

a file is constituted by the combination of contributions of several uploaded files.
26

This evolution of P2P systems can therefore be viewed as an attempt to escape the grasp of judicial decisions through legal or judicial safe harbors (e.g., *Sony v. Universal*²⁷ in the U.S.), be it from the more straightforward decisions of direct infringement (*Napster*), to the increasing more complex cases of secondary infringement, under theories of contributory infringement (*Napster*, *In re Aimster* and *KaZaA*), vicarious liability, inducement liability (*Grokster*) and, in some instances, criminal sanctions (*Pirate Bay*).²⁸ Although this writing does not focus on the liability of P2P software providers or ISPs, it is essential to have this issue in mind when discussing P2P networks and their evolution, not in the least given its continued actuality, as recently shown in much publicized cases, such as *UMG v Veoh*²⁹ (in the U.S.) and *Scarlet Extended* (in the E.U.).³⁰

By all accounts, this technological flexibility of P2P has meant not only remarkable innovation but also its survival for over a decade—a lifetime in Internet age—, there being no signs that the foreseeable future will bring its obsolescence.

B. Economic background

Considered in isolation, file-sharing is a lawful activity representing an innovative technological solution with potential for further lawful uses³¹ and raising consumer

26 See **Annex I** for further details. See also, for a description of the Pirate Bay service, Jerker Edström & Henrik Nilsson, *The Pirate Bay Verdict – Predictable and Yet...*, 31 EURO. INTELL. PROP. REV. 9:483, 483-484 (2009).

27 Sony Corp v Universal City Studios, Inc 464 U.S. 417, at 423, 104 S. Ct 774 (1984) [*Sony v. Universal*].

28 For an overview of the mentioned decisions prior to *Grokster*, see Patricia Akester, *Copyright and the P2P Challenge*, 27 EURO. INTELL. PROP. REV. 106, 106-110 (2005). For an analysis of *Grokster* see Paul Ganley, *Surviving Grokster: Innovation and future of Peer-to-Peer*, 28 EURO. INTELL. PROP. REV. 15 (2006). For an analysis of *Pirate Bay* see Edström & Nilsson, *supra* note 26, at 487-487.

29 *UMG Recordings, Inc., v. Veoh Networks, Inc.*, Nos. 09-55902, 09-56777, 10-55732, 2011 U.S. App. WL 6357788, (9th Cir. Dec. 20, 2011).

30 Case C-70/10, *Scarlet Extended SA v. Sabam*, 2011 (*available at*: <http://curia.europa.eu>) [*Scarlet Extended*]. In *Scarlet Extended* the ECJ held that, under E.U. law, it is not possible for a national court to impose on ISPs (here: an access provider) an injunction requiring it to install (at its own cost), a comprehensive system for filtering all electronic communications containing protected works passing via its services, in particular those involving the use of P2P software, with the purpose of blocking the transfer of infringing files.

31 See BART CAMMAERTS & BINGCHUN MENG, MEDIA POLICY BRIEF 1: CREATIVE DESTRUCTION AND COPYRIGHT PROTECTION – REGULATORY RESPONSES TO FILE-SHARING 9, LSE Media Policy Project (2011), <http://www.scribd.com/doc/51217629/LSE-MPPbrief1-creative-destruction-and-copyright-protection> (last visited Jan. 31, 2012).

welfare.³² However, its relevance as an object of legal study depends upon its economic significance, chiefly when most P2P uses are deemed copyright infringement and labeled as “piracy”.³³

There is a wealth of economic data available on P2P and a detailed study of the same would go beyond the scope of this book. Hence, references will primarily be made to two 2011 reports, which focus on infringing uses of works on the Internet and include data on related P2P uses: the Envisional Report and the IFPI 2011 Report.^{34, 35} Where justified, references will be made to the more recent IFPI 2012 Report.³⁶

All Reports mentioned are considered with reservations, such as those related to methodology, quality of data, accuracy of results,³⁷ and source of origin.³⁸ Neither is all encompassing of this reality, as some relevant networks are not monitored,³⁹ nor do they shed light on usage in hidden or private networks (“darknets”).⁴⁰ This implies, without great stretch of the imagination, that actual numbers for (infringing) file-sharing are higher than current estimates show. However, these Reports offer a good overview of the relative position of P2P in the context of Internet traffic and online uses of works, which is essential for understanding its economic significance.

The Envisional Report estimates the proportion of infringing traffic on the Internet on a global basis by cross analyzing its own researched data with that of other

- 32 See HUYGEN ET AL., *supra* note 11, at 3 & 120 (referring that positive short and long-term welfare effects are felt when P2P is practiced by consumers lacking purchasing power).
- 33 See WORLD INTELLECTUAL PROP. ORG., WIPO INTELLECTUAL PROPERTY HANDBOOK 51 (2d ed. 2004) (defining piracy as “the unauthorized copying of copyright materials and the unauthorized commercial dealing in copied materials”).
- 34 See IFPI DIGITAL MUSIC REPORT 2011: MUSIC AT THE TOUCH OF A BUTTON (2011), <http://ifpi.org/content/library/DMR2011.pdf> (last visited Jan. 31, 2012) [hereinafter **IFPI 2011 Report**].
- 35 IFPI data is particularly relevant as the Commission also takes it into in its policy making, as can be seen, e.g., in *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, on a Single Market for Intellectual Property Rights boosting creativity and innovation to provide economic growth, high quality jobs and first class products and services in Europe*, COM(2011) 287 final (May 24, 2011) [hereinafter **IPR Strategy**], at 5 & n.10, 10 & n.19.
- 36 See IFPI DIGITAL MUSIC REPORT 2012: EXPANDING CHOICE. GOING GLOBAL (2012), <http://www.ifpi.org/content/library/DMR2012.pdf> (last visited Jan. 31, 2012) [hereinafter **IFPI 2012 Report**].
- 37 See Envisional Report, *supra* note 25, at 56 (recognizing some of these caveats).
- 38 The Envisional Report was commissioned by NBC and the IFPI Reports originate from a CMOs’ Federation, both pro-rights holders sources.
- 39 See Envisional Report, *supra* note 25, at 54 (exemplifying with Ares, DirectConect, Kad, Gnutella 2 and MP2P).
- 40 See Ericsson, *supra* note 10, at 13-14 (contending that implementation of anti-detection technologies may have the effect of decreasing P2P use, while making it harder to tackle). See also Annemarie Bridy, *Why pirates (still) won't behave: regulating P2P in the decade after Napster*, 40 RUTGERS L.J. 565, 594-596 (2009) (referring the difficulties in monitoring encrypted networks, especially through deep packet inspection).

major studies.⁴¹ It concludes that “23% of all internet bandwidth is devoted to the transfer of infringing and non-pornographic content”.⁴² Infringing content is divided into three major areas: P2P networks (focusing on BitTorrent, eDonky, Gnutella and Usenet); cyberlockers (i.e., file-hosting sites); and other web-based networks (e.g., streaming video).⁴³

P2P accounts for about 25% of global Internet traffic, over 17% of which is estimated to be infringing copyright.⁴⁴ The major portion of content shared relates to video with music representing a small part of the total amount,⁴⁵ a discrepancy justified by video files occupying much more bandwidth than music files.⁴⁶ In fact, the most downloaded content worldwide in the P2P context seems to be precisely music.⁴⁷

Although this Report does not clearly define regional P2P data for the E.U., at least one of the studies analyzed advances that file-sharing constitutes about 30% of all Internet traffic in the “old continent”, with BitTorrent being the most popular network.⁴⁸

The IFPI 2011 Report focuses on digital music and the emerging online market for its legal licensing. It classifies P2P as a mostly infringing activity, which constitutes 23% of users’ activities when accessing the Internet across the top five E.U. markets, while confirming the prevalence of BitTorrent.⁴⁹

Legally licensed music is presented as a significant emerging market (with 400 licensed digital music services worldwide) where partnerships with ISPs and mobile operators are viewed as essential, given their existing billing relationships with the scalable consumer market.⁵⁰

41 See Envisional Report, *supra* note 25, at 27-42 (analyzing the “Sandvine: 2009 Global Broadband Phenomena”, the “Arbor Networks: ATLAS Observatory 2009 Annual Report”, the “Cisco: 2009 Visual Networking Index Usage Study” and the “iPoque: Internet Study 2008/2009”).

42 *Id.* at 55.

43 *Id.*

44 *Id.* at 2-3 and 47-48.

45 *Id.* at 10-11 and 25 (for example, in what concerns BitTorrents alone, films amount for 85,5% of analyzed torrents, while music is limited to 2,9%, although it is the most popular content on some networks, such as Gnutella).

46 Although noting a relative decrease in favor of other types of files between 2002 and 2003, audio files were still in the lead of the most shared files in monitored P2P systems in OECD countries in that period; note, however, that already in 2004 P2P included much more than MP3 files, being “applied for all types of on-line information, data distribution, grid computing and distributed file systems” (see OECD 2004 Report, *supra* note 10, at 12).

47 See HUYGEN ET AL., *supra* note 11, at 118.

48 See Envisional Report, *supra* note 25, at 30.

49 See IFPI 2011 Report, *supra* note 34, at 14-15.

50 *Id.* at 3-8. In 2012 the number of licensed digital music services worldwide is of 500, offering up to 20 million tracks (see IFPI 2012 Report, *supra* note 36, at 10).

Amid positive indicators⁵¹ this Report emphasizes some “negative” numbers perceived to be caused by piracy/P2P, such as:

- (i) The 31% decline in the value of the global recorded music industry (in 2010);
- (ii) An estimated fall of 77% in debut album unit sales in the global top 50 in the period of 2003-2010;
- (iii) A 12% fall in the revenues of the global top 50 tours in 2010;
- (iv) A projected 1.2 million jobs to be lost in the European creative industries by 2015; and
- (v) A whopping € 24 billion of estimated cumulative lost retail revenues to the European creative industries within 2008–2015.⁵²

These numbers are highlighted despite massive offering of diversified legal licensing models,⁵³ leading to the conclusion that P2P is the primary culprit of the industry’s economic losses.⁵⁴

Other than its apparent lack of solid economic background, this Report deserves particular criticism due to its presentation/bundling of data not clearly (or at least convincingly) interrelated—such as online piracy and revenue decreases in debut albums, musical tours, number of employed musicians and jobs in the creative industries—, all of which underline the very debatable idea that P2P is a direct cause of loss of revenue of the music industry.⁵⁵

It also presents data indicating a negative impact on unknown and upcoming artists, neglecting to discuss the visibility benefits related with P2P’s inherent “sampling” effect.⁵⁶

51 See IFPI 2011 Report, *supra* note 34, at 5 and 12 (highlighting, *inter alia*, a 1000% increase in the value of the digital music market).

52 *Id.* at 5. Note that IFPI’s numbers in earlier surveys have been criticized as being “often based on the wishful thinking of rights holders”, which wrongly assume “that most unauthorized copies would be replaced by the sale of a legitimate product if file-sharing was effectively controlled” (see CAMMAERTS & MENG, *supra* note 31, at 5).

53 See IFPI 2011 Report, *supra* note 34, at 14.

54 *Id.* (identifying other less relevant components as “alternative forms of illegal distribution such as cyberlockers, illegal streaming services and forums...”).

55 Arguing that no such direct correlation has been clearly established see: Lewinsky 2005, *supra* note 8, at 4-5 (referring to CD sales); HUYGEN ET AL., *supra* note 11, at 115 and 120; CAMMAERTS & MENG, *supra* note 31, at 2 (pointing out other factors such as “changing patterns in music consumption, decreasing disposable household incomes for leisure products and increasing sales of digital content through online platforms”). But see Norbert J. Michel, *The Impact of Digital File Sharing on the Music Industry: An Empirical Analysis* 6 TOPICS ECON. ANALYSIS & POL’Y (Iss.1) Article 18 (2006), 11, <http://www.bepress.com/bejeap/topics/vol6/iss1/art18> (last visited Sep.10, 2011) (concluding, based on a analysis of the micro-level from the consumer expenditure survey, that P2P “may have reduced album sales (between 1999-2003) by as much as 13 percent for some music consumers” and that there is “no evidence that file sharing led to a widespread increase in music purchases”).

56 See HUYGEN ET AL., *supra* note 11, at 121.

Finally, the policy oriented nature of the IFPI 2011 Report is made clear on those sections where statistical and economic data is used as a justification for political rhetoric. The IFPI, it seems, believes that to establish a market for legal online music distribution copyright law must be strengthened and more effective enforcement is required, as only this combination will prevent P2P piracy. Rhetoric surfaces when such point is made through an unconvincing case study of file-sharing in Sweden, post-implementation of the Enforcement Directive and following the decision on *Pirate Bay*.⁵⁷ The Report uses such example to praise the adoption of “graduated response” type of legislation in the E.U., most notably the Hadopi laws in France⁵⁸ and the Digital Economy Act in England.⁵⁹

In general, this approach seeks to implement a system where ISPs monitor users’ potentially infringing actions (and/or act upon notice thereof by rights holders), serving notifications and warnings on said users to stop infringing. Should a user not stop after a legally pre-determined number of warnings, sanctions are applied, ranging from penalties to time-limited bans on Internet access.⁶⁰

However, the IFPI 2011 Report makes no reference to significant problems that may arise when implementing such systems, namely concerning its compatibility with principles of freedom of expression and privacy, especially where the “right of access to the Internet” can be terminated by an administrative authority without previous judicial intervention; in fact, it was precisely this point that motivated the

57 See IFPI 2011 Report, *supra* note 34, at 11. See also Adrian Adermon & Che-Yuan Liang, *Piracy, Music and Movies: A Natural Experiment 2* (Research Inst. of Indus. Econ., IFN Working Paper No. 854, 2010) available at <http://www.ifn.se/wfiles/wp/wp854.pdf> (last visited Jan. 31, 2012) (analyzing the effects of illegal P2P on music and movie sales in Sweden following the implementation of the Enforcement Directive, concluding that “pirated music is a strong substitute for legal music whereas the substitutability is less for movies”).

58 For an analysis of French legislation leaning up to and including the Hadopi laws, highlighting its complexity, repressive potential, compatibility with the European Convention on Human Rights and general appropriateness, see Christophe Geiger, *Honorable Attempt but (Ultimately) Disproportionate Offensive against Peer-to-peer on the Internet (HADOPI) – A Critical Analysis of Recent Anti File-Sharing Legislation in France* (2011), 42 INT’L REV. INTELL. PROP. & COMPETITION L. 457 (2011).

59 See IFPI 2011 Report, *supra* note 34, at 19 (highlighting the legal settlement between Eircom and IRMA in Ireland, which led to implementation of a pilot graduated response program). See also IFPI 2012 Report, *supra* note 36, at 18 (providing further information on Eircom’s graduated response system and the parallel offer of a fully authorized streaming and download service named MusicHub).

60 For an explanation of the specific workings of graduated response system under the Hadopi laws see Geiger, *supra* note 58, at 466 et seqs.

refusal by the French Constitutional Council of the Hadopi 1 law and the shift to the Hadopi 2 law.⁶¹

The need for judicial intervention is also viewed as essential by the European Parliament, which in a resolution of 2010—concerning the ACTA negotiations and referring to an amendment to the Directive on common regulatory framework for electronic communications networks and services—, considered that

in order to respect fundamental rights, such as the right to freedom of expression and the right to privacy, while fully observing the principle of subsidiarity, the proposed agreement should not make it possible for any so-called ‘three-strikes’ procedures to be imposed, in full accordance with Parliament’s decision on Article 1.1b in the (amending) Directive 2009/140/EC calling for the insertion of a new paragraph 3(a) in Article 1 of Directive 2002/21/EC on the matter of the ‘three strikes’ policy; considers that any agreement must include the stipulation that the closing-off of an individual’s Internet access shall be subject to prior examination by a court.⁶²

The IFPI 2012 Report is in many aspects similar to its predecessor. On the one hand, it highlights growth in digital music revenues to record companies,⁶³ an increase of 17% in downloads and a broad segmentation of this market into consumption models of “ownership” and “access”, thus attempting to show the industry’s capability to adapt its business models to the digital age.⁶⁴ On the other hand, it singles out “digital piracy” as the major danger to these markets, stating that more than a quarter of internet users globally “access unauthorized services on a monthly basis”,⁶⁵ around half of which via P2P networks.⁶⁶

IFPI’s strategy to tackle this perceived danger can be summarized as an approach involving “an inclusive combination of graduated response, site blocking and other [mostly enforcement] measures”, with a great deal of focus placed on the role of

61 *Id.* (further noting additional problems arising from Hadopi 2, such as the possibility of accumulation of penalties applying both to users and ISPs). For an analysis of the French Constitutional Council’s decision and the shift to the Hadopi 2 law against the backdrop of a broad constitutional concept of freedom of speech that includes Internet access, see Nicola Lucchi, *Regulation and Control of Communication: The French Online Copyright Infringement Law (HADOPI)*, 19 CARDOZO J. INT’L & COMP. L. (2011); Max Planck Institute for Intellectual Property & Competition Law Research Paper No. 11-07. Available at SSRN: <http://ssrn.com/abstract=1816287>.

62 See European Parliament, *Resolution of on the transparency and state of play of the ACTA negotiations*, P7_TA(2010)0058, 2010, available at: <http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P7-TA-2010-0058&language=EN> [hereinafter **EP Resolution on ACTA Negotiations**], at para. 11.

63 See IFPI 2012 REPORT, *supra* note 36, at 6 (noting the first ever year-on-year growth the IFPI has reported, with an 8% increase in 2011 alone, to an estimated US\$5.2 billion).

64 *Id.* at 6, 7 and 10.

65 *Id.* at 9 (citing an Nielsen/IFPI study).

66 *Id.* at 16 (indicating that in Europe this percentage is of 27%, according to Nielsen/IFPI, November 2011 data).

intermediaries, such as ISPs, “payment providers, advertisers, mobile service providers and search engines”.⁶⁷

Much effort goes into detailing these measures and promoting graduated response systems “as the most proportionate and effective solution to address the major problem of P2P piracy”, arguing that such systems effectively change consumer behavior.⁶⁸ The Hadopi laws in France are once again highly praised as a successful example to be followed,⁶⁹ as are its counterparts in other areas of the world, namely the U.S., such as the agreement struck between rights holders and ISPs for a system of “copyright alerts” notifying internet subscribers of infringing uses made via their accounts, as well as the “Stop Online Piracy Act” (SOPA) and the “Protect IP Act” (PIPA).⁷⁰

As with its predecessor, this Report does not mention the legal challenges that come with the implementation of such systems, being equally oblivious to its economic costs. The latter are simple to understand when one considers the enormous investment required by the administrative structure of the system, together with the judicial management of related litigation and the legal interpretation costs it creates, which risk becoming exponential given the fast obsolescence of these pieces of legislation.⁷¹ Furthermore, the economic weight of this approach can only grow in a context of user resistance to adoption, a factor ever more clear to rights holders and legislators in the wake of the extraordinary backlash experienced by the U.S. government when discussing the SOPA and PIPA—which eventually led to its demise (at least under the current format)⁷²—and the E.U. with the discussions on

67 *Id.* at 9 and 16-26 (although the Report mentions its own three-pronged approach, consisting of “[p]roviding attractive legitimate services and conducting public education campaigns”, together with “the ability of the industry to effectively enforce its rights”, we believe that the its content clearly emphasizes enforcement measures such as those described above).

68 *Id.* at 16-17. For a list of countries that have enacted legislation comprising some form of graduated response systems, see Dusollier & Colin, *supra* note 8, at 812 & n13.

69 See IPFI 2012 REPORT, *supra* note 36, at 9, 16-18 and 20 (noting studies that show a decline of 26% of overall P2P use since notices started being sent in October 2010 and a positive impact on iTunes sales in France).

70 *Id.* at 21.

71 One need only look at the example of France and its complex regulation calling for the need of multiple legislative pieces, the ground-up creation of an administrative authority and its implementation (including the necessary and costly management systems), the thousands of notices to users, the related administrative and judicial litigation, the public advertisement and education campaigns, etc. On the complexity, legal interpretation costs and obsolescence risks of the French system, see Geiger, *supra* note 58, at 469 et seqs. See also IPFI 2012 REPORT, *supra* note 36, at 27 (noting a € 3 Million cost of a campaign to support the launch of Hadopi).

72 See Reid Statement On Intellectual Property Bill (Jan. 20, 2012, 9:17 AM), <http://democrats.senate.gov/2012/01/20/reid-statement-on-intellectual-property-bill/> (last visited Jan. 31, 2012) and Statement from Chairman Smith on Senate Delay of Vote on PROTECT IP Act (Jan. 20, 2012), <http://judiciary.house.gov/news/01202012.html> (last visited Jan. 31, 2012).

the adoption of ACTA and the possibility of it being referred to the ECJ for compatibility with E.U. law.⁷³

On the other hand, IFPI's focus on the role of ISPs as gatekeepers⁷⁴ may to some extent be undermined in the E.U. by the decision in *Scarlet Extended*, as well as rules on privacy, personal data and e-commerce—with emphasis on the forthcoming framework for “for notice and action procedures”⁷⁵—applying to intermediaries, leaving some doubts as to what role will ISPs be willing to play in the context of social and economically costly “repressive” measures towards digital piracy.

Interestingly, neither of the 2011 or 2012 IFPI Reports make reference to DRM, a former flagship of rights holders in the fight against infringement, an omission that is however understandable, given its generalized failure to produce any significant impact on digital piracy.⁷⁶

Be that as it may, the inescapable conclusion to be drawn from all reports mentioned is the enormous economic significance of P2P, a fact amplified by its promotion as a “tool of rhetoric” in the E.U. copyright policy debate.⁷⁷

73 On the issue of E.U. competence to negotiate ACTA see Ana Ramalho, *The European Union and ACTA – Or Making Omelettes without Eggs (Again)*, 42 INT'L REV. INTELL. PROP. & COMPETITION L. 97 (2011). For background and main issues raised by ACTA in the E.U., see also the EP Resolution on ACTA Negotiations.

74 See IPFI 2012 REPORT, *supra* note 36, at 19 and 24-26.

75 See *Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions – A coherent framework for building trust in the Digital Single Market for e-commerce and online services*, COM(2011) 942 (Jan. 11, 2012) [hereinafter **Communication on E-commerce and Online Services**], at 13-15.

76 See HUYGEN ET AL., *supra* note 11, at 116 (noting that “the music industry’s initial defensive strategy of legal measures and DRM protection has not succeeded in stemming the swelling tide of music sharing and that the industry has failed to come up with an early answer to today’s new digital reality”).

77 Examples are abundant, but perhaps none more impressive than the creation of “Pirate Parties” (political spin-offs from the P2P debate and *Pirate Bay* in particular) in several E.U. countries which even, in the case of the Swedish chapter, managed to obtain a seat in the European Parliament (see, e.g., <http://news.bbc.co.uk/2/hi/8089102.stm>, last visited Jan. 31, 2012). Another interesting example is that of the recognition in Sweden of the Missionary Church of Kopimism as a religious organization by the competent authorities; this religion defines itself as the “absolute opposite” of the “Copyright Religion” (see DET MISSIONERANDE KOPIMISTSAMFUNDET, <http://kopimistsamfundet.se/english/>, last visited Jan. 31, 2012).