IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

WEST BAY ONE, INC.	)	
Plaintiff,	)	
v.	)	
DOES 1-2,094	)	CA. 1:10-cv-00481-RMU
Defendant.	)	

SUPPLEMENTAL DECLARATION OF SETH SCHOEN

I, Seth Schoen, declare as follows:

1. I am a Senior Staff Technologist with the Electronic Frontier Foundation (EFF), and I make this declaration on my own personal knowledge and if called upon to testify thereto, I could and would competently do so.

2. I reviewed the Declaration of Patrick Achache in Support of Plaintiff's Statement of Good Cause, as well as Plaintiff's Statement of Good Cause, in addition to the earlier declarations in Support of Plaintiff's Motion for Leave to Take Discovery. I also reviewed some of the academic research on BitTorrent, as indicated below.

3. This Declaration responds to two factual assertions made by the Plaintiff: 1) that the BitTorrent software is materially different from the file sharing systems that were at issue in previous litigation about peer-to-peer file sharing such that the earlier decisions about those technologies should not apply here, and 2) that the thousands of individuals sued jointly here likely uploaded and downloaded the copyrighted work at issue in this case directly from each other. I believe neither of those factual assertions is correct and submit this declaration to ensure that the Court is not confused.

4. First, Plaintiff has contrasted BitTorrent with other file sharing systems as part of its argument that joinder is proper. For instance, as part of distinguishing BitTorrent Plaintiff asserts

that BitTorrent users engage in both uploading and downloading of files (Plaintiffs' Statement of Good Cause, p. 15 (Document 29), that BitTorrent uses a technique called "swarming" (*Id.* p. 14), and that BitTorrent users have "knowledge that they are illegally downloading and/or distributing [the copyrighted work] to others." (*Id.* p. 11).

5. BitTorrent is actually similar in these ways to file sharing systems that were at issue in previous litigation about peer-to-peer file sharing, and to the extent it is different, the differences result in less direct communication among users of the technology, not more.

6. Initially, all peer-to-peer file sharing systems allow users to upload as well as download. In all such systems, files could spread throughout the network over time, from one user to another.

7. Next, BitTorrent is also not the only system that has a swarming or multi-source download feature in which users can download simultaneously from several other users. For instance, the KaZaA and Gnutella software that was at issue in several copyright infringement actions have a swarming download feature that works similarly to BitTorrent's. *See, e.g.,* Mike Linksvayer, *Deployment Matters,* (December 30, 2004), available at <http://gondwanaland.com/mlog/2004/12/30/deployment-matters/> ("Kazaa, eDonkey and various Gnutella clients (e.g., LimeWire) have incorporated multisource/swarming downloads for three years, and the latter two also use partial file sharing (I'm not sure about Kazaa and PFS). These two key features — download from multiple peers, and begin uploading parts of a file before you've completed downloading — don't set BitTorrent apart [...]").

8. Finally, in all peer-to-peer file sharing systems, some users are aware that they are uploading files as well as downloading them. Nothing about BitTorrent makes that more likely than with previous peer-to-peer systems.

9. To the contrary, BitTorrent provides users with *less* ability to identify and communicate with the peers with whom they exchange files than other technologies do. For example, Napster and KaZaA, unlike BitTorrent, referred to each user by a human-intelligible and somewhat memorable screen name, instead of a number. Napster and KaZaA have also

offered users the ability to chat with one another. BitTorrent does not offer these features. There is no easy way for the various BitTorrent users who have uploaded or downloaded parts of a file to recognize, name, or communicate with one another.

10. While BitTorrent client software, like other peer-to-peer file sharing software, may provide a way for a user to view the IP addresses of peers, users do not have to do so in order to use BitTorrent. They do not have to select peers' IP addresses, because the selection of peers is done automatically. Indeed, since BitTorrent automates so much of the download process, many users likely do not even know how BitTorrent works. Most BitTorrent users have no reason to know how many or which other peers they might have communicated with in the course of downloading a file, or which addresses transmitted which portions of the file.

11. Second, Plaintiffs have presented no direct evidence to this Court that any particular defendant shared portions of the copyrighted work at issue here with any particular other defendant. I do not believe Plaintiff's experts could have obtained such evidence, since BitTorrent does not provide a means for third parties to learn directly who is downloading files from whom. Thus to the extent that their argument for joinder rests on the claim that all of the thousands of individuals that they have named in this case actually gave or received a portion of the copyrighted work from one another, that extraordinarily unlikely.

12. In support of this argument, Mr. Achache observes that "[w]ithin a small network [of BitTorrent users]", "the plausibility that each user downloaded a part from each other is very high." Declaration of Patrick Achache at para. 6. This is certainly true for a network of, say, five or ten concurrent users. However, the "plausibility that each user downloaded a part from each other" rapidly evaporates as the number of users becomes larger or as the users use BitTorrent at widely separated times. Both are true in this case. The number of users sued together in this case is in the thousands and, according to the records submitted by Plainitffs, they allegedly used BitTorrent at different times over an eight month period.

13. Both of these facts – the number of individuals named together and the different times of their alleged use of BitTorrent – make it highly implausible that all of the thousands of

individuals sued jointly here uploaded or downloaded a part of the file from each other.

14. As to the different times for download specifically, the various Defendants are alleged to have used BitTorrent to transfer the movie file at very different times over the course of more than a year, which makes it even less plausible that they all could have communicated with one another. Appendix A to Plaintiff's Complaint shows allegations of infringement on dates ranging from July 1, 2009 (Bresnan Communications user 69.144.244.204) through February 26, 2010, 2010 (Fuse Internet Access user 208.102.90.9), an interval of 245 days for only the first few hundred Does originally named (the complaint now includes over 2,000 Does). Mr. Achache gave an example of how his firm can observe changes in which users are currently connected to a particular tracker, as some users who were not previously participating begin participating for the first time. Supplemental Decl. of Achache at 6. Consistent with academic research on file-sharing using BitTorrent described below, this shows another reason why many individual defendants would never have communicated with other defendants: although some BitTorrent users may continue to share a file for a period of time after their download has completed, most do not.

15. Empirical research shows that most BitTorrent users do not remain connected for very long after their downloads are complete. These statistics can be measured by means quite similar to the techniques employed by Plaintiff's experts here. One large study observed that only 3.1% of BitTorrent users stayed connected (to upload to others) more than ten hours after their downloads completed; only 0.34% stayed connected over 100 hours. J. A. Pouwelse, P. Garbacki, D. H. J. Epema, and H. J. Sips, The BitTorrent P2P File-Sharing System: Measurement and Analysis at 4 in PROCEEDINGS OF THE 4TH INTERNATIONAL WORKSHOP ON PEER-TO-PEER SYSTEMS available at http://www.springerlink.com/content/l251rj12233u05l.

16. Another study found that over 90% of users who successfully downloaded a file remained connected for less than a single day, while many users who attempted to download the file gave up entirely and disconnected within the first few hours. M. Izal, G. Urvoy-Keller, E. W. Biersack, P. A. Felber, A. Al Hamra, and L. Garcés-Erice, Dissecting BitTorrent: Five Months in

a Torrent's Lifetime at 7, in PROCEEDINGS OF THE 5TH INTERNATIONAL WORKSHOP ON PASSIVE AND ACTIVE NETWORK MANAGEMENT PROCEEDINGS OF THE 4TH INTERNATIONAL WORKSHOP ON PEER-TO-PEER SYSTEMS, available at http://www.springerlink.com/content/fg8hqw4136t0vtx9/.

17. Thus, it is highly unlikely all or even a significant number of the defendants who downloaded the subject copyrighted work here stayed on the network and became a source for another defendant to dowload from. Certainly such direct interactivity should not be assumed here where Plaintiffs have provided no evidence in support of it.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge and that this document was executed in San Francisco, California.

Dated: June 28, 2010 By: _____