

**Compelling to disclose software interoperable
information: A risk for innovation or a balanced solution?**

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Interoperability, like openness, is something that we generally think of as a “good thing” in the context of information and communications technologies (ICT). Reasons put forward for interoperability are that it leads to innovation, as well as consumer choice, ease of use and competition¹.

The legal concept of interoperability was defined in the Software Directive² for the first time, as “the ability to exchange information and mutually to use the information which has been exchanged”³. Albeit, since Microsoft CFI ruling in 2007, some scholars have emphasized that the concept of interoperability as an isolated policy on compatible software is no longer applicable⁴. The notion of interoperability may be taken into account as a priori standard that crosscuts a wide spectrum of IT laws and policies⁵.

This vision finds its confirmation in the Digital Agenda for Europe 2010-2020, whose second pillar refers to interoperability and standards. As the Commission has declared, interoperability information is embodied in the interfaces of the software system. To improve and promote the enhancement of interoperability, the Agenda envisages several actions, because interface information may be strategic for the ICT sector⁶. But strikingly none of those actions address directly the Software Directive.

Actions 23 and 25 of the Digital Agenda refer to interoperability and standards, mainly through the study of licensing, with special focus in ex-ante disclosure of interoperable information. Although licensing is nowadays of paramount importance,

¹ U. Gasser, J. Palfrey, “When and How ICT Interoperability Drives Innovation”, 2007, Berkman Publication Series, November, available at: <http://ssrn.com/abstract=1033226> (last visited August 6, 2012)

² Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs, O.J. L 122 of 17.5.1991, codified in Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs, O.J. L111 of 5.5.2009. (Here in after, “Software Directive”)

³ Recital 12 of the Software Directive.

⁴ M.A. Dizon, “Decompiling the Software Directive, the Microsoft CFI case and the i2010 strategy: How to reverse engineer an international interoperability regime”, 14 CTRLR, p. 213, (2008).

⁵ Robert J. Hart, “Interoperability information and the Microsoft decision”, 28 (7) EIPR (2006), p. 361.

⁶ Digital Agenda Assembly, 16-17 June, 2011, p. 64; available at: http://ec.europa.eu/information_society/digital-agenda/publications/index_en.htm (last visited August 6, 2012).

the Commission may not lose sight of the relevance of the software copyright provisions regarding interoperability and also licensing.

The high importance of claims of copyright in standards was illustrated by a “clarification” of its intellectual property policy that ISO published in July 2003. It would have required all software developers and commercial resellers of data who embedded data elements from ISO’s standard country, language, and currency codes to pay an annual fee (or a one-time fee plus regular maintenance fees) for doing so⁷.

Therefore this essay aims to expound, on one hand, how and why interoperability as a priori standard that intersects with a wide array of laws and policies relating to information technology, has its background in the conception and legal regime established by the Software Directive, and on the other hand, how this Directive might affect a possible licensing approach of interoperability information. A revision of the Software Directive in the course of the actions that directly relate to interoperability in the Digital Agenda would be for the better of the innovation in the ICT sector.

The structure of this essay is, thereby, the following: In first place, an explanation of the concept of interoperability in the Software Directive will be attempted. Secondly, this essay will discuss whether the said regulation established by the Software Directive can jeopardize the public interest. Thereupon, due to the impact of the Microsoft CFI decision, this essay will examine whether a compulsory licensing approach is the best solution in order to guarantee access to interoperable information. Closing, some recommendations over both the interoperable information regulation of the Software Directive and the licensing approach that might help in keeping a fair balance between the copyright holder of the computer program and competitors in the ICT sector for the sake of interoperability and innovation.

⁷ R. Cover, “Standards Organizations Express Concern about Royalty Fees for ISO Codes”, cover pages, at: <http://www.coverpages.org/ni2003-09-20.html> (last visited 6 August 2012). See also: P. Samuelson, “Questioning Copyright in Standards” in L. DeNardis (ed.), “Opening Standards. The Global Politics of Interoperability”, p. 135, (MIT Press, Cambridge, Massachusetts, London, 2011)

1. The concept of interoperability in the Software Directive.

The core statutory basis for interoperability provided by the Software Directive starts in its Recitals. Recital 10 highlights the significance of a computer program to interoperate, interconnect and interact within an IT system and with users⁸. Recital 12, defines interoperability as “the ability to exchange information and mutually to use the information which has been exchanged”. This definition is quite broad if compared with the one contained in the Bangemann Report, referring to interoperability in the context of telecommunications, as the seamless interconnection of networks and the ability of services and applications to work together⁹. Interoperability of communication services would mean that end-users would get access to different service providers, even though they subscribed to one network only¹⁰.

Besides the broad conception over interoperability offered by the Recitals of the Directive, one provision relates straight to interoperability in the Software Directive while other one does it but indirectly. It shall be borne in mind that this regulation tries to establish a harmonized level of copyright protection for computer programs in order to create the necessary incentives for investments in software development. On the other hand, the Directive aimed to facilitate the creation of interoperable programs to the benefit of competition and, ultimately, the consumer¹¹.

Article 6 contains an exception for reverse engineering in the form of decompilation¹². The right of decompilation contained in here was fiercely debated¹³,

⁸ “(...) the function of a computer program is to communicate and work together with other components of a computer system and with users and, for this purpose, a logical and, where appropriate, physical interconnection and interaction is required to permit all elements of software and hardware to work with other software and hardware and with users in all the ways in which they are intended to function”.

⁹ Official Report, Recommendations to the European Council, Europe and the Global Information Society (“Bangemann Report”), May 26, 1994, available at: <http://ec.europa.eu/archives/ISPO/infosoc/backg/bangeman.html> (last visited 6 August 2012)

¹⁰ Art. 4(1) Council Directive 2002/19 of March 7, 2002 on access to, and interconnection of, electronic communications networks [2002], O.J.L. 108/7 (“Access Directive”).

¹¹ U.Bath, “Access to information vs. intellectual property rights”, 24(3) EIPR 138, 143 (2002)

¹² *Decompilation is a process that attempts to produce readable high-level language code from executable binary code. The idea is to try and reverse the compilation process, to obtain the original source code file or something similar to it.* See: E. Eilam, “Reverse, Secrets of Reverse Engineering”, p. 16 (Wiley Publishing, Inc., Indianapolis, Indiana, 2005)

because reconstruction of a program's source code reveals more than interoperable information. It results in exposure of the program's "formula", including any trade secrets or other data. Thus, according to Article 6(1) and 6(2)(a), decompilation is lawful only if indispensable for the development of an interoperable program and then only under certain stringent and cumulative conditions:

1. Acts must be performed by the licensee or by another person having a right to use a copy of the program, or on their behalf by a person authorized to do so.
2. The information should not previously have been made "readily available" (art. 6(1)(b)). This clause encourages voluntarily disclosure of interoperable information, but as reality has shown, this is not a very common practice between ICT industries.
3. The act of decompilation must be confined only to those portions of the object code that are necessary for interoperability and the information obtained, shall not be given to others. (Art. 6(1) and 6(2)(b)) Moreover, the decompiler bears the burden of proof for all these requirements¹⁴. This can be problematic because it presumes that the engineer has knowledge of the location of such parts in the object code prior to decompilation¹⁵, and without a complete analysis of the program that reveals the approximate location of the relevant interoperable information, this condition will be difficult to meet and should normally not apply¹⁶.

Besides, this Article does not permit a developer to decompile a program simply because of the wish to create a product to compete with the program in some general way unrelated to interoperability. In particular, a developer may not decompile a program solely to research its underlying ideas and then implement those ideas in a program that competes with the decompiled program¹⁷. Other reasons like maintenance

¹³ See: T. Vinje, "The History of the EC Software Directive" in M. Lehmann (ed.), "A handbook of European software law", p. 49 (Clarendon Press, Oxford, 1993).

¹⁴ B. Czarnota and R.J. Hart, "Legal Protection of computer programs in Europe: a guide to the EC Directive", p. 77, (Butterworths, London, 1991).

¹⁵ See, for instance, *Creative v. Aztech*, Singapore Court of Appeal 1996, §54.

¹⁶ J. Band and M. Katoh, "Interfaces on Trial: Intellectual Property and Interoperability in the Global Software Industry", p. 252, (Westview Press, Boulder, 1995); T. Dreier and B. Hugenholtz (eds.), "Concise European Copyright Law", p. 231, (Kluwer Law International, Alphen aan den Rijn, 2006).

¹⁷ A.K. Palmer and T. Vinje, "The EC Directive on the legal protection of computer software: new law governing software development", 2 DJCIL, 65, 83 (1992).

of computer programs or error correction have no room in Article 6, because the decompilation is only permitted to achieve the creation of an independent computer program.

This Article thereby, shows a controversy over the meaning of interoperability in two respects: While the exception is explicitly confined to interoperability, the Software Directive does not specifically permit decompilation for the purpose of research. Still today, whether this was intended or simply an omission is not clear. What is more, prohibiting research activities in the field of software development threatens to contravene Art. 179(1) of the TFEU which lays down the Community objective to promote “research and technological development”.

On the contrary, Art. 5(3) of the Directive confirms the right to conduct black box analysis by a person having a right to use the program. Although black box testing proves very important in the process of establishing interoperability, it does not necessarily result in a comprehensive list of the information required for full interoperability¹⁸. To determine all relevant information, it may be necessary to analyse the source code or formula of the program so as to establish how it interoperates internally¹⁹, that is, to decompile the program which could only be done without constituting a copyright infringement if the decompiler complies with the conditions early mentioned.

Furthermore, Article 6 seems to ignore the deeply rooted copyright principle that originality is the decisive factor in determining the scope of copyright protection. Article 1(2) of the Software Directive provides that “ideas and principles which underlie any element of a computer program, including those which underlie its interfaces, are not protected by copyright under this Directive”. As recently stated the ECJ in Cases C-393/09 and C-406/10 interpreting Article 1(2), “the object of the protection conferred by that directive is the expression in any form of a computer program, such as the source code and the object code, which permits reproduction in different computer

¹⁸ A. van Rooijen, “Essential Interfaces. Exploring the Software’s Directive equilibrium between intellectual property rights and competition law”, 2007 CRI, 129, 130.

¹⁹ A. Johnson-Laird, “Software Reverse Engineering in the Real World”, 19 U. Dayton L.R. 843, 876, (1994).

languages”²⁰. Finally the Court declared Article 1(2) “must be interpreted as meaning that neither the functionality of a computer program nor the programming language and the format of data files used in a computer program in order to exploit certain of its functions constitute a form of expression of that program and, as such, are not protected by copyright in computer programs for the purposes of that directive”²¹.

Consequently, if in determining the scope of a copyright exception, it is incumbent on the State to strike a fair balance between the interests of the authors on the one hand and those of the public on the other hand²², acts of decompilation beyond the purpose of creating interoperable programs should not constitute copyright infringement when used only to determine the underlying ideas, and not to copy protected expression. But unfortunately the room for interpretation in this regard is still too broad and the ECJ has not yet ruled any interpretation of Article 6.

What this concept of the Directive shows is that technical difficulties as well as restrictive conditions for decompilation significantly limit competitor’s abilities to access the interoperability information of a copyrighted computer program. Therefore, the Software Directive’s concept of interoperability and its regulation, which in theory should be a suitable ex-ante instrument to balance openness and control of interface information, is instead negatively affecting this balance.

2. The Software Directive regulation of interoperability: A source of headaches for public interest?

Although copyright protection does not impede to protect software by other intellectual property systems, however, the way the Software Directive regulates interoperability might threaten not only innovation in the ICT sector but the lawful user right of using a copyrighted work.

²⁰ (Judgment of 22 December 2010, Case C-393/09 *Bezpečnostní softwarová asociace* [2010] ECR I-0000, para. 35 and Judgment of 2 May 2012, Case C-406/10 *SAS Institute Inc. v World Programming Ltd.*, para. 35)

²¹ (Judgment of 2 May 2012 in Case C-406/10 *SAS Institute Inc. v World Programming Ltd.*, rule 1).

²² *Limitations on the author’s exclusive right may be imposed in order to facilitate the work’s contribution to the intellectual and cultural enrichment of the community. However, the limitations must not be such as to dampen the will to create and disseminate new works.* See: M. Fabiani, “A Profile of Copyright in Today’s Society”, (1982) Copyright, p. 154.

To start with, as some scholar has pointed out, the protection of software through copyright law is in addition to that afforded by patent law. In Europe, software-related patents have also become the subject of renewed, although cost-selective, interest by the most innovative producers²³. Pro-cumulation tendencies are a typical expression of the oft-criticised overprotectionism in IP law, and the main effect of this new “foul congregation” of legal protections is the fact that the parallel protectability under copyright creates an umbrella against exceptions to patentability and the granting of patents²⁴.

Also, the manner that the Software Directive protects computer programs, results in that copyright does not protect just “a” certain configuration but also the rights of the holder in reproductions, translations, transformations, changes, improvements, upgrades, etc. that in themselves constitute original works²⁵. This means the copyright holder controls who may access all the program information. It follows that the latter must always request authorisation from the author even to use the program. Because of the way innovation works within the ICT sector, this control over the program information by the copyright holder can jeopardize this public interest²⁶.

In order to innovate, a software developer will need in the first place to be able to interoperate with software of others. To this extent, innovation is limited by

²³ G. Ghidini, E. Arezzo, C. De Rais and P. Errico, “Il software fra brevetto e diritto d’autore: Primi appunti sulla Proposta di Direttiva comunitaria sulle “invenzioni attuate per mezzo di elaboratori elettronici”, I Riv. dir. ind., (2005), p. 81.

²⁴ G. Ghidini, “Innovation, competition and consumer welfare in intellectual property law” p. 134, (Elgar, Cheltenham, 2010).

²⁵ Art. 4 of the Software Directive states the exclusive rights of the copyright holder as follows:

1. Subject to the provisions of Articles 5 and 6, the exclusive rights of the rightholder within the meaning of Article 2 shall include the right to do or to authorise:

(a) the permanent or temporary reproduction of a computer program by any means and in any form, in part or in whole; in so far as loading, displaying, running, transmission or storage of the computer program necessitate such reproduction, such acts shall be subject to authorisation by the rightholder;

(b) the translation, adaptation, arrangement and any other alteration of a computer program and the reproduction of the results thereof, without prejudice to the rights of the person who alters the program;

(c) any form of distribution to the public, including the rental, of the original computer program or of copies thereof.

2. The first sale in the Community of a copy of a program by the rightholder or with his consent shall exhaust the distribution right within the Community of that copy, with the exception of the right to control further rental of the program or a copy thereof.

²⁶ The concept of *pro bono publico* of Roman Law: according to Cicero “The good of the people is the chief law”, De Legibus, III, iii 8.

requirements determined by competitors or by industry associations. In particular, interoperable information (interfaces) of competitors must be copied in order to enable interoperability with their products. Secondly, firms cannot compete entirely independently because the need for interoperability among their products causes a need for coordination and sharing of information. This means that, normally, if a firm cannot offer interoperability with existing and widely used components, its product might have no chance of success, and the firm could, therefore, abandon competition and new-product development altogether²⁷.

While drafting the Software Directive a great debate took place for this reason. The solution that came up in order to limit the scope of the exclusive rights of the holder was article 6, establishing an exception on grounds of interoperability. The purpose of this article was to act as a safety valve in the event that information enabling a second program maker to develop a program which can interoperate with existing programs was not available²⁸. But in some cases, as the Microsoft decision demonstrates, this purpose was not successfully achieved. Possible reasons for its failure might be, on the former, the extremely complex wording of the article²⁹, and on the latter, the fact that an exception defines the scope of a right owner's exclusive rights but does not mandate any direct duty on the copyright holder to disclose/divulge interoperable information³⁰. For instance, the absence of any compulsory licensing in copyright that guarantees a software developer access to the interoperable information could disturb the substantive effects of cumulating protection in the case of "patented software": What would be the consequences of granting copyright to software whose inventive technical solution is protected by a patent? Or of granting a patent that improves the working of a program previously afforded copyright protection? The answer in both cases is an inderogable need to obtain the consent of the first right holder

²⁷ See: *Interoperability problems frustrate authorities' move to open source*. News, Joinup, 20 July, 2012; available at: <https://joinup.ec.europa.eu/news/interoperability-problems-frustrate-authorities-move-open-source>; (last visited 6 August, 2012).

²⁸ B. Czarnota, *op.cit.*, p. 76.

²⁹ W. Blocher and M. M. Walter, "Computer Programs Directive" in: M. M. Walter and S. von Lewinski (eds.), "European Copyright Law, A Commentary", note 5.6.24, (Oxford Univ. Press, Oxford, 2010).

³⁰ L. M.C.R. Guibault, "Copyright Limitations and Contracts: An Analysis of the Contractual Overridability of Limitations on Copyright", p. 16 (The Hague, London, Boston, Kluwer Law International, 2002)

in order to avoid counterfeiting claims once the second computer program enters the market³¹.

It is true that copyright limitations may also take the form of statutory or compulsory licences, subject to certain conditions including the payment of equitable remuneration, according to which a work may be used without the authorisation of the author, and such limitations are permitted by the Berne Convention, among others, for the right of reproduction³², the exclusive right that has the most effect on the area of accessing interoperable information. Nevertheless, it is interesting to take into account what the Supreme Court of some Members States, as Germany, has declared regarding the choice between a statutory licence and a compulsory licence. In the opinion of the German Federal Supreme Court, “there should be no limitations on copyright which serve merely the financial interests of individual users of works. One must also ensure that a limitation imposed in the public interest does not lead to the unjustified advancement of private commercial interests of users. In this dilemma, it seems appropriate to control merely the author’s power to forbid but to leave him with the right to claim an equitable reward for the use of his work”³³.

The lawmakers of the European Union did intervene in contractual relations between rights owners and users with the adoption of Article 9(1) of the Software Directive. This provision expressly provides that “any contractual provision contrary to Article 6 or to the exceptions provided for in Article 5 (2) and (3) shall be null and void³⁴. As Vestrynge explained, this recognition of the mandatory character of the exception is based in aim of both, Commission and the Council, to limit the parties’ freedom of contract as it would make no sense to give the user the freedom under the Directive to perform certain acts without authorisation if the rightholder can

³¹ G. Guglielmetti, “La Proposta di direttiva sulla brevettazione delle invenzioni in materia di software”, (I) Riv. dir. ind., p. 460, (2002).

³² Berne Convention, Paris Act 1971, Appendix, Art. III. The Berne Convention permits developing countries to require the compulsory licensing of the right to reproduce and translate copyright works for purposes of teaching, scholarship and research, if certain conditions are met.

³³ 17 BGHZ 266, 278 – Tonband.

³⁴ See also Recital 16 of the Software Directive: “(...) any contractual provisions contrary to the provisions of this Directive laid down in respect of decompilation or to the exceptions provided for by this Directive with regard to the making of a back-up copy or to observation, study or testing of the functioning of a program should be null and void”.

immediately retrieve control by contractual means³⁵. But implementation of this obligation in the national legislations of the Member States has resulted in varying degrees of “imperativeness”³⁶. For instance, the German Copyright Act in section 69(g)(2) follows suit and explicitly states that contracting out of decompilation is not permitted³⁷. However, the second sentence of Article 9(1) does not guarantee communication flow of information itself, but rather disclosure, if any at all, and, if so, the amount of information to be disclosed solely depends on the copyright holders will. On the other hand, it is not quite clear to what extent the mandatory nature of the Software Directive exceptions can be avoided by a contractual agreement among the parties stating that the contract should be governed by a law of a non-EU state. The answer to this question might be different depending on whether the contract in question has a substantive connection with one or more of the EU Member States³⁸.

Therefore, a lawful user, as a software developer, must license his software and only after acceptance of the contract, the right to engage in certain techniques of analysing the program cannot be abridged by the copyright holder³⁹. Conversely, if there is no license agreement, there will be no minimum guarantee on permitted acts to access the interoperable information.

Only the Belgian copyright statute has taken a clear position in their national regulations on the issue of the potential overridability of copyright exceptions by contract beyond what is imposed by the Software Directive⁴⁰. From an international

³⁵ J-F., Verstrynge, “Protecting intellectual property rights within the new pan-european framework: the case of computer software”, 2 *Droit de l’informatique & télécoms*, 6, 12, (1992).

³⁶ L. M.C.R. Guibault, *op. cit.*, p. 219.

³⁷ Art. 69(g)(2) reads: “*Vertragliche Bestimmungen, die in Widerspruch zu[r]...[Ausnahmeregelung für Dekompilierung in §69(e)] stehen, sind nichtig*”. Gesetz über Urheberrecht und verwandte Schutzrechte [UrhG], 9 September, 1965, BGBl I at 1273, available at http://www.gesetze-im-internet.de/urhg/_69g.html (last visited 6 August, 2012).

³⁸ L. Bently, *Computer Programs Dir.*, art. 9, note 1, in T. Dreier and B. Hugenholtz (eds.), “Concise Copyright”, (Alphen aan den Rijn, Kluwer Law International, 2006)

³⁹ H. Ullrich and E. Körner, “Der Internationale Softwarevertrag”, p. 76, (Heidelberg, Verl. Recht und Wirtschaft, 1995).

⁴⁰ See Article 23 bis of the Law of August 31, 1998 Transposing to Belgian Legislation the European Directive No. 96/9/EC of March 11, 1996 on the Legal Protection of Database (entered into force on Nov. 14, 1998) and amending the Belgian Copyright Act, *Moniteur belge/Belgish Staatsblad* 14/11/1998, p. 36.913. “The act of 1998 implementing the Database Directive not only introduced in Belgian law all mandatory and optional limitations in favour of the lawful user of a database that were permitted under the Directive, but it also proclaimed the mandatory character of most other limitations included in the Copyright Act” in: L. M.C.R. Guibault, *op. cit.*, p. 219.

perspective, the probable consequence of this statutory provision is that software providers offering their software in Belgium will try to avoid the application of Belgian law by choosing another substantive rule as the governing one, unless the application of Belgian law would be made mandatory by application of protective choice of law rules, as in the case of consumers.

Consequence of this is that computer program lawful users have fewer rights than users of any other category of copyrighted works⁴¹, and Article 9(1)'s purpose is of relative significance in practice for interoperability.

3. Beyond the Software Directive: The compulsory licensing approach.

Recital 17 of the Software Directive underlines an essential connection between interoperability and competition law⁴². This intra-regime link was illustrated in the Microsoft CFI case where antitrust rules and mechanisms were used not only to ensure competition but to affirm the significance of interoperability. The Court found that “(...) interoperability between two software products means the capacity for them to exchange information and to use that information mutually in order to allow each of those software products to function in all ways envisaged”⁴³.

The CFI recognized that the concept of interoperability can be used in different contexts and lends itself to various uses, what means that interoperability then is a matter of degree⁴⁴. The Court states that “the question in the present case is not so much whether the concept of interoperability in the contested decision is consistent with the concept envisaged in that directive (Directive 91/250) as whether the Commission correctly determined the degree of interoperability that should be attainable in the light of the objectives of Art. 82 EC”⁴⁵.

⁴¹ M. Lehmann, “Das Urhebervertragsrecht der Softwareüberlassung”, in F.K. Beier, H.P. Götting, M. Lehmann and R. Moufang (ed.) *Urhebervertragsrecht*, C.H. Bech'sche Verlagsbuchhandlung, München, p. 547

⁴² “The provisions of this Directive are without prejudice to the application of the competition rules under Articles 81 and 82 of the Treaty if a dominant supplier refuses to make information available which is necessary for interoperability as defined in this Directive”.

⁴³ *Microsoft Corporation v. Commission of the European Communities* (Case T-201/04), (GC 2007) para. 225.

⁴⁴ *Ibid.*, para. 156 and 158.

⁴⁵ *Ibid.*, para. 227.

This statement reveals a very profound aspect of interoperability. Nonetheless, even the Court construes interoperability as an overarching standard that similarly underlies and traverses various IT-related laws and policies and naturally involves the public interest, the Software Directive is not to be kept out of sight. For instance, Recitals 9 and 23 of the Directive, contain the commitment to promote international standardization and the establishment of multi-platform and multi-vendor markets “where it is possible to connect all components of a computer system, including those of different manufacturers, so that they can work together”⁴⁶.

Europe-wide policies favouring interoperability go from markets and operators of the ICT market to public services as eGovernment, eHealth, internal security, combating terrorism, eLearning or eCommerce⁴⁷.

The close correspondence between interoperability and standardization is clearly illustrated in the Digital Agenda for Europe, whose second pillar is called “interoperability and standards”. As the Commission declared, effective interoperability between IT products and services is needed to build a truly digital society⁴⁸.

However, the relationship between interoperability and standardization can be hampered by the current regulation of interoperability in the Software Directive. This assertion can be easily understood through the analysis of compulsory licensing as a

⁴⁶ Decision (EC) 1720/1999/EC of 12 July 1999 adopting a series of actions and measures in order to ensure interoperability of and access to trans-European networks for the electronic interchange of data between administrations (IDA) [1999] OJ L 203/9, art. 4(2)(b)). Pursuant to its i2010 strategic initiative, the European Commission declares: “ Digital convergence requires devices, platforms and services to interoperate. The Commission intends to use all its instruments to foster technologies that communicate, through research, promotion of open standards, support for stakeholder dialogue and, where needed, mandatory instruments. Such a policy mix was the foundation of Europe’s mobile telephony success (Commission (EC), “i2010 – A European Information Society for growth and employment” (Communication) COM (2005) 229, 1 June 2005, p. 2.

⁴⁷ See Commission (EC) “i2010 e-Government Action Plan-Accelerating e-Government in Europe for the Benefit of All” (Communication) COM(2006) 173, 25 April 2006; Resolution (Council) of 9 December 2004 on Looking into the future of Information Communication Technologies (ICT) [2004] OJ C62/1; Commission (EC), “Improved effectiveness, enhanced interoperability and synergies among European databases in the area of Justice and Home Affairs” (Communication) COM(2005) 597, 24 November 2005; Commission (EC), “Electronic Communications: the Road to the Knowledge Economy” (Communication) COM(2003) 65, 11 February 2003, p. 3.3. All these actions are included in the document of the Commission (EC), “Digital Agenda for Europe” (Communication) COM(2010) 245 final/2, 26 August 2010.

⁴⁸ Commission (EC), “Digital Agenda for Europe” (Communication) COM(2010) 245 final/2, 26 August 2010, p. 14.

solution suggested to the computer programs decompilation issue since the Microsoft case.

In the Microsoft Case, when examining the refusal to supply the interoperable information, the Court recalls that although undertakings are, as a rule, free to choose their business partners, in certain circumstances a refusal to supply on the part of a dominant undertaking may constitute an abuse of a dominant position. The CFI reiterated that before a refusal by the holder of an intellectual property right to license a third party to use a product can be characterized as an abuse of a dominant position, three conditions must be satisfied under the essential facilities doctrine:

1. The refusal must relate to a product or service indispensable to the exercise of an activity on a neighbouring market.
2. The refusal must be of such a kind as to exclude any effective competition on that market.
3. The refusal must prevent the appearance of a new product for which there is potential consumer demand.

Provided that such circumstances are satisfied, the refusal to grant a license may constitute an abuse of a dominant position unless it is objectively justified⁴⁹.

Article 6 of the Software Directive was partly designed to obviate the need for intervention by competition law⁵⁰. However, since the Microsoft case, it seems that Europe has chosen to rely on the essential facility doctrine with compulsory licensing as its consequence. This measure could be an efficient and non-infringing alternative to decompilation of computer programs. Still, if the European Communities' courts do not accept the Commission's reasoning in a copyright context, they might conclude that compulsory licensing is inappropriate in light of the ability of the copyright holder competitors to deduce the interoperability information they otherwise seek through decompilation.

⁴⁹ Microsoft v. Commission, *loc. cit.*, para. 116.

⁵⁰ A. van Rooijen, "The software interface between Copyright and Competition Law. A Legal Analysis of Interoperability in Computer Programs", p. 86, (Alphen aan den Rijn, Wolters Kluwer Law & Business, 2010).

Furthermore, as recently has declared the Supreme Court of France in a case regarding the application of the exception settled by Article 6 of the Software Directive and its relation with the free competition principle, the court affirmed this cannot be used as a justification to infringe the copyright of a computer program by the only reason of achieving interoperability through decompilation⁵¹.

The Software Directive states that copyright protection of a computer program is not to be extended to ideas and principles⁵², but requiring disclosure of the expression of the work goes beyond copyright purpose and can actually prove to be counterproductive. For instance, under German case law it has been established that software license agreements do not automatically imply an obligation of the licensor also to disclose the source code in addition to the object code of the computer program vis-à-vis the licensee⁵³. On the other hand, access might be the quid pro quo for the public's granting exclusive rights to the author. IP licensing generally will expand the use of protected works, increasing competition for their use, and it will also disperse the technology thereby encouraging improvements⁵⁴. But there is no basis for a conceptual commitment to access as a quid pro quo for copyright protection neither in the International Treaties nor in the European Law. It shall rather lie with the original program writer himself to decide whether to publish his program's interoperable information or not and whether to go after infringing acts of uncovering such information or not⁵⁵.

⁵¹ Supreme Court of France, October, 20, 2011, Fiducial Informatique v. DPSI and others, Case 10-14069, para. 4; available at: <http://www.juricaf.org/arret/FRANCE-COURDECASSATION-20111020-1014069> (last visited 6 August 2012): “(...) que le principe de libre concurrence ne saurait justifier l'utilisation d'un logiciel au mépris des droits d'auteur; qu'en l'espèce, la cour d'appel a statué par un motif inopérant en invoquant le principe de libre concurrence pour justifier les opérations de migration, sans avoir précisément recherché si les sociétés DPSI et la société And@lys n'avaient pas, pour effectuer les opérations de migration, fait un usage contrefaisant des logiciels en cause; qu'elle a ainsi privé sa décision de base légale au regard des articles L. 122-6, L.122-6-1-IV.3°, L. 122-6-1IV et L. 335-3 du code de la propriété intellectuelle”

⁵² *Vid. supra.* on Art. 1(2) of the Software Directive.

⁵³ BGH NJW 1987, 1259. See also J. Marly, “Urheberrechtsschutz für Computersoftware in der Europäischen Union”, p. 268, (München, C.H. Beck, 1995).

⁵⁴ E. Gellhorn, W.E. Kovacic, S. Calkins, “Antitrust Law and Economics in a Nutshell”, p. 482, (St. Paul, MN., Thomson/West, 2004).

⁵⁵ H. Moritz and B. Tybusseck, “Computersoftware: Rechtsschutz und Vertragsgestaltung – Eine fächerübergreifende Darstellung nach deutschem und EG-Recht”, p. 67, (München, C.H. Beck, 1992).

Generally, compulsory licensing is a very rare remedy in the field of copyright. The European lawmakers have preferred the remedy of mandatory licensing, thereby access to copyrighted material, to be applied under competition law rather than copyright law⁵⁶. Compulsory licensing orders in copyright cases encounter tension within intellectual property itself, between the need to provide exclusive rights so as to preserve the incentive to create, and the need to insure access so as to facilitate the creation of new intellectual products⁵⁷.

Notwithstanding the lack of any codified or express mandate to share copyrighted material with others, a compulsory licensing approach is at the wake of recognition and permission in case law to resolve the access trade-off in the copyright context⁵⁸.

As proprietary software or “non-open software” implies control over interoperable information, it also inherently implies a refusal to share this information.

Control is caused by a combination of factors. Use of interoperable information may directly be controlled by the copyright holder if this information constitutes copyrightable subject matter. Although ECJ’s interpretation of Article 1(2) of the Software Directive proclaiming that functional expression is not copyrightable subject matter, this does not mean that interoperable information could be excluded from protection per-se. This information could meet the objectified originality threshold applied to software⁵⁹.

Accordingly, to state that some information is functional and therefore not copyrightable subject matter, it shall have become a standard. But standardization is a voluntary effort among industry, consumers and public authorities to develop consumer-based technical specifications in a certain domain⁶⁰. Therefore, it is a

⁵⁶ Cf. Council Directive 92/100/EEC on rental right and lending right and on certain rights related to copyright in the field of intellectual property, O.J. (L 346) 61, art. 13 and recital 47.

⁵⁷ T. Cotter, “Intellectual Property and the Essential Facilities Doctrine” in: R. Towse and R. Holzhauser (eds.), “The Economics of Intellectual Property”, p. 179 (Cheltenham, UK; Northampton, USA; Edward Elgar Publishing, 2002).

⁵⁸ *Ibid.*, p. 201.

⁵⁹ Art. 1(3) of the Software Directive: “A computer program shall be protected if it is original in the sense that it is the author’s own intellectual creation”.

⁶⁰ Not agreed definition of a “standard” exists for the present. Definitions can be found in public policy documents, legal texts and normative documents adopted by standards setting organizations. According to

procedure that comes ex-post, once the computer program has been released by the holder in the market, and regarding ICT standards, reality has shown that the most widely implement ICT standards, such as XML, have been drafted by informal standardization organizations through *de facto standards*, what have led to a fragmentation of the standardization landscape in which formal bodies are no longer the only relevant initiators⁶¹.

A *de facto* standard is a specification that became popular because everyone just happened to use it, possibly because it was implemented in a product that had significant market acceptance⁶². Therefore, the details of this specification may not be available to the public if it belongs to a proprietary computer program.

The other factor that causes control by the copyright holder over interoperable information is access. Interoperable information is not readily accessible from the distributed program as it is embedded in its unreadable object code. Due to the broad conception of reproduction right stated by the Software Directive, users' abilities to reverse engineer this object code are limited to the complex exception established in Article 6. But, with this article, both the right holder and the competitor are confronted with uncertainty about access. The competitor may be permitted to decompile the program, yet it is uncertain when decompilation will yield results (if any)⁶³. Conversely, the right holder cannot precisely anticipate his lead-time. Decompiling a computer program can be the key to the program's "vault". Besides, decompilation may easily end up in uncovering also copyrightable expression which later on can be used in connection with competing products.

the International Organization for Standardization definition, a standard is "a document established by consensus and approved by a recognised body that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context". Int'l Org. for Standardization, *Standardization and Related Activities: General Vocabulary* (1998).

⁶¹ Discussion Paper Towards an Increased Contribution from Standardisation to Innovation in Europe, at 5, COM (2008) 133/final (11 March, 2008), available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52008DC0133:EN:NOT>, (last visited 6 August, 2012.)

⁶² R. Sutor, "Software Standards, Openness, and Interoperability", in: L. De Nardis (ed). "Opening Standards: The Global Politics of Interoperability", p. 211, (Cambridge, The MIT Press, 2011).

⁶³ For interoperability to work, a software developer, will need everything necessary in order to understand and fully implement the processing of the information. See R. Sutor, *op. cit.*, p. 216.

These unpleasant consequences for the copyright holder can be avoided if he decides to license only the portion of the code required by the potential reverse engineer. In this case, licensing may satisfy the interests of both involved.

The pivotal condition linking competitors' abilities to decompile with commercial negotiations is located in Article 6(1)(b)⁶⁴. This provision restricts the right to decompile where "the information necessary to achieve interoperability has not previously been readily available". But it does not specify when the information is considered to be "readily available" nor what amount of information should be made available. Some scholars have understood that this wording encourage copyright holders to apply established standard and thereby largely to restrict the scope of application of decompilation⁶⁵. Nonetheless standardization in the ICT sector has mainly preferred informal bodies than formal EU standardization bodies, so this encouragement has not been of much effectiveness.

A controversial aspect regarding this "readily information" where commentators disagree, is whether the right holder may charge a fee for the information for it to be "readily available". Dreier believes a licensing fee to be impermissible under this provision, whereas Czarnota and Hart understand that a licensing fee may be generally acceptable⁶⁶.

In the end, the question of the meaning of "readily available information" is left open to court interpretation⁶⁷.

Notwithstanding that, as some commentators have affirmed, the Software Directive tries to provide a mechanism whereby it would be more advantageous to both parties to avoid decompilation and negotiate the supply of interoperable information⁶⁸, however, as the Microsoft case has revealed, this negotiations impose abundant costs on the copyright holder as to encourage its refusal. These costs, as van Rooijen has

⁶⁴ Czarnota, *op.cit.*, p.80; O. Staffelbach, "Die Dekompilierung von Computerprogrammen gemäß Art. 21 URG", p. 117, (Bern, Stämpfli, 2003).

⁶⁵ W. Blocher and M.M. Walter, "Computer Programs Directive" in: M. M. Walter and S. von Lewinski (eds.), "European Copyright Law, A Commentary", note 5.6.33, (Oxford Univ. Press, Oxford, 2010).

⁶⁶ T. Dreier, "The Council Directive of 14 May 1991 on the Legal Protection of Computer Programs", 13 EIPR (1991), 319, 324; Staffelbach, *op.cit.*, p.119. Czarnota, *op.cit.*, p. 80.

⁶⁷ Czarnota, *op.cit.*, p. 78; K. Gilbert-Macmillan, "Intellectual Property Law for Reverse Engineering Computer Programs in the European Community", 9 Santa Clara CHTLJ (1993), 247, 259.

⁶⁸ Czarnota, *op.cit.*, p. 80; van Rooijen, *op.cit.*, p. 84.

schematised, are mainly three: the mere passive nature of the reverse engineering instruments; the discrepancy between static legal conditions and a dynamic state of the art in reverse engineering; and, the particular conditions established in the wording of Article 6⁶⁹.

In addition to this, a compulsory licensing approach of interoperable information could increase the legal uncertainty scenario already established by the Software Directive. If the parties are unwilling to determine the terms of access to the interoperable information, how may the Commission and courts proceed in determining and monitoring the terms of access to that information?⁷⁰ Setting “fair and reasonable” terms will be difficult in the case of new and emerging technologies, where no market precedent exists⁷¹, and even more difficult when interoperable information of novel software has not previously been supplied.

Furthermore, a compulsory licensing approach applied to cases involving software decompilation could run the risk to interfere with the objective of the European Union according to strengthen the competitiveness of Community industry and to ensure undistorted competition in the Community’s internal market and also could trespass the principle of proportionality contained in Art. 5(4) TEU, according to which, “the content and form of Union action shall not exceed what is necessary to achieve the objectives of the Treaties”⁷². This approach would open the door to the target program’s information necessary to achieve interoperability predominantly to big software companies⁷³.

4. Concluding remarks.

Firstly, regarding how interoperability is regulated by the Software Directive, it is important to remark that by essentially protecting interoperable information under the same regime as the computer program in general, the Directive fails to explicitly recognize that, as a result of network effects and standardization, the optimal balance

⁶⁹ van Rooijen, *op.cit.*, p. 86.

⁷⁰ See F. Lévêque, “Innovation, Leveraging and Essential Facilities: Interoperability Licensing in the EU Microsoft Case” 28 *World Competition*, (2005), 71, 87.

⁷¹ See *generally* D. G. Swanson and W.J. Bauriol, “Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power”, 73 *Antitrust Law Journal* (2005), 1.

⁷² Treaty on European Union, O.J. C 83, 30.3.2010.

⁷³ Marly, *op.cit.*, p. 328.

between openness and control of interoperable information may well be different from that of the program at large.

In other words, Article 6 of the Software Directive permits decompilation in order to access the interoperable information that supports the functionality built into an existing program when the independently created program incorporates a corresponding functionality. But functional behaviour of computer programs is not part of the literary expression for which copyright protection is available⁷⁴, so what is the sense of an exception that protects in favour of the copyright holder a subject that without it will not be protected by copyright?. Should the European Commission reconsider the revision of the Software Directive, specially its Article 6, as this exception seems to give more power to the copyright holder than to safeguarding public interest? The Commission should bear in mind that providing protection of functional elements via copyright would lead to a thicket of IP barriers which could seriously deprive markets of the general advantages of competition⁷⁵.

On the matter of the compulsory licensing approach, actions 25 of the Digital Agenda of Europe focuses in the problem of dominate companies of the ICT sector. The action required is that these companies should provide interoperability information about their devices and applications. However, as it has been explained, due to the copyright protection and the complicated regime established by Article 6 of the Software Directive, an application of the framework of the Microsoft case (the essential facilities doctrine) could risk ignoring the particular issues that arise when access is sought to standards and specifically interoperable information. Moreover, it could put in risk innovation by inadequately balancing incentives. Besides, it should not be forgotten that dominance itself does not contravene Article 102 TFUE, and a refusal to license in the ICT sector based on the grounds of abuse of dominant position has to comply with the conditions detailed by the CFI in the Microsoft case. Therefore, legally forcing to disclose interoperability information to companies that have reached a dominant position could not only jeopardize innovation but go against fundamental principles of the European Union Treaties.

⁷⁴ See Judgment of 2 May 2012 in Case C-406/10 SAS Institute Inc. v. World Programming Ltd., para. 39.

⁷⁵ P. Samuelson, T. Vinje, W. Cornish, "Does Copyright protection under the EU Software Directive extend to computer program behaviour, languages and interfaces?", 34(3) EIPR (2012), p.158 (166).

Consequently, rather than looking for a licensing tool that legally oblige the dominant ICT companies to disclose their software interoperability information, a re-examination of the Software Directive, and particularly its Article 6, could better help to encourage implicated parties to share and negotiate interoperability information, restoring the balance to a field where the copyright holder of the computer program has been overprotected. Besides, this approach would not put at risk the sensible intra-regime established by the Software Directive between competition law and copyright.