Gibbs, 383 U.S. 715, 724 (1966). [↑](#footnote-ref-69)
70. Fed. R. Civ. P. 21. [↑](#footnote-ref-70)
71. Fed. R. Civ. P. 1. [↑](#footnote-ref-71)
72. *Hard Drive Productions,* 809 F.Supp.2d at 1163. [↑](#footnote-ref-72)
73. *Id.*  [↑](#footnote-ref-73)
74. AF Holdings, LLC v. Does 1-1058, 752 F. 3d 990 (D.C. Cir. 2014). [↑](#footnote-ref-74)
75. *Id.* at 998. (No. haring cases01entire the entire history of ation unwieldlyth of pieces ase temporary RAM copies of each piece are deleted [↑](#footnote-ref-75)
76. *Id.* at 995. (No. haring cases01entire the entire history of ation unwieldlyth of pieces ase temporary RAM copies of each piece are deleted [↑](#footnote-ref-76)
77. Hard Drive Productions, Inc. v. Does 1-188, 809 F. Supp. 2d 1150 (N.D. Cal. 2011). [↑](#footnote-ref-77)
78. *Id*. at 1163. [↑](#footnote-ref-78)
79. *Id.* at 1157. [↑](#footnote-ref-79)
80. reFX Audio Software, Inc. v. Does 1–111, No. 13 C 1795, 2013 WL 3867656 (N.D. Ill. July 23, 2013). [↑](#footnote-ref-80)
81. *Id.* at 3. [↑](#footnote-ref-81)
82. *Id.*  [↑](#footnote-ref-82)
83. *Id.,* quoting Patrick Collins, Inc. v. Does 1-21, 282 F.R.D. 161, 165 (E.D. Mich. 2012). [↑](#footnote-ref-83)
84. Cobbler Nevada, LLC v. John Does 1-15, 1:15-cv-02217-WYD-MEH (D. Colo. May 27, 2015) [↑](#footnote-ref-84)
85. Complaint at Exhibit B, Cobbler Nevada, LLC v. John Does 1-15, 1:15-cv-04612 (N.D. Ill. May 27, 2015) (No. 1). [↑](#footnote-ref-85)
86. #### *Id.* at Exhibit A.

    [↑](#footnote-ref-86)
87. TCYK, LLC v. Does 1-44, 13-CV-3825, 2014 WL 656786 (N.D. Ill. Feb. 20, 2014). [↑](#footnote-ref-87)
88. *Id.* at 3. [↑](#footnote-ref-88)
89. *Id.* at 2. [↑](#footnote-ref-89)
90. BrowserTime, *supra* note 46. [↑](#footnote-ref-90)
91. Fed. R. Civ. P. 21. [↑](#footnote-ref-91)
92. Malibu Media, LLC v. John Does 1-6, 291 F.R.D. 191 (N.D. Ill. 2013). [↑](#footnote-ref-92)
93. *Id.* at 204-205. [↑](#footnote-ref-93)
94. *Id.* at 201. [↑](#footnote-ref-94)
95. *Hard Drive Productions*, 809 F.Supp.2d at 1164. [↑](#footnote-ref-95)
96. Since January 1, 2010, 908 file sharing cases were filed in the Northern District of Illinois alone. Because each case has multiple Doe defendants, the total number of defendants is much larger. Of these cases, representing the entire history of file-sharing cases the Northern District of Illinois, not a single one has proceeded to a judgment on the merits. *See* Lex Machina Dashboard Statistics (generated April 21, 2016), <http://www.lexmachina.com/>. [↑](#footnote-ref-96)
97. Memorandum Opinion and Order, Cobbler Nevada, LLC v. Does 1-38, 15-cv-05283 (N.D. Illinois Oct. 23, 2015) (No. 26). [↑](#footnote-ref-97)
98. Call of the Wild Movie, LLC v. Does 1-1,062, 770 F. Supp. 2d 332, 344 (D.C. Cir. 2011). [↑](#footnote-ref-98)
99. *Hard Drive Productions*, 809 F.Supp.2d at 1164. [↑](#footnote-ref-99)
100. Call of the Wild Movie, LLC v. Does 1-1,062, 770 F. Supp. 2d 332 (D.C. Cir. 2011). [↑](#footnote-ref-100)
101. # Lex Machina Dashboard Statistics (generated April 21, 2016), <http://www.lexmachina.com/>; *See.* QOTD Film Investment LTD v. DOES 1-33, 1:16-cv-02457 (N.D. Ill. Feb. 2, 2016).

     [↑](#footnote-ref-101)
102. IO Group, Inc. v. Does 1-435, WL 445043 (N.D. Cal. 2011). [↑](#footnote-ref-102)
103. *Cobbler Nevada*, *supra* note 85. [↑](#footnote-ref-103)
104. Malibu Media, LLC v. John Does 1-68, 12 CV 6675, 2013 WL 5423872, at 8 (N.D. Ill. Sept. 27, 2013). [↑](#footnote-ref-104)
105. *Bicycle Peddler, LLC v. Does 1-12,* 295 F.R.D. at 279. [↑](#footnote-ref-105)
106. Interplanetary File System (last visited April 21, 2016), <http://ipfs.io/>. [↑](#footnote-ref-106)
107. The Safe Network (last visited April 21, 2016) <http://www.ethereum.org/>. [↑](#footnote-ref-107)