



**20th BILETA Conference:
Over-Commoditised; Over-Centralised; Over-
Observed: the New Digital Legal World?**

British & Irish Law, Education and Technology Association April, 2005, Queen's University of Belfast

An interoperable world: the European Commission vs Microsoft Corporation and the value of open interfaces

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1. A brief history of the case

Few antitrust cases have raised the same level of media coverage in Europe as case COMP/C-3/37.792, a.k.a. the “Microsoft case”.

“On 10 December 1998, Sun made an application to the Commission pursuant to Article 3 of Regulation No 17 for the initiation of proceedings against Microsoft (“Sun’s Complaint”). Sun alleged that Microsoft enjoyed a dominant position as a supplier of a certain type of software product called operating systems for personal computers (“PC operating systems”). Sun further contended that Microsoft infringed Article 82 of the Treaty by reserving to itself information that certain software products for network computing, called work group server operating systems, need to interoperate fully with Microsoft’s PC operating systems. According to Sun, the withheld interoperability information is necessary to viably compete as a work group server operating system supplier.

The case opened pursuant to Sun’s complaint was registered as Case IV/C-3/37.345. After a first investigation of the complaint, the Commission, on 1 August 2000, sent a Statement of Objections (“the first Statement of Objections”) to Microsoft to give Microsoft opportunity to comment on its preliminary findings of facts and law. The Statement of Objections focussed on the interoperability issues that formed the basis of Sun’s complaint. Microsoft responded to the Statement of Objections on 17 November 2000.

In the interim (February 2000), the Commission had launched an investigation into Microsoft’s conduct on its own initiative, under Regulation No 17, which was registered as Case COMP/C-3/37.792. The investigation carried out under that case concerned more specifically Microsoft’s “Windows 2000” generation of PC and work group server operating systems and Microsoft’s incorporation of a software product called “Windows Media Player” into its PC operating system products. On 30 August 2001, that investigation resulted in the sending of a second Statement of Objections (“the second Statement of Objections”) to Microsoft. The second Statement of Objections concerned issues of interoperability as well as the incorporation of Windows Media Player in Windows. The Commission, by virtue of the second Statement of Objections, joined the relevant findings set out in the first Statement of Objections to the procedure followed under Case COMP/C-3/37.792. On 16 November 2001, Microsoft responded to the second Statement of Objections.” (C (2004)900 final, recitals 3-5)

The case soon attracted a larger number of player than Microsoft, Sun and the European Commission. Besides 75 companies which the European Commission surveyed in order to assert the market conditions with regards to interoperability in the workgroup server market (C(2004)900 final, recital 8); 46 companies surveyed in order to assert the market condition with regards to the integration of Windows Media Player into recent version of the Windows operating system (C(2004) 900 final, recital 9); 46 companies which, as Microsoft's customers, submitted statements supporting Microsoft's responses to the European Commission with regards to interoperability (or lack thereof) claims (C(2004)900 final, recital 6); there was a

“[...] significant number of companies, comprising major Microsoft competitors, as well as industrial associations, have been admitted as interested third parties. These are inter alia the Association for Competitive Technology ("ACT"), Time Warner Inc. ("Time Warner", previously AOL Time Warner), the Computer & Communications Industry Association ("the CCIA"), the Computing Technology Industry Association ("CompTIA"), the Free Software Foundation Europe ("FSF Europe"), Lotus Corporation ("Lotus"), Novell Inc. ("Novell"), RealNetworks, Inc. ("RealNetworks"), and the Software & Information Industry Association ("the SIIA")” (C(2004)900 Final, recital 11)

The European Commission found Microsoft guilty of infringing Article 82 of the Treaty Establishing the European Community (2002/C 325/01) and Article 54 of the Agreement on the European Economic Area (EEA) by reason of two abuses of a dominant position, conducted over three distinct product markets.

The product markets identified by the Commission were:

1. the client PC operating system market (C(2004)900 Final, recitals 324-342) – where an “operating system” is defined as a “software product which controls the basic functions of a computer, allowing the user to use the computer and to run application on it”, and a “client PC” is defined as a “multifunctional computer designed to be used by one person at any time and may be linked to a network” (T-204/04 R, recital 9);
2. the work group server operating systems market (C(2004)900 Final, recitals 343-401) – where “work group services” are defined as “the basic network infrastructure services used by office workers in their day-to-day work for three sets of distinct services, namely sharing files stored on servers, sharing printers, and the ‘administration’ of the manner in which users and groups of users can access network services” (T-204/04 R, recital 10); such services are, according to the Commission, tightly interrelated, thus justifying the definition of “work group server operating systems” as “operating systems designed and marketed to deliver those three sets of services collectively to a [...] number of client PCs linked together in a [...] network” (T-204/04 R, recital 11);
3. the streaming media players market (C(2004)900 Final, recitals 402-425) – where “streaming media players” were defined as “software products capable of reading sound and image content in digital format [...] 'streamed' over the Internet” (T-204/04 R, recital 12);

The reader may refer to the final decision (C(2004)900 Final) for a full explanation of the rationales employed by the European Commission to define the relevant markets, their characteristics, their geographical coverage, etc.

After having found the three relevant markets, the European Commission found Microsoft guilty of two different types of abusive conduct:

1. The first type of abusive conducts consists in Microsoft refusing to provide its competitors with so-called ‘interoperability information’, allowing its use for the purpose of developing and marketing software programs which could interoperate and compete with Microsoft's own

products. Such abusive conducts was initiated at least in October 1998 and lasted until the date of the Decision (C(2004)900 Final, recitals 546-791) (T-204/04 R, recitals 19-20). The precise definition of what is meant by “interoperability information” is perhaps one of the most problematic points of the whole case – or, at least, it has been pictured as such by Microsoft – and, as will be shown throughout this paper, its actual meaning and the extent to which such information actually impacts on Microsoft's Intellectual Property Rights (as can be inferred both by the text of the Decision, by the relevant doctrine, by the general understanding of the ICT business and research community) has been persistently exaggerated by Microsoft;

2. The second type of abusive conduct identified by the Commission is the tying by Microsoft of its Windows operating system with its Windows Media Player product, starting from May 1999 until the date of the Decision (C(2004)900 Final, recitals 792-989).

The European Commission decided to punish Microsoft with a pecuniary fine (C(2004)900 Final, recitals 1074-1080) and with a set of remedies aimed at correcting the current anti-competitive (or potentially anti-competitive) situation (C(2004)900 Final, pagg. 299-302 – see also Appendix A).

Microsoft decided to appeal against the Decision of the European Commission, lodging a formal request to the European Court of Justice to void the Decision or, in alternative, to void or substantially reduce the amount of the fine under the fourth paragraph of article 230 EC (T-204/04 R, recital 40); Microsoft also applied under article 242 EC for suspension of operation of articles 4, 5 (a) and 6(a) of the Decision of the European Commission (C(2004)900 Final, pagg. 299-302 – see also Appendix A). Plus, Microsoft also sought, on the basis of Article 105(2) of the Court of Justice's Rules of procedure (ECJRP 2001) suspension of those provisions pending a decision on the application for interim relief. The Court of First Instance, on 22 December 2004, dismissed Microsoft's requests in their entirety (T-204/04 R, recital 248), thus upholding the fine and the remedies proposed by the European Commission via its Decision.

As will be discussed throughout this paper, though, it is doubtful that the remedies that the Commission put forward are sufficient to effectively re-create a balanced situation in the market of work group operating systems and of streaming media players, because such remedies have left Microsoft the possibility to exclude a very relevant player from effective competition: Free Software. Plus, the lack of clarity on the Intellectual Property claims that Microsoft has already put forward does not help in creating a true competitive market on which solutions can fight on the basis of their technical quality and their contribution to societal welfare; such claims build the grounds for strategies which are able to defy the goals of the Decision while at the same time complying with the formal provisions of the Decision itself.

2. The concept of interoperability

A basic and central point on which both the analysis of the European Commission and the remedies that it proposed have relied upon, in order to counteract the unbalancing effects of Microsoft's abusive conducts on the EEA, is the concept of “interoperability”.

The Commission's Decision explicitly defined what it meant with such term, although a general and universal consensus on the exact and precise definition of the term in the field of computer programs (*software*) has yet to be found. The Commission based its analysis on the definition of interoperability that can be found in the preamble of the Council Directive 91/250/EEC of 14 May 1994 on the Legal Protection of Computer Programs (the “Software Directive”):

“Whereas 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;

Whereas the parts of the program which provide for such interconnection and interaction between elements of software and hardware are generally known as 'interfaces`;

Whereas this functional interconnection and interaction is generally known as 'interoperability`; whereas such interoperability can be defined as the ability to exchange information and mutually to use the information which has been exchanged;"

As can be seen, Directive 91/250/EEC defines "interoperability" as "the ability to exchange information and mutually the use the information which has been exchanged". A rather broad and non-specific definition, whose usefulness in the practical contexts in which it is put into place – as is the case for the Microsoft case examined in this paper – has to be discussed and verified on a case-by-case basis.

To achieve interoperability between two or more computer programs, it is obviously necessary that all the players in the field either provide themselves the information necessary to interact with the computer programs they produce and/or market, and/or agree on a common set of standards which define the interfaces,[1] data formats and protocols which the computer program will use in order to talk to each other.

A "**data format**" (or "**file format**") is a particular way to encode information for storage and transmission by a computer. Since any computer storage system can store only bits (i.e. units of information whose status can be either 1 or 0) the computer must have some kind of instructions on how to convert such series of 1s and 0s into actual structured information – a word processor document, an image, a music piece, etc.

A "**protocol**" has been defined by the Commission itself in its decision as

"a set of rules of interconnection and interaction between various instances of Windows Work Group Server Operating Systems and Windows Client PC Operating Systems running on different computers in a Windows Work Group Network;" (C (2004)900 Final, pag. 299, Article 1, point 2)

Such definition, however, is needlessly specific, in that a "**protocol**" can be more aptly and generally described as "a convention or standard that controls or enables the connection, communication, and data transfer between two computing endpoints".[2]

An **interface**, or more precisely an **Application Programming Interface**, is the set of "entry points" which instruct how certain operations, provided by a computer program, can be called upon by other programs. An interface is a formal description that instructs how software components should interact with each other.

It is useful to stress the difference between interface and implementation in the context of computer programs, as the point has been raised repeatedly by Microsoft to what extent the interfaces to its computer programs can be considered protected by copyright law (and, at least in the United States, by patent law). A few key definitions are necessary in order to fully understand the issue at hand.

The "Source Code" of a computer program is the set of specifications, typically written in a high-level language which can be "easily" produced and understood by a human being, which can be translated into "Binary Code" and executed by the computer.[3] The "Binary Code", in turn, is a long string of binary digits (0s or 1s) which represent low-level instructions. "Binary Code" is more aptly understood and interpreted by computers, for engineering reasons that are outside the scope of this

paper, and are not meant to be understood by human beings (although in principle a human being with the necessary information can understand such string of binary digits, albeit at a much slower pace than a computer). The operation that translates “Source Code” into “Binary Code” is usually done by a computer program, called a “compiler”.

The implementation of an interface (or, for that matter, of a protocol or of the specification of a data format) consists in the “Source Code” which instructs the computer program how to act when a particular interface is called upon by another computer program.

Given a particular set of interfaces (for example, a set of public procedures such as “open” [a specific computer file], “close” [a specific computer file], “read” [from position A to position B of a specific computer file]) the ways in which a particular computer program can implement the actual operations conducted vary wildly; and, in principle and in practice, there is no reason why given a particular interface two implementations must or should be the same. Apart from engineering reasons why one development team might produce a specific implementation rather than another one, it is highly doubtful that two or more implementations of the same interface will be the same, unless of course there has been some kind of pre-agreement between the development teams.

It should be clear by now that publicizing an interface has nothing to do with publicizing an implementation. Indeed, it is a common and well-established best practice in the software industry and in computer science to follow what has come to be known as the principle of “encapsulation”, a.k.a. “information hiding”,^[4] which is:

“[...] the hiding of design decisions in a computer program that are most likely to change, thus protecting other parts of the program from change if the design decision is changed. Protecting a design decision involves providing a stable interface which shields the remainder of the program from the implementation (the details that are most likely to change). [...]

Information hiding reduces software development risk by shifting the code's dependency on a uncertain implementation (design decision) onto a well-defined interface. Clients of the interface perform operations purely through the interface so if the implementation changes, the clients do not have to change.

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Data formats, protocols and interfaces can be defined and specified in “standards”, i.e. formal documents produced which are produced by “Standard Setting Organizations” (SSO), or can be simply provided by a particular software platform, without reference to a formal document and/or formal process that produces such standard. In this case, and if the software platform vendor has a large enough presence on a particular market (as is the case of Microsoft in many different markets, such as Desktop Operating Systems, Work Group Servers Operating Systems, etc) the term “de facto standard” is usually used.

The importance of standards, protocols, publicized (and stable) interfaces is important in any market whatsoever -- but it is particularly relevant in markets, such as the ICT field, in which network effects are particularly present.^[6] In such markets the possibility of a single dominant player to thwart competitors by using predatory tactics -- of which an example applicable in the Microsoft case under examination is hiding or quickly changing interfaces, protocols, data formats not on technical merits, but simply to force competitors on an endless and expensive race whose sole goal is keeping compatibility with the dominant player -- is all too present.

As several ICT companies have been using this kind of predatory tactic (which has been known also as the "embrace and extend" tactic, i.e. adopting a de facto or formal standard and then modifying it with proprietary extensions) the European Commission's decision has rightly focused on the externalities that such tactics produce -- unfortunately, the remedies it proposed are not sufficient to erase such tactics and the effects they produce.

Whether or not data formats, protocols and interfaces are defined in standards and whatever the status of such standards is (formal documents produced through a specific decisional process of a SSO, or "de facto standards") it should never be forgotten that information is useful only to the extent that it can be actually translated into practice -- even more so when the desired effect of forcing one of the players to provide such information is to eradicate an unbalanced situation and achieve a fair competing ground based on technical merits.

The reason why this apparent truism finds place in the discussion of the Microsoft case and of its proposed remedies will be apparent when examining Microsoft's claims regarding its Intellectual Property Rights on the information it has been ordered to disclose by the Commission and the problems that arise by having allowed Microsoft to apply "Reasonable and Non Discriminatory" conditions on the usage of the information that it will provide as a result of the Commission's Decision.

3. Intellectual property right claims

A striking characteristic of the whole "Microsoft case" is the importance that claims on Intellectual Property Rights (IPR) have had throughout its lifetime.

Microsoft has repeatedly asserted that the Commission's Decision, beside being based on wrong assumptions with regards to the definition of relevant markets, on Microsoft's dominance on such markets and on other assumptions not directly related to Intellectual Property, is indeed violating its basic IPR.

While Microsoft has not always been clear on precisely which of its IPR the Commission's Decision violates -- sometimes, especially in the context of Public Relations activities which have played a relevant role throughout the case, using the bare term "Intellectual Property" with its full load of overgeneralization and ambiguity - the Commission's Decision and especially the sentence of the Court of First Instance can help pinpointing precisely which IPR have been the object of Microsoft's claims.^[7]

As regards Microsoft's claims on infringement of its copyright:

1. Microsoft has stated that communication protocols are "protected by copyright under the Berne Convention for the Protection of Literary and Artistic Works of 9 September 1886, as last amended on 28 September 1979, and by Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs (OJ 1991 L 122, p. 42), by virtue of the preamble and Article 1(1). The specifications for those protocols are preparatory design material, which is also protected by copyright" (T-204/04 R, recital 118).
2. Plus, Microsoft asserts what the Court of First Instance has dubbed a "right to disclosure", based on the assumption that "Microsoft, like any copyright owner, has the exclusive right to authorise publication of its protected works or to make them available to the public in any other form. The copyright laws of various Member States expressly authorise owners of protected works to determine whether those works will be published or disclosed in any form. The Decision deprives Microsoft of the right to decide in what form, to whom, when and on what conditions it wishes to make the specifications for its communications protocols available, if at all. The Commission cannot therefore recognise that the specifications for Microsoft's communications protocols are

protected by copyright and at the same time maintain that the requirement imposed on Microsoft by the Decision to license those specifications does not infringe the very substance of that right." (T-204/04 R, recital 119).

3. Third, Microsoft asserts that, on the basis of the copyright owner's exclusive right to authorise the creation of derivative works (art. 12 of the Berne Convention and art. 4 of Directive 91/250) the Commission's Decision infringes on such right, as "the implementation of the specifications for Microsoft's communications protocols by its competitors would almost certainly be an adaptation, or a translation, of those specifications which would fall within the ambit of copyright and could therefore not be regarded as a work developed independently. Furthermore, even on the assumption that the licensees were capable of implementing certain specifications without infringing Microsoft's copyright, the Decision does not require them to do so, since it requires Microsoft to 'allow the use' of the specifications for its communications protocols without setting a limit to the way in which the licensees will develop their creations. There is therefore no reason to believe that the licensees will confine themselves to developing applications that would not be unlawful, even on the assumption that it were possible to do so." (T-204/04 R, recital 120).

As regards point (1), it is highly questionable whether communication protocols and interfaces are indeed protected by copyright, and/or whether such protection is absolute in the face of interoperability requirements.^[8] Articles 5 and 6 of European Directive 91/250/EC, insofar as they state that "The person having a right to use a copy of a computer program shall be entitled, without the authorization of the rightholder, to observe, study or test the functioning of the program in order to determine the ideas and principles which underlie any element of the program if he does so while performing any of the acts of loading, displaying, running, transmitting or storing the program which he is entitled to do." (91/250/EC, art. 5(3)) and "The authorization of the rightholder shall not be required where reproduction of the code and translation of its form within the meaning of Article 4 (a) and (b) are indispensable to obtain the information necessary to achieve the interoperability of an independently created computer program with other programs" (91/250/EC, art. 6(1)) cast a doubt on Microsoft's claim on this point.

The Court of First Instance has moreover stated that Microsoft's claim is "flawed because, first, it is not consistent with Article 1(2) and Article 6 of Directive 91/250 and, second, the judgments of the English courts on which [the individual hired by Microsoft as an expert on copyright claims] bases his analysis have nothing to do with the present case."

And the fact that interfaces and/or protocols can be protected by copyright is not an opinion shared by the academic community -- see, for example, (Palmer, Vinje, 1992): "In general, as long as only the rules and methods of interoperability established by the interface are used and implemented independently in the program code, the program should be held to be noninfringing under the Software Directive [...] while the precise legal theory employed may vary from country to country, it seems likely that such similarities in expression will be deemed noninfringing."

As regards point (2), the Court of First Instance has quite explicitly rebutted the existence of the "right to disclosure" asserted by Microsoft, both on the basis of existing legislation on the matter - "the Commission observes that Article 6bis of the Berne Convention, which sets out the 'moral rights' of the copyright owner, does not mention that right and that, accordingly, an obstacle to the exercise of that alleged right cannot be contrary to the 'normal exploitation of the computer program' as defined in Article 6(3) of Directive 91/250, since that provision provides that that exploitation must be interpreted 'in accordance with the provisions of the Berne Convention'." and "Microsoft's reasons for refusing disclosure of the information concerned are purely economic and therefore have nothing to do with the rationale of the right in question." (T-204/04 R, recital 171) -- and on the basis of logical counterargumentation - "reliance on a right of disclosure is difficult to reconcile with the fact that Microsoft's products are on the market, that persons are able to observe, study or test them and, under certain circumstances, to decompile them." (T-204/04 R, recital 171).

As regards point (3), here again we find the (willful?) confusion that Microsoft makes between interface, protocols, and implementation. There is no reason to believe that anyone implementing the specifications provided by Microsoft -- specifications which, once again, simply describe the way in which one has to talk with Microsoft's programs in order to be understood by and understand them -- should or would produce a clone or a derived work of Microsoft's copyrighted work. Unless, of course, that someone obtains access to the Source Code of Microsoft's products and willfully copies it, line by line and instruction by instruction. But this scenario is a completely different one from the "potential of derived work" envisioned by Microsoft, a scenario which the Commission's Decision has nothing to do about, since it does not require (nor is apparently going to require) Microsoft to release the Source Code of its products to third parties.

As regards Microsoft's claims on infringement of its patent rights, the situation -- using the words of the Court of First Instance, "remains unclear" (T-204/04 R, recital 179). On the one hand, Microsoft asserts the existence of several patents whose licensing would be necessary in order to implement some of the protocols object of the Decision;^[9] on the other hand, "[it is not] obvious to the Commission that a competitor of Microsoft taking advantage of the implementation of the Decision will be infringing some of the claims in those patents. The doubts expressed as to whether a developer of server software using the relevant protocols in order to communicate with Windows clients would infringe the claims in question are confirmed by Microsoft's behaviour towards Samba, an 'open source' product which implements certain Microsoft communications protocols that the Samba group developers have identified using reverse-engineering techniques. Samba appears to have incorporated SMB's 'opportunistic locking' as early as January 1998 (version 1.9.18) and Dfs as early as April 2001 (version 2.2.0). So far as the Commission is aware, the Samba group has never licensed the patents in question from Microsoft and Microsoft has never claimed that its patents were being infringed by the Samba group." (T-204/04 R, recital 178).

The role of Microsoft's patent claims is therefore not very clear. A scenario which would be worth analyzing -- but which unfortunately, no one will be able to analyze except *ex post* -- is that Microsoft has been keeping a low profile on its patent claims, because the Commission's Decision on Reasonable and Non Discriminatory terms for the licensing of its protocol specifications allows Microsoft to fully assert its rights at a later stage, especially towards a key competitor (Free Software) which has been worrying the company for a long time, and towards which customary business tactics do not work or do not work as expected. It should be noticed that, during the lifetime of case COMP/C-3/37.792, several key players such as CCIA retired their allegations towards Microsoft after settling for a monetary compensation -- a tactic which is very doubtful to work with Free Software projects, both for practical (whom to give money to?) and for ideological reasons.

As regards Microsoft's claims on infringement of its rights to maintain trade secrets -- which would be violated by the Commission's Decision, insofar as such Decision obliges Microsoft to disclose information (interface and protocol specifications) which the company considers valuable trade secrets, there are two issues at stake:

1. Whether such information can be considered a trade secret;
2. Assuming such information can indeed be considered a trade secret, whether the protection of such trade secret is more valuable than the overall goal of achieving interoperability with computer programs produced by third parties;

As regards point (1), the Commission, while "[maintaining] that the parallel which Microsoft draws between trade secrets and intellectual property rights is not self-evident" (T-204/04 R, recital 181) (thus not stating in a clear and definite way that such information can not be considered a trade secret" and "[acknowledging] that Directive 91/250 does not require the inventor to disclose the information on his own initiative" (T-204/04 R, recital 181), clearly states that "disclosing interoperability information for the purpose of achieving interoperability is not comparable to

licensing a competitor to copy a work protected by intellectual property rights legislation." (T-204/04 R, recital 183). Plus, Free Software Foundation Europe, in its observation of 13 September 2004, states that "the information which the Decision requires Microsoft to disclose has little value in terms of innovation" and moreover "[the information] contains a number of incompatibilities deliberately introduced in pre-existing written protocols. Microsoft's approach consists in adopting pre-existing protocols and then altering them with the aim of preventing or prohibiting interoperability." (T-204/04 R, recital 185). Whilst Free Software Foundation Europe's opinion is of course questionable, what is not questionable is that Microsoft's protocols object of the Decision are indeed heavily based on pre-existing protocols, whose research and development efforts have not been the result of a direct investment by Microsoft itself; and that Microsoft has indeed modified such protocols, but with the effect of introducing subtle modifications which rendered existing implementations of the protocols not able to communicate with Microsoft's products anymore. It is hard to qualify such modifications as "improvements", if one looks at the broader picture of a set of different players in a market in which network effects are predominant -- indeed, it is difficult not to define such modifications as a predatory tactic aimed at locking out actual and potential competitors.

In any case, as regards point (2), even assuming that the information Microsoft seeks to protect can indeed be considered a trade secret, Intellectual Property Rights have to balance different interests. And while Directive 91/250 does indeed not oblige the inventor to disclose information on its own initiative, the inventor can not hinder the use of interoperability information, when such information is used for the purpose of achieving interoperability. As such, claiming a trade secret on key interoperability information seems like a rather awkward move, if one wants to remain inside the overall legislative framework of Directive 91/250 and, more in general, of the entire framework of Intellectual Property Rights -- whose goal is to protect the rightsowner but at the same time make sure society reaps the benefits of the monopoly right granted to the rightsowner. Having clear interoperability information, in today's markets dominated by network effects, can very well be a societal benefit worth bypassing a rightsowner's claim to trade secrets protection. Considering that what is being requested to Microsoft is just protocol specifications -- which could be obtained, albeit in much more slowly and in a much more cumbersome way, by fully legal reverse engineering activities -- it is hard to justify Microsoft's claims on this specific point.

As regards Microsoft's claims that its reputation and its trademarks and service marks be damaged by the Commission's Decisions, they basically boil down to Microsoft maintaining that implementation of Article 6(a) of the Decision ("Microsoft Corporation shall, within 90 days of the date of notification of this Decision, offer a full-functioning version of the Windows Client PC Operating System which does not incorporate Windows Media Player; Microsoft Corporation retains the right to offer a bundle of the Windows Client PC Operating System and Windows Media Player;") will damage its reputation as a "developer of quality software products", basically owing to the malfunctions which Microsoft itself claims will affect such WMP-less versions of Windows. Moreover, Microsoft asserts a potential damage to its Trademark, for essentially the same reasons.

The Court of First Instance has been particularly clearcut in rejecting Microsoft's claims on the potential damage to its reputation and trademarks (T-204/04 R, recitals 442-467). Besides pointing out Microsoft's shortcomings in actually demonstrating the dire effects on the overall working of its Windows operating system that the removal of Windows Media Player would produce, or how and why consumers and OEMs should identify the cause of any potential problem as Microsoft itself (rather than on the fact that Microsoft was forced to remove Windows Media Player) the Court of First Instance has chosen to make its decision on this specific point revolve around a "lack of proof" justification, i.e. "[...] in so far as Microsoft's argument means that its Windows trade mark would no longer guarantee the presence of its 'basic concept', the President recalls that the essential function of the trade mark is to guarantee the identity of the origin of the marked goods or services to the consumer or end user by enabling him, without any possibility of confusion, to distinguish the goods or service from others which have another origin. For the trade mark to be able to fulfill its essential role in the system of undistorted competition which the EC Treaty seeks to establish, it must offer a guarantee that all the goods or services bearing it have been produced under the control

of a single undertaking which is responsible for their quality [...] In so far as the trade mark makes it possible to guarantee the presence of certain objective characteristics of a product, as Microsoft appears to contend, the President does not in any event have evidence allowing him to assess with sufficient precision, beyond the perception which Microsoft has of its 'basic concept' and its trade mark, the way in which that trade mark is actually perceived by customers on the relevant market. That is the case, in particular, of the evidence which permits an assessment, from the customers' point of view, of the objective characteristics which might be associated with it and, where appropriate, the real gravity of a variation in those characteristics." (T-204/04 R, recital 469)

Besides, Microsoft would have a perfect occasion to enforce its overall reach and notoriety in the market(s) of reference by publishing a clear set of specifications for the Application Programming Interface of the multimedia services that any media player (either a third-party or Windows Media Player) has to provide in order for it to comply with the overall "design concept" of Windows; Microsoft could then register a Microsoft-related service mark or certification mark on such specifications, and license such marks only on the condition that the media player (whether third party of Windows Medya Player) be compliant with such specifications.

On the one hand, third party players will have a major interest in correctly implementing the full specifications to their full extent, because in this way they will be able to use the mark; consequently, OEMs and end-users will most probably want to use these implementations rather than non-fully compliant ones; on the other hand, the risk of "rogue media players" lowering the overall quality of the "Windows experience" will be lower. Potential damage to Microsoft (from this point of view) could thus be avoided by using standard, well-proven legal instruments, instead of predicting doomsday scenarios which are easily rejected without much consideration.

The fact that Microsoft did not apparently propose such a solution could simply mean that Microsoft is interested in maintaining the strictest control on all the elements of the overall system -- something which is damaging for competitiveness and innovation.

Last, not least, Microsoft claimed that the proposed remedies violate the international obligations of the European Community on two basic points:

1. According to Microsoft, the remedy concerning Microsoft's alleged refusal to supply information on its interface and protocol specifications would violate the EC's obligations under the Trade-Related Aspects of Intellectual Property Rights agreement (WTO 1994) – specifically, Microsoft argues that “a compulsory disclosure of its copyright fails to meet the requirements which Article 13 of the TRIPS agreement sets out for limitation and exceptions to copyrights” (C(2004)900 Final, recital 1050). Microsoft maintains that “various intellectual property rights protected by the TRIPS agreement” are violated by the Commission's proposed remedy – however, although Microsoft clearly cites patents and trade secrets as other “Intellectual Property Rights” which are violated by the Commission's Decision, in light of the TRIPS agreement, “[it] does not further substantiate any possible violations of the relevant obligation under the TRIPS agreement (C (2004)900 Final, recital 1050).
2. Microsoft also maintains that the removal of Windows Media Player would violate the Community's obligation under the World Trade Organization Agreement on Technical Barriers to Trade (the TBT Agreement, WTO 1994b).

The position of the Commission has been quite firm on the subject (surprisingly so, considering the history of application of TRIPS and other WTO agreements worldwide and in the context of the European Union). The Commission, after “[having] carefully considered all of Microsoft's arguments”, “sees no inconsistency between this Decision and the Community's international obligations, since the action the Commission is taking under this Decision is fully consistent with its obligations under the WTO Agreements, in particular the TRIPS and the TBT Agreements. These agreements allow the imposition of an obligation to bring to an end the infringement identified in this Decision”.

Furthermore, Microsoft has not been recognized any right to challenge the legality of the decision by invoking the TRIPS or the TBT Agreements, since “it is settled case-law that — having regard to their nature and structure, the WTO agreements are not in principle among the rules in the light of which the Court is to review the legality of measures adopted by the Community institutions.^[10] It also follows from this case-law that “[i]t is only where the Community intended to implement a particular obligation assumed in the context of the WTO, or where the Community measure refers expressly to the precise provisions of the WTO agreements, that it is for the Court to review the legality of the Community measure in question in the light of the WTO rules” (C(2004)900 Final, recital 1053).

4. Unreasonable and discriminatory terms

While the whole case COMP/C-3/37.792 has been rather refreshing in the way in which Intellectual Property Rights claims have been dealt with, especially when comparing it to the overall trend towards a “rightsholder has it all” attitude and when considering the precision with which specific claims on copyright, patents, trademarks, trade secrets have been discussed (sometimes on the face of very vague references to “Intellectual Property” and outright confusion on basic concepts such as interface and implementation on computer programs, and the way in which different laws apply in the different cases), the remedies put forward by the European Commission are rather disappointing from several points of view.

In this section a specific problem with the Commission's Decision will be examined: allowing “Reasonable and Non Discriminatory” conditions in the licensing terms that Microsoft will be able to assert when making available interoperability information for its products. Article 5(a) of the Commission's Decision deals specifically with this:

“Microsoft Corporation shall, within 120 days of the date of notification of this Decision, make the Interoperability Information available to any undertaking having an interest in developing and distributing work group server operating system products and shall, on reasonable and non-discriminatory terms, allow the use of the Interoperability Information by such undertakings for the purpose of developing and distributing work group server operating system”

Why are RAND conditions unsatisfactory for achieving the goals that the European Commission had put forward, or more generally to achieve a true competing marketplace?

Reasonable and Non Discriminatory (RAND) licensing is a term for a kind of licensing which is often used in standardisation processes (however, RAND conditions are by no means tied to the existence of a Standard Setting Organization, as is indeed the case for Microsoft making available its interoperability information). Basically, it means that when joining a standardisation body, companies agree that if they are granted (or already have, depending on the precise conditions agreed upon) any patents on technologies which become essential to the standard, then they will allow implementors of the standard (whether a part of the standardisation group or third parties depends on the precise conditions agreed upon) to use those patents in a non-discriminatory way (thus renouncing to a key advantage that a patent grants, i.e. being able to decide in a totally autonomous way whom to license the patent to); moreover, they agree that the charges for those patents shall be reasonable.

RAND licensing, in and by themselves, are the solution to a problem which emerged in the past and is bound to emerge even more in the coming future -- i.e. the interaction between IPR rights such as patents and the need for innovating players not to get caught in a strategic lose-lose blocking game. However, RAND licensing presents a more subtle term: it says nothing about the relation of the license to the product cost. Typically Free Software applications and research applications create

systems with no direct profit whatsoever (i.e. given the licensing scheme of Free Software, the profit is made on accessory activities such as consulting, which the software product itself is merely an instrument for).

The relationship between RAND and Free Software projects is made more difficult by the fact that the groups working on such projects are more often than not geographically dispersed and/or do not have the practical possibility of paying licensing fees to the patent owner, and in many cases even to negotiate exceptions (which would anyway probably constitute a discriminatory treatment against other potential licensee of the RAND-licensable patents) because of the very informal and transitory nature of such groups, with volunteers entering and exiting the development process -- and potentially infringing on a RAND-licensable patent -- on a daily basis.

RAND licensing in Standard Setting Organisation (see *inter alia* IETF 2005, IETF 2005a, W3C 1997, OASIS 2005) has long been a problem for Free Software groups, which have been advocating Royalty-Free (RF) licensing. See, for example, the Open Source Initiative letter of comment on the World Wide Web Consortium's proposed RAND Policy (OSI 2001) the joint open letter on OASIS new Intellectual Property's Policy (Rosen 2005) or Philippe Aigrain's open letter to the World Wide Web Consortium (Aigrain 2001).

In all these cases, it is quite apparent that the (usual, or at least potential) fee-based structure of RAND licensing poses a significant problem for Free Software communities and developers, if anything because it is rather difficult to understand who is formally endowed to represent whom. Although several Free Software projects do have a formal structure in place and could conceivably negotiate on RAND basis with the licensor, the economic problem of comparing apples with oranges (i.e. businesses which profit from per-unit sell of goods vs businesses whose model is based on a free flow of "products", which in this case is the information embodied in software) still persists.

An even more subtle problem with RAND licensing, however, which directly derives from its generality (what does "reasonable" mean?), is that it does not dictate whether a RAND-licensor can (or can not) shun licensing on the basis of the potential licensee's strategy with regards to access to Source Code.

Microsoft did not wait long before using this generality and lack of clarity to close the door in the face of one of its most dangerous competitors (as Microsoft itself as recognized several times): Free Software.

Microsoft Work Group server Protocol Program License Agreement for Development and Product Distribution^[11] states at recital 2.4:

“Condition. The licenses granted in Section 2.1(a) do not include any license, right, power or authority to, and Licensee will not, subject Licensed Server Implementations or derivative works thereof in whole or in part to any of the terms of any license that requires terms or conditions that are contrary to the scope of this Agreement or Licensee obligations under this Agreement. For example, the licenses granted in Section 2.1(a) do not include any license, right, power or authority to subject Licensed Server Implementations or derivative works thereof in whole or in part to any of the terms of any other license that requires such Licensed Server Implementations or derivative works thereof to be disclosed or distributed in source code form. Subject to the foregoing, and as long as the Licensed Server Implementation(s) are developed and distributed in a manner that complies with this Agreement, nothing in this Agreement prevents Licensee from developing and/or distributing Licensed Server Implementation(s) for use on any Server Software platform or operating system.”

This provision directly impedes Free Software (especially under copyleft licenses like the GNU GPL) implementations of Microsoft specifications (Sheriff 2005). The implications of such exclusion might or might not represent a major departure from the current state of affairs - after all, Samba, once of the Free Software projects that are most concerned with Microsoft Work Group Servers protocols, has been reverse engineering such protocols for quite a long time, and barring introduction in the European Union of so-called “software patents” (which would also make patents on data formats legal, since a data format can be formally described as a computer program) it will probably continue doing so.

However, it is undeniable that such a provision is indeed discriminatory. Given Microsoft's past, current and foreseeable position towards Free Software - ranging from internal strategical analysis (OSI 1998, OSI 1998a, OSI1998b) to public denigration, from ideological attacks (Lea 2000), to promotion and dissemination of sponsored and not-officially sponsored (and often contested on purely numerical rather than “ideological” basis, see Cosenza 2005) reports and analysis on the Total Cost of Ownership of “Open Source” vs Microsoft solutions (Glera 2004, Richardson 2002, DiDio 2004, DiDio 2004a) – it is not exactly clear the extent to which the possibility to apply RAND policies will indeed safeguard and/or encourage a true competitive market (barring any consideration on the public value *per se* of Free Software, see Moglen 2003).

While there have been some proposals on how to correct the implicit unfairness and uncertainty of RAND licensing models, such as OSI proposal to add a clause, similar to the State of Maryland UCITA (UCITA 1999) exempting Free Software projects from warranty requirements, stating that “[t]he payment of royalties under a RAND license shall be waived for any licensor of a computer program that is provided under a license that does not impose a license fee for the right to the source code, to make copies, to modify, and to distribute the computer program” (OSI 2001) the vast majority of responses to proposed or existing usage of RAND policies in standard setting organizations seems to be an explicit call to switching to Royalty Free (RF) policies and to using and promoting (and, when necessary, imposing) Open Standards.

While there is no single definition of what “Open Standard” means, and the discussion on the topic shows some quite divergent positions on specific points at hand, there seems to be a general trend towards accepting a working definition whose main elements (all the citations until the end of the paragraph are taken from Perens 2005) are **availability** (“Open Standards are available for all to read and implement”), **maximization of end-user choice** (“Open Standards create a fair, competitive market for implementations of the standard. They do not lock the customer in to a particular vendor or group”), **no royalty fee payment** (“Open Standards are free for all to implement, with no royalty or fee. Certification of compliance by the standards organization may involve a fee”), **no discrimination** (“Open Standards and the organizations that administer them do not favor one implementor over another for any reason other than the technical standards compliance of a vendor's implementation. Certification organizations must provide a path for low and zero-cost implementations to be validated, but may also provide enhanced certification services”), **freedom to implement only a subset of the standard or extend the standard** (“Implementations of Open Standards may be extended, or offered in subset form. However, certification organizations may decline to certify subset implementations, and may place requirements upon extensions [...]”), with **provisions to avoid predatory phenomena** (“Open Standards may employ license terms that protect against subversion of the standard by embrace-and-extend tactics. The licenses attached to the standard may require the publication of reference information for extensions, and a license for all others to create, distribute, and sell software that is compatible with the extensions. An Open Standard may not otherwise prohibit extensions”).

Should the Commission have imposed Royalty Free licensing to Microsoft right from the start? Even more, should it have contained provisions to make Microsoft's protocols licensing program comply with the definition(s) of Open Standard? The answer to these questions is not easy and involves careful assessment of fields of law and policy analysis that go beyond pure Intellectual

Property law.

What is clear, however, is that the possibility for Microsoft to use RAND terms in its Protocol Licensing Program paves the way for clearly discriminatory practices towards a major player in the current debate and market and in foreseeable societal impact of Information and Communication Technologies.

The European Commission seems to have recognized, even though *ex post* and not *ex ante* its decision on the case, the dangerous and anticompetitive effects that generic RAND licensing can provoke. In a statement issued on March 18, 2005, a spokesman of DG Competition confirmed that the EC was not satisfied with Microsoft's proposed server interoperability license, on the basis of four points: the very high level of royalties which Microsoft demands and which appear unjustified, given market conditions and the general goal of the Decision to restore competition in the relevant market; the exclusion of Free Software implementations from being able to use the interoperability information (see above); the inflexibility and lack of modularity of the license, which obliges licensees to pay for information which they might not actually need; and the lack of prior information on exactly which interoperability information the license gives access to, so that potential licensees can correctly decide whether they want or need such information or not. Now Microsoft has the opportunity to come up with a revised license, lest they be potentially fined 5 percent of their global turnover each day that they are not compliant (Marson 2005).

5. Layered innovation: Physical, Logical, Content

Throughout the lifetime and the debates surrounding case COMP/C-3/37.792 a central role has been played by the concept of “innovation”. Microsoft has repeatedly asserted that the Commission's Decision will stifle its ability to innovate in its fields of endeavour, mainly because compulsory licensing of its “Intellectual Property” and/or opening its precious trade secrets (in the form of specifications for interfaces, data formats and protocols) would be a major obstacle to Microsoft recouping the major investments it supposedly made in the past years; moreover, such Decision would discourage further investments, since there would be no guarantee of the return from such investments in the future. Microsoft's position is in line with the most recent rhetorics surrounding debates around Intellectual Property – or, at least, with the rhetorics put forward by a part of the actors involved – and, to a certain extent, are coherent with the justification of Intellectual Property as government-granted monopolies over exploitation (and, to a certain extent, production) of non-exclusive, non-rivalrous goods such as ideas – which can be embodied or not in physical devices.

However, besides the rhetorics surrounding Intellectual Property – which seem to forget constantly that the above mentioned government-granted monopolies represent a recognition of the need of inventors and creators to recoup their investments, but at the same time clearly serve to protect society's interests at large, too – it is still an open question, and a subject of extensive research whether and to what extent “monopolies over ideas” in specific contexts such as the ICT sector are truly an incentive to innovation; and, whether they are or not an incentive to innovation, to what extent society's interests (which do not necessarily and in any case coincide with a Pareto-optimal configuration of the market) are guaranteed and promoted by granting such monopolies.

The debate over the effect of Intellectual Property over innovation processes is extremely varied and for the most part has not produced clear and definitive results, yet (something which should of course make all the actors involved refrain from implementing too far reaching policies in this area). The debate is not helped by the fact that, most often than not, the specific characteristics of the relevant field in which the effects of Intellectual Property are to be analyzed are not really taken into account. The end result is that we see rules conceived for an analogical world and for markets in which network effects, while present, have a somewhat limited impact, applied to the digital world of today, in which network effects (both direct and indirect) are incredibly relevant and, in fact, constitute the very same essence of the socioeconomical dynamics involved.

An interesting approach to the analysis of regulations^[12] and the effects that such regulation can have on innovation processes has been proposed by Yochai Benkler in various works (Benkler 1998, Benkler 1998a, Benkler 2000, Benkler 2001, Benkler 2003, Benkler 2004, Benkler 2004a): the so called “layered approach” which considers the effects that regulation (and monopolization) on the physical, logical and content layers of (tele)communications industries and of digital tools.^[13]

Perhaps the best short description of Benkler's analysis – which is rather elaborated and would hardly fit this paper - has been proposed by Lawrence Lessig (Lessig, 2002):

“[...] Benkler suggests that we understand a communications system by dividing it into three distinct ‘layers’. At the bottom is a ‘physical’ layer, across which communication travels. This is the computer, or wires, that link computer on the Internet. In the middle is a ‘logical’ or ‘code’ layer – the code that makes the hardware run. Here we might include the protocols that define the Internet and the software upon which those protocols run. At the top is a ‘content’ layer – the actual stuff that gets said or transmitted across these wires. [...]

Each of the layers in principle could be controlled or could be free. Each, that is, could be owned or each could be organized in commons. [...]

These examples suggest the range of ways of organizing systems of communications. No single mix is best, though the differences among the four are important. To the extent that we want a decentralized system of communication, unowned layers will help. To the extent that we want a controlled systems of communications, owned layers will help. [...]

The physical layer of the Internet is fundamentally controlled. The wires and the computers across which the network runs are the property of either governments or individuals. Similarly, at the content layer, much in the existing Internet is controlled. [...] Much is properly and importantly protected by property law.

At the code layer, however [...] the Internet was free.”

The point that Benkler and Lessig (Lessig 1999, Lessig 2002, Lessig 2004) - and, to a certain extent, others whose studies have focused on how protection of the “Commons” or of the Public Domain in the digital environment has, is or will encourage innovation and better balance society's interest with private entrepreneurship (Aigrain 2005, Boyle 2000, Boyle 2003, Stallman 2002, to name just a few) – make in their writings is that proprietarization of, or very high barriers of access (which can take the form of *de facto* monopolies, government-granted privileges such as Intellectual Property Rights, etc) to specific layers in the general communication framework under scrutiny can lead to less innovation, not more.

This is not the place to properly analyze such a complex set of issues, over which different schools of thought have of course very different positions – for example, some of them (Pardolesi, Renda 2004) argue that when evaluating the different competition models of closed, semi-open and open systems, it is not clear that closed systems (i.e. “[systems which] correspond to fully integrated business models. All complementors are then produced by a single firm, which markets the whole system to end users without allowing any other firm to produce any of the layers in its system.”) are *per se* less efficient and less capable of producing innovation than open systems (i.e. “[systems which] [...] correspond to fully disintegrated models of industrial production. In an open system, firms engage in competitive races for the production of all complementors. A completely open system requires that all firms in the market can observe at least the interfaces adopted by each complementor in interoperating with the others, as well as the implementation of such interfaces by each vendor. As a consequence, open systems are often based on open source models in their OS,

middleware and applications layers”).

While it seems premature at this stage to choose or even suggest a government-sanctioned policy with regards to close, semi-open and open architectures, and the different regulation (including IP regimes) that would follow from deciding that one architecture rather than another is better in achieving the balance between private and public interest (it anything, because raw data is still scarce, and analysis of existing data is not decisive, to say the least) it is nonetheless striking that the very same technology that today is touted as heralding a new era of possibilities, both for private entrepreneurs and for public interest, i.e. the Internet, is a direct result of applying an open architecture with regards to the logical (code) layer: in other words, letting Internet protocols (as produced by the Internet Engineering Task Force, IETF) run “in the Intellectual Property wild”, without exerting a strict regulation or a fee-based policy in authorizing implementation of such protocols and usage – for whatever goal or extent – of such implementations (in fact, no authorization was required at all to implement IETF protocols until recently, and Royalty Free licensing has been the norm for decades – see IETF 2005, IETF 2005a).

It might be surprising that such a loose arrangement might actually produce valuable innovation, but the basic fact is that it did – the Internet and the protocols and software on which it is based was not invented by a single player investing billions in research and development while at the same time being granted a monopoly over production, usage and licensing of such protocols to recoup the investments. It is not clear, thus, what over-protection of protocols and interfaces – even bending legislation, asserting it covers areas that it never intended or was not designed to cover, such as copyright over interfaces – would actually produce in terms of general innovation (and not, for example, in terms of added revenues for a single player). What we have today is an incredible innovative set of technologies which have been produced by not exerting too strict a control on the intellectual production and processes behind them and by guaranteeing an “end to end” principle – do not try to control in advance what will come up from a given technology or innovation, but do allow the maximum degree of freedom not only in producing the innovation it self, but in designing the general architecture on which subsequent innovations will hopefully be built (Lemley 2001).

More analysis is needed to scientifically assess the impact of different models and architectures in the digital world over innovation processes – at the same time, it seems reasonable to apply models which are known to produce innovation in the digital networked environment. Unfortunately, the Commission's Decision – while recognizing that most of Microsoft claims for over-protection of its Intellectual Property Rights were bogus – did not truly apply the models that brought the Internet to today's glory. RAND licensing, in fact, means that the control on the logical layer (communication protocols and software interfaces) which Microsoft was apparently denied can be exercised in semi-total freedom through imposition of factually discriminatory terms in licensing usage of the specifications on its protocols and interfaces.

6. A neglected player, free software

Throughout case COMP/C-3/37.792 it is striking how the role and importance of Free Software in the dynamics under examination have been underestimated and, to a certain extent, neglected.

Free Software^[14] can be defined as the set of computer programs (*software*) whose licensing terms guarantee certain basic freedoms to the licensees:^[15]

- The freedom to run the program, for any purpose (freedom 0).
- The freedom to study how the program works, and adapt it to your needs (freedom 1). Access to the source code is a precondition for this.
- The freedom to redistribute copies so you can help your neighbor (freedom 2).
- The freedom to improve the program, and release your improvements to the public, so that the whole community benefits (freedom 3). Access to the source code is a precondition for this.

Two organizations that play a major role in the community of users and developers of Free Software have been involved to different extents in case COMP/C-3/37.792: Free Software Foundation Europe^[16] and the Samba team.^[17]

Free Software Foundation Europe (represented by Avv. Carlo Piana, of Tamos & Piana)^[18] was admitted throughout the procedure of COMP/C-3/37.792 as interested third party (C(2004)900 Final, recital 11); plus, by application lodged on 13 July 2004, it requested leave to intervene in support of the form of order sought by the Commission in the interim relief proceedings (T-204/04 R, recital 53). FSFE acted also as the formal “umbrella” under which the Samba team submitted its observations to the Commission (C(2004)900 Final, page 83, note 180).

FSFE's active role in the case, although apparently seminal in helping the Commission understand the full extent of the role of Free Software projects (such as Samba) in the overall scenario (C(2004)900 Final, recitals 293-297, C(2004)900 Final, recital 685, C(2004)900 Final, page 185, note 833, T-204/04 R, recital 185, and FSFE 2003), was not sufficient to make the Commission take a Decision which takes into account the peculiar characteristics of Free Software.

First of all, as has already been shown in the section “Unreasonable and Discriminatory Terms”, usage of a RAND licensing model for the interoperability information which Microsoft has to deliver its potential competitors is deeply discriminatory to Free Software. A Royalty Free model or, even more, adherence to the basic principles and procedures of “Open Standards” would have been necessary in order for Free Software (in the case under examination, for the Samba project) to truly compete on an equitable basis in the Work Group Server market.

Second, it is not clear why Microsoft has been granted the privilege to “license” information on interface and protocols, whose legal status with regards to copyright – whether interface and protocols are actually protected by copyright and consequently whether they can be “licensed” or not – is not clear; and whose legal status with regards to patents, at least in Europe and as long as “software patents” will not be allowed, is clearly on the side of non protection. Granting Microsoft the right to “license” its interface and protocol specifications seems to be the first step towards selectively excluding potential competitors (notwithstanding the formal obligation to use RAND licensing models). This issue, while not peculiar to Free Software only, is particularly damaging to the latter, because Free Software projects often have neither the financial resources nor the formal structure in place to negotiate complex licensing agreements.

Not enough attention was given to the issue of software patents, which could impede Free Software implementation of the protocols (this issue is not specifically relevant to Free Software, but is particularly penalizing because Free Software projects often do not have neither the financial resources nor a formal structure in place to negotiate patent licenses with Microsoft). The issue of software patents, or “patents on computer implemented inventions”, is particularly thorny (see Evans 2004, Hart 2000, Hahn 2003, Heckel 1992, Lang 2001, Mann 200, Merges 1999 and Scotchmer 2005, amongst others) and does not lend itself to easy *ex ante* judgements – consequently, it appears strange that a RAND policy be allowed, knowing that one of the fiercest competitors to Microsoft dominance will be basically unable to gracefully handle the potential strategies that could arise from such policy.

It should be noticed that Free Software Foundation Europe (in its role of promoter of Free Software throughout Europe) does not seem to be asking for a preferential treatment towards Free Software projects. What it has been asking is a truly free market which bases its competition on the quality of implementations (as well as on the quality of ancillary services such as support, consulting, customization, etc) and not only on the ability to strategically block and regulate access to interface and protocol specifications – in other words, to the languages which different applications must speak in order to talk to each other. Whether a computer program is efficient, user-friendly and

whatever other characteristics make it more or less competitive on the market, in an economy characterized by strong network effects it is necessary to safeguard a common ground on which competition can be based. Access to interface and protocol specifications does not mean access to copyrighted Source Code – Microsoft's attempts to mix these different issues only shows the strategic value that control on the “common language” has.

Quoting Carlo Piana, the lawyer who represented Free Software Foundation Europe and the Samba Group throughout the case,

“In the world of Free Software [...] we often ask ourselves whether this is a religious war. It is not, and it is both an economics-centered and ethical position. [...] A free market condition needs to be re-established, and this would, in my humble opinion, benefit Microsoft too: if not to his cash accounts, at least to his products. An example. During the browser war [...] Microsoft worked hard to bring to the market a competitive product, and produced Internet Explorer, which – with all its defects – could compete [...] with its competitor.

Once the browser war was won, with Explorer the winning and almost the unique product on the market, development has halted. Today Mozilla Firefox is a credible competitor (strangely enough, a Free Software product) and Microsoft has already announced substantial improvements for the next version of his product, which people have been waiting for years (i.e. centuries, using software timescale). [...] This is the effect that we are waiting for the whole market of operating systems, and not only: a true competition on the quality of products, not based on entrenched positions.” (Piana 2005)

7. Market rules verses society interests

A general problem with the whole case is that the whole Microsoft affair was seen under a pure “competition law” perspective, which presents two sets of problems:

1. Market efficiency does not itself guarantee that important social goals (equity, inclusiveness, etc) be reached; this is most important in the European context, which has long advocated a “third way” with regards to the market. The Lisbon strategy (even in its diluted version, as stated by President Barroso in its “A new start for the Lisbon strategy”) has always kept societal interests goals, not directly achievable through market efficiency, in the highest regards. This is most strikingly true if we consider the part of the Microsoft case which dealt with the tying of Windows Media Player with Windows. The possibility for an oligopoly to get stronger in the context of media transmission in the information society means that fewer and fewer players (especially those with less resources, which are usually the ones that are left outside the “mainstream media” altogether) will be able to convey information on things that matter them, with a true loss for democracy;
2. the definition of “market” that was adopted in this (like in most other) cases fails to truly recognize the peculiar nature of some of the most interesting players in today's ICT world, namely Free Software projects; this nature makes the remedies that the Commission proposed not only useless, but potentially damaging, if anything because the exclusion of Free Software projects from interoperability will now be “blessed” by the mark of respecting, at least formally, the decision by the Commission (see sec. “Unreasonable and Discriminatory Terms”, with specific reference to Microsoft Protocol Licensing Program, and how that licensing scheme explicitly disallows Free Software projects from joining).

Free Software, as a new model of production, can not be dealt in the same way as other models which employ completely different licensing models and which most often than not present different organizational structures. This is not to say that Free Software is “per se” more efficient or more desirable than other models, but if a truly interoperable landscape was to be achieved, more

attention on how to include Free Software in such landscape would have been in order.

Framing the whole issue at hand in the context of competitiveness, market and antitrust measures could as well miss a fundamental point, i.e. writing software is a form of cultural expression – such point of view being coherent with the current choice to protect software with the juridical tool of copyright (all parts of copyright and *droit d'auteur* which do not really fit when applied to computer programs notwithstanding).

As Alessandro Rubini notices (Rubini 2004),

“The fundamental role of the birth of the spoken and, later on, of written word^[19] is generally recognized; another important step towards cultural and technological progress has been the printed word [...]. The current status of technological development is characterized by the programmed word: many tools that we currently use in our endeavors [...] owe a large part of their functionalities to the way in which they have been programmed [...] The “programmed word”, the code, is thus an important resource of technological, and consequently cultural, development. [...] The written, printed, and programmed word must be accessible to everyone [...] who wants to try and produce it.”

The concept of software as a form of cultural expression - and in general, the analysis of models which encourage sharing rather than proprietarization of works and goods, see amongst others Benkler 2004 – has emerged lately as a novel and compelling approach when conducting analysis of the pros and cons of policy choices.

How to make sure the “freedom of algorithmic thought” (Davoli 2003) is guaranteed and, to the extent that it does not clash with potentially and actually opposite and legitimate interests, encouraged is an issue of public policy to be taken into account when issuing decisions in fields which, by their very nature, have a deep impact on society as a whole and not only on artificially constructed “markets”.

The artificiality and abstract nature of these constructions tend to hide the ramifications and consequences that the growth of proprietary technologies impose on the collectivity of citizens and human beings.

8. Conclusions

Case COMP/C-7/37.792 has raised a noticeable degree of attention worldwide, spurring a large number of comments from various parties, both in favour of and against the Decision.

Media coverage has most of the time focused on the fine imposed on Microsoft, which is however not really relevant nor worrying, given Microsoft's current and foreseeable cash flow.

In fact, Microsoft's reactions have focused not so much on the pecuniary element of the Decision, but on the obligation to disclose “interoperability information”. As can be expected from any profit-seeking entity, Microsoft tried to strategically bend the Decision through IPR claims aimed at over-protecting its “information assets”, such as RAND licensing schemes banning dangerous opponents which are not so easily controlled through “standard” negotiations – such as settling for money – and using overly broad patents covering not only peculiar forms of expressions (as happens in copyright law) but also the general concepts that underlie a specific subsystem of a piece of software.

Although the Commission's Decision mainly focused on market competitiveness aspects – nor could it have been different, given the nature and goals of DG Competition – and did not consider valuable societal benefits that certain licensing schemes, as found in Free Software projects, can bring, it is

nonetheless encouraging the attention, *ex ante* and *ex post*, that was given to the potential pitfalls RAND licensing and overly broad IPR claims can create.

It remains to be seen whether Microsoft's proposed licensing scheme for its “interoperability information” will prove beneficial to the goals set forth by the European Commission; a question that can be answered only by following the developments of the Microsoft-EC case, which will undoubtedly continue to be a fertile ground for research in the coming months, if not years.

9. Acknowledgements

I would like to thank Carlo Piana for the useful information he provided on Free Software Foundation Europe's endeavors in case COMP/C-3/37.792.

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Appendix A: The Commission's Proposed Remedies

Article 1

For the purpose of this Decision, the following definitions shall apply:

(1) the term "Interoperability Information" means the complete and accurate specifications for all the Protocols implemented in Windows Work Group Server Operating Systems and that are used by Windows Work Group Servers to deliver file and print services and group and user administration services, including the Windows Domain Controller services, Active Directory services and Group Policy services, to Windows Work Group Networks;

(2) the term "Protocol" means a set of rules of interconnection and interaction between various instances of Windows Work Group Server Operating Systems and Windows Client PC Operating Systems running on different computers in a Windows Work Group Network;

(3) the term "Timely Manner" with respect to disclosure of protocol specifications means as soon as Microsoft Corporation has developed a working and sufficiently stable implementation of these specifications; by way of illustration, for protocols supported in a service pack or in a new version of a product, "Timely Manner" means as soon as the service pack or the new version is made available outside Microsoft Corporation for beta testing purposes;

(4) the term "Windows Client PC" means a PC connected to a network and on which a Windows Client PC Operating System is installed;

(5) the term "Windows Client PC Operating System" means any of the software products marketed by Microsoft Corporation as Windows 98, Windows 98 Second Edition, Windows Millennium edition, Windows NT Workstation 4.0, Windows 2000 Professional, Windows XP Home and Windows XP Professional, and updates (including, without limitation, security patches), upgrades and successors to the latter, as well as updates and upgrades of such successors;

(6) the term "Windows Media Player" means the media code which Microsoft Corporation currently distributes as WMP in Windows XP Embedded (thus including components that support the Windows Media codecs, Windows Media file formats, WMDRM and the WMP User Interface); for future versions of the Windows Client PC Operating System, the term "Windows Media Player" shall cover the foregoing components;

(7) the term "Windows Work Group Network" means any group of Windows Client PCs and Windows Work Group Servers linked together via a computer network;

(8) the term "Windows Work Group Server" means a computer connected to a network and on which a Windows Work Group Server Operating System is installed;

(9) the term "Windows Work Group Server Operating System" means any of the software products marketed by Microsoft Corporation as Windows NT Server 4.0, Windows 2000 Server and Windows Server 2003 Standard Edition, and updates without limitation, security patches), upgrades and successors to the latter, as well as updates and upgrades to such successors.

Article 2

Microsoft Corporation has infringed Article 82 of the Treaty and Article 54 of the EEA Agreement by:

(a) refusing to supply the Interoperability Information and allow its use for the purpose of developing and distributing work group server operating system products, from October 1998 until the date of this Decision;

(b) making the availability of the Windows Client PC Operating System conditional on the simultaneous acquisition of Windows Media Player from May 1999 until the date of this Decision.

Article 3

For the infringement referred to in Article 2, a fine of EUR 497,196,304 is imposed on Microsoft Corporation.

The fine shall be paid, within 3 months of the date of notification of this Decision, into Bank account No 001-3953713-69 (Code SWIFT GEBABEBB Code IBAN BE71 0013 9537 1369) of the European Commission with FORTIS Bank, Rue Montagne du Parc 3, 1000 Brussels.

After the expiry of that period, interest shall automatically be payable at the interest rate applied by the European Central Bank to its main refinancing operations on the first day of the month in which this Decision was adopted, plus 3.5 percentage points, namely 5.50%.

Article 4

Microsoft Corporation shall bring to an end the infringement referred to in Article 2 in accordance with Articles 5 and 6. Microsoft Corporation shall refrain from repeating any act or conduct described in Article 2 and from any act or conduct having the same or equivalent object or effect.

Article 5

As regards the abuse referred to in Article 2 (a):

(a) Microsoft Corporation shall, within 120 days of the date of notification of this Decision, make the Interoperability Information available to any undertaking having an interest in developing and distributing work group server operating system products and shall, on reasonable and non-discriminatory terms, allow the use of the Interoperability Information by such undertakings for the purpose of developing and distributing work group server operating system

(b) Microsoft Corporation shall ensure that the Interoperability Information made available is kept updated on an ongoing basis and in a Timely Manner;

(c) Microsoft Corporation shall, within 120 days of the date of notification of this Decision, set up an evaluation mechanism that will give interested undertakings a workable possibility of informing themselves about the scope and terms of use of the Interoperability Information; as regards this evaluation mechanism, Microsoft Corporation may impose reasonable and non-discriminatory conditions to ensure that access to the Interoperability Information is granted for evaluation purposes only;

(d) Microsoft Corporation shall, within 60 days of the date of notification of this Decision, communicate to the Commission all the measures that it intends to take under points (a), (b) and (c); that communication shall be sufficiently detailed to enable the Commission to make a preliminary assessment as to whether the said measures will ensure effective compliance with the Decision; in particular, Microsoft Corporation shall outline in detail the terms under which it will allow the use of the Interoperability Information;

(e) Microsoft Corporation shall, within 120 days of the date of notification of this Decision, communicate to the Commission all the measures that it has taken under points (a), (b) and (c).

Article 6

As regards the abuse referred to in Article 2 (b):

(a) Microsoft Corporation shall, within 90 days of the date of notification of this Decision, offer a full-functioning version of the Windows Client PC Operating System which does not incorporate Windows Media Player; Microsoft Corporation retains the right to offer a bundle of the Windows Client PC Operating System and Windows Media Player;

(b) Microsoft Corporation shall within 90 days of the date of notification of this Decision communicate to the Commission all the measures it has taken to implement point (a).

Article 7

Within 30 days of the date of notification of this Decision, Microsoft Corporation shall submit a proposal to the Commission for the establishment of a suitable mechanism assisting the Commission in monitoring Microsoft Corporation's compliance with this Decision. That mechanism shall include a monitoring trustee who shall be independent from Microsoft Corporation.

In case the Commission considers Microsoft Corporation's proposed monitoring mechanism not suitable it retains the right to impose such a mechanism by way of a decision.

Article 8

The Commission may at its sole discretion and upon a reasoned and timely request by Microsoft Corporation grant an extension of the various time limits provided for in Articles 5 and 6.

Article 9

This Decision is addressed to Microsoft Corporation, One Microsoft Way, Redmond, WA 98052, United States.

This Decision shall be enforceable pursuant to Article 256 of the EC Treaty and Article 110 of the EEA Agreement.

Done at Brussels, 24.03.2004

For the Commission

Mario MONTI

Member of the Commission

^[1]Throughout the document, the term “interface” will not be used to mean “user interface”, unless explicitly stated; rather, it will be used as an abbreviation of “Application Programming Interface” or API. Using the term “Application Programming Interface” can be necessary when there is the risk of taking the word “interface” as referring to “User Interface”, i.e. the part of a computer program which a user directly interacts with – think of the metaphor of a graphical desktop which is nowadays the most common, although absolutely not the only one possible. The legal problems which User Interfaces present, especially in the field of copyright and/or patents, are outside the scope of this paper.

^[2]The fact that the European Commission refers to “protocol” only in the context of the Windows Work Group market and/or network dangerously diverts the attention from the fact that the second violation of Art. 82 EC which Microsoft allegedly committed, i.e. tying of the Windows operating system with Windows Media Player, could probably have been avoided and resolved with better effects in the medium and long term by focusing on protocols used by such Windows

Media Player vs other media players, and enforcing disclosure of such protocols (as well as the relevant data formats and interfaces engineered by Microsoft for letting the Media Player communicate with the Operating System) to all interested parties.

^[3] Actually, binary code is interpreted by the Central Processing Unit of a computer - but for the scope of this discussion, the above definition will suffice.

^[4] When Microsoft asserts that providing the interface to its programs, and/or the precise specification of the protocols or data formats that its programs use, amount to making the Source Code of its products known to the world (thus violating the copyright Microsoft has over that Source Code) it either ignores the fact that interfaces are a different thing from implementations of those interfaces (and, as a matter of fact, the protection copyright law in the field of computer programs grants to interfaces is at least quite doubtful) or it is saying that its engineering practices are so poor that the basic principles of information hiding and encapsulation have not been respected through the development life of its computer programs.

^[5] http://en.wikipedia.org/wiki/Information_hiding

^[6] We will use the definition of the Commission's Decision, by which "[a] product market is said to exhibit network effects when the overall utility derived by consumers who use the product in question is dependent not only on their private use of the product, but also on the number of other consumers who use the product. Such a network effect is a direct network effect. An indirect network effect occurs when the value of a good to a user increases as the number and variety of complementary products" (C(2004)900 Final, page 115, note 536).

^[7] It should be noticed that a large part of the documents which constitute the bulk of the case have been declared as confidential (T-204/04 R, recital 75).

^[8] Throughout its claims, Microsoft has persistently and regularly failed to consider the basic fact that Intellectual Property Rights (Copyright, Patents, Trademarks, etc) are not an absolute right *per se*; their protection is deemed valuable only in the measure that they encourage creativity and spur innovation, and in general they fulfill valuable societal goals besides protecting rightsowners economical interests. Intellectual Property Rights, whatever their specific nature, are a balance between competing needs, and even though the trend nowadays is to consider rightsowners' interests more than society's, they have been nonetheless created with a variety of goals to be struck.

^[9] It should be noted how "the Commission notes at the outset that during the administrative procedure Microsoft mentioned only one patent application, whereas during the judicial procedure it refers to three European patents and two pending patent applications." (T-204/04 R, recital 177) While it would be obviously unfair to expect Microsoft to stop its activities, including patent filing, during the lifetime of any litigation, especially a long one such as case COMP/C-3/37.792, it is indicative of Microsoft's strategy that it did not stop such filing -- as will be clearer when examining RAND conditions Microsoft has been allowed to put forward in the face of the Commission's Decisions, such patent filing could be considered as a key element in Microsoft's long term strategy towards some of the competitors it fears most.

^[10] Judgement of the Court in Case C-149/96 Portugal v Council [1999] ECR I-8395, at paragraph 47; confirmed for the TRIPS Agreement in Judgment of the Court in Case C-491/01, British American Tobacco [2002] ECR I-11453, at paragraphs 154-156).

^[11] See http://download.microsoft.com/download/F/9/E/F9E7224E-F673-4E7E-A6F1-14ED283F8030/EU_WSPPAgmt_012505.pdf.

^[12] Benkler does consider various kinds of regulation, without limiting his analysis to Intellectual Property laws - it is however a fact that in sectors in which non-exclusive, non-rivalrous goods are heavily involved, such as the software field and to a lesser extent the general ICT field, regulating Intellectual Property is the preferred and often most effective way to operate.

^[13] Benkler is not the only person nor certainly the first to analyze technology platforms in terms of layers (see, for example, Berners-Lee 1999, Lessig 2001, Weiser 2002, Werbach 2002) but has probably been the most effective in applying such a framework in a coherent manner to most different contexts.

^[14] The term Free Software is often replaced by the term Open Source Software (OSS) or, especially in the European context, by the terms Free and Open Source Software (FOSS) and Free, Libre and Open Source Software (FLOSS). Although usage of such terms is sometimes ambiguous, when not outright wrong, we refer the reader to the above list of characteristics which a software license must have in order for the protected work to be characterised as Free Software.

^[15] This classic definition of Free Software, by the Free Software Foundation (FSF 1999), is not the only one circulating around; other definitions exist, the most notable being the Open Source Definition by the Open Source Initiative (OSI 2005), and the Debian Free Software Guidelines drafted by the Debian project (Debian 1997). Notwithstanding occasional clashes on the exact meaning to be attributed to the precise wording of such definitions, it can be safely assumed that the above set of freedoms represent the cornerstone of what Free Software is and is supposed to provide to its users.

^[16] See <http://www.fsfeurope.org/>. Free Software Foundation Europe (FSFE) was founded in 2001 as the sister organisation of the Free Software Foundation (FSF) in the USA to take care of all aspects of Free Software in Europe. Its goals are acting as a reference point for activities concerning Free Software throughout Europe; promoting the perception of software not only as a purely economic property, but as a cultural phenomenon; ensuring the legal safety of Free Software, by providing legal counseling on cases involving the GNU General Public License (FSF 1996) and the GNU Lesser General Public License (FSF 1999); working together with the US-based Free Software Foundation (see <http://www.fsf.org/>) on the organisational aspects of the GNU Project (Stallman 1998); offering perspectives and counseling for companies who are willing to build their business on or around Free Software (FSFE 2001).

^[17] Samba is an "[...] Open Source/Free Software suite that provides seamless file and print services to SMB/CIFS

clients. Samba is freely available, unlike other SMB/CIFS implementations, and allows for interoperability between Linux/Unix servers and Windows-based clients” (see <http://www.samba.org/samba/>). The Samba team is “[...] a loose-knit group of about 20 people from all over the world who contribute regularly to Samba” (see <http://www.samba.org/samba/team/>).

^[18]See <http://www.avvocatinteam.it/> .

^[19]“Word” is used as a translation of the Italian term “parola”.