Should Apple Open Up Its 'FairPlay' *Digital Rights Management* System?

Untangling the Knot of Copyright and Competition Law for Online Businesses

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Introduction: Why is FairPlay Not Necessarily Fair?

The Context … Apple's Recent Commercial Success in the Digital Content Business

Apple Inc., a U.S. corporation based in Cupertino, California, was the key pioneer during the late 1970s in the development of the personal computer industry.[1] Roughly three decades later Apple pioneered the development of another new industry, the legitimate commercial online digital music retailing business. The company amplified this feat shortly after by expanding its music retailing business to the distribution of movies, television shows, books, computer games and other multi-media digital content. Through its popular *iTunes Store* (Apple's online digital-content retail service), its multi-platform *iTunes Jukebox* desktop computer software, its popular *iPod* portable digital-content players, its popular *iPhone* (a telephone which also may be used as a digital-content player), its *iTunes Producer* software, its *iTunes Affiliate* service, its *.Mac* internet services business, its *Apple TV* system, its suite of multi-media software applications, and its savvy marketing and sales campaigns (including its eye-catching *Apple Stores*), Apple has risen in just a few years from being a struggling maker of personal computers (who many commentators judged to be on the verge of total collapse) to being one of the most influential players in the contemporary digital entertainment industry.

In the process Apple has also managed—partly by leveraging its success in the digital-content industry and by managing its repertoire of technologies, products and services in a singular and holistic manner—to reinvigorate its personal computer and computer software businesses. In short, through its innovative strategies and product designs, Apple has risen in about one decade from being little more than a near-fatal casualty of battles with Microsoft in the personal computer industry, in to being the 'hip' leader of the commercial digital entertainment world. In doing so, Apple has stimulated changes in the shape of competition in the global personal computer industry and has led the emergence of a new generation of competitors and competitive forces in the digital technology and consumer product industries.

The Problem … The Impact of Apple's Success on Competitors and Consumers

Apple's international popularity and business success has not been won without friction with critics and opponents. In particular, a spate of protests by citizens' groups and

[1] Until recently Apple Inc. was known as 'Apple Computer Inc.', the change in name signaling the shift in its business model that had taken place over three decades.

disgruntled individuals—and lawsuits involving consumer organizations, citizens and public authorities—have emerged across Europe and also in the United States. These protests have focused attention on alleged violations by Apple of: consumers' rights, various public interests, copyright law and competition law. In particular, the use by Apple of its proprietary digital rights management software (the *FairPlay* DRM system) across its suite of digital-content products and services, combined with its general refusal to license this software to its competitors, has generated complaints that its business practices are anti-competitive, are against the software interoperability requirements of contemporary copyright law (in Europe, the United States and internationally), and are unfair to consumers.[2]

Path-breaking actions directed against Apple and its iTunes Store by consumer organizations and consumer rights activists may be found in Norway, Sweden, Finland, France, Germany and the United States, among others.

The Consumer Council of Norway, for example, has asserted that as music downloaded from the iTunes Store could only be played on Apple's iPods, Apple's business practices were preventing the use of other MP3 players by consumers and thereby interfering with their rights as consumers. The Council has also criticized the licensing and sales agreements associated with purchases from Apple's iTunes Store as being unfair to consumers[3].

The Union Federale des Consommateurs-Que Choisir, which is the French consumer association, has also directed similar criticisms against Apple's iTunes Store, arguing that it limits consumer decisions in the market for downloadable music by tying the iTunes music files to a specific music player, the iPod[4]. The Association has demanded that Apple ensure interoperability of its FairPlay DRM with music players other than the iPod, arguing that Apple's DRM limits consumers' options for purchasing downloadable music[5].

In the Netherlands the basis for complaints against Apple have been allegations that the company has misled and confused consumers by failing to communicate to customers that content purchased from iTunes could only be used on iPods. Apple's dominant position in the market for downloaded music in the Netherlands has also been raised as justification for complaints of unfair competition.[6]

In the United States of America Apple's resistance to making its DRM interoperable with its competitors' devices has also been raised as a legal issue. Various class action suits have been brought against Apple—primarily under competition law and consumer law—based on the principal allegations that Apple ties sales of music sold through its iTunes Store to sales of iPods (due to incompatibility of iTunes files with other players), and that music bought from other online music stores may not be played in an iPod.[7] At the same time, the

[2] For a recent critical review of Apple's behavior *vis-à-vis* its DRM system, see Nicola F. Sharpe and Olufunmilayo B. Arewa, 'Is Apple Playing Fair? Navigating the iPod FairPlay DRM Controversy,' *Northwestern Journal of Technology and Intellectual Property*, 5, 2 (2007), 332-350.

[3] http://forbrukerportalen.no/filearchive/Complaint%20against%20iTunes%20Music%20Store.pdf

[4] http://www.news.com/Apple,-Sony-sued-over-DRM-in-France/2100-1027_3-5575417.html?part=rss&tag=5572876&subj=news.1027.20

[5] http://www.foley.com/publications/pub_detail.aspx?pubid=3626

[6] http://www.theregister.co.uk/2007/01/25/dutch_out_of_tune_with_apple/

[7] These allegations are problematic because, despite suggestions to the contrary by Apple's antagonists (in Europe and the United States), iTunes software can actually handle a variety of file formats, including MP3, AAC, AIFF and WAV. It can also enable translation of unprotected WMA files to the AAC format. It is therefore quite easy to take music files from a variety of sources and convert them in to a format that allows them to be played on an iPod, without violating either Apple's license agreements or circumventing the FairPlay DRM. In contrast with assertions and insinuations by various critics, music does not have to be encoded with the FairPlay DRM in order to be played on an iPod. However, even though they may quite legitimately play 'non-iTunes' music on an iPod or on an Apple personal computer, consumers may of course put themselves in a legally awkward position should they attempt to circumvent DRMs (other than FairPlay) associated with files from music download services other than iTunes to enable them to be played on an iPod (if that circumvention leads to copying that is not otherwise allowed under copyright law).

U.S. actions have included assertions that Apple's conduct is contrary to antitrust law, due to Apple's dominant market position and to consumers allegedly having to pay higher prices for music due to restrictions placed by Apple on competition for music and music players. [8]

In summary, most of the cases in Europe and the United States center on legal disputes associated with the fact that Apple's FairPlay DRM system prevents 'interoperability' between almost all music players other than the iPod and those works from the iTunes Store that have been protected by FairPlay.[9] The cases also address legal disputes concerning matters of unfair competition: Apple's resistance to licensing out its FairPlay technology may be seen as part of an aggressive strategy to overwhelm its competitors in the market and, in the minds of many commentators, such behavior of Apple has adverse effects on competition itself (as understood within anti-trust law). Steve Jobs, the CEO of Apple, has responded to such criticisms by insisting that in those instances where Apple protects works with FairPlay (which is still the majority of instances) it does so out of its contractual obligations to the owners of copyright. In other words, Jobs claims that in most instances Apple has no choice but to protect iTunes content with DRM, otherwise it would not have been able to develop the iTunes service in the first place or to subsequently maintain it as a competitive business.[10] Most of Apple's detractors, however, do not accept that this argument is a persuasive defense against charges of anti-competitive business practices and charges of violations of the interoperability requirements of copyright law.

In the light of the legal, political and community pressures which seem to be rising against Apple due to its behaviors in the domains of digital content retailing and portable digital content players, this paper will explore the legal evidence and other evidence for requiring Apple to 'open up' its proprietary FairPlay DRM system. In other words, we will investigate the case for requiring Apple to make the proprietary technology and information of its DRM system available to its competitors for use in their products and services. Before explicitly considering some of the broad issues of consumer protection and public interest in the digital environment, and also some interesting technological changes which may alter the whole legal and economic landscape surrounding Apple's DRM, we will review the pertinent copyright law and competition law of Europe and the United States, together with relevant international law. We will begin by briefly reviewing the pertinent international legal framework of copyright, technological protection measures and digital rights management for digital works.

International Treaties Concerning Copyright and Related Rights

DRM and the WCT

The World Intellectual Property Organization's Copyright Treaty (*WCT*)[11], to which both the United States[12] and the European Community[13] are contracting parties (together with 62 other countries), requires contracting parties to protect computer programs under their

[8] http://blog.seattlepi.nwsource.com/microsoft/library/applesuit.pdf page 1

[9] Not all content downloadable from the iTunes Store is protected by DRM software; and, as will be discussed below, the proportion of iTunes content covered by the FairPlay DRM is actually steadily decreasing.

[10] *Steve Jobs*, Thoughts on Music, February 6, 2007, www.apple.com/hotnews/thoughtsonmusic.

[11] *WIPO Copyright Treaty (WCT)*, Geneva, December 20, 1996.

[12] The United States became a signatory to the Treaty on April 12, 1997 (*WIPO Treaties Database*, http://www.wipo.int/treaties/en/Remarks.jsp?cnty_id=1085C (accessed March 10, 2008)).

[13] The European Community became a signatory to the Treaty on December 20, 1996, and all EU member states, except Malta, have also become *WCT* signatories in their own capacity (*WIPO Treaties Database*, http://www.wipo.int/treaties/en/Remarks.jsp?cnty_id=3P (accessed March 10, 2008)).

respective copyright laws[14] and thereby to provide exclusive rights to the authors of computer programs to control the distribution, rental and communication to the public of their works.[15] These are the same rights afforded to owners of other literary and artistic works, including musical works and cinematographic works.[16] In addition, the *WCT* requires its contracting parties to 'provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights … .'[17] The *WCT* also requires its contracting parties to 'provide adequate legal protection and effective legal remedies against any person … [who removes or alters] … any electronics rights management information without authority … .'[18] and who knows or has reasonable grounds to know that their actions '… will induce, enable, facilitate or conceal an infringement of any right …' covered by the *WCT* or the *Berne Convention*.[19]

The *WCT* does allow contracting parties to incorporate limitations and exceptions to the above rules in their national legislation. These are permitted, however, only if they are for ' … certain special cases that do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the author.'[20] While the *WCT* does not elaborate upon what the grounds for such special exceptions and limitations might be, this clause in the *WCT* clearly does not allow routine circumvention of DRM protections for digital works in violation of the basic principles of the *WCT*, nor does it allow for departures from the principles of the *Berne Convention* just because the copyright-protected works might be published or distributed in the digital network environment.[21]

In short, the *WCT* contains a basic requirement for countries who are contracting parties to the treaty to provide legal protection against: violation of the copyright covering the musical and other works distributed through services such as Apple's iTunes service; circumvention of technological protection measures such as Apple's FairPlay DRM system; and unauthorized removal of DRM information, such as Apple's DRM information, embedded in any of the musical and other works distributed through a service such as Apple's iTunes service. Any variation from these principles must be seen as an exception to the rule that will require special justification.

DRM and the WPPT

At the same time that they adopted the *WCT*, the contracting parties also adopted a 'Performances and Phonograms' treaty (*WPPT*).[22] The *WPPT* contains articles almost identical in wording to the articles of the *WCT* dealing with obligations concerning technological protection measures and digital rights management information, except that it refers to performers and producers (rather than authors) and to performances, phonograms and broadcasts, etc. (rather than literary and artistic works), as appropriate. The treaty

[14] Article 4 of the *WCT* requires computer programs to be protected as literary works within the meaning of Article 2 of the *Berne Convention*.

[15] *WCT* Art. 6, Art. 7 & Art. 8.

[16] See Art. 2 of the *Berne Convention for the Protection of Literary and Artistic Works* (adopted at Paris on September 9, 1886, as revised and amended (1979)) (*Berne Convention*).

[17] *WCT* Art. 11.

[18] *WCT* Art. 12(1)(i).

[19] *WCT* Art. 12(1)(i).

[20] *WCT* Art. 10. This is sometimes referred to in European copyright jurisprudence as the 'three step test.'

[21] See *Agreed Statements concerning the WIPO Copyright Treaty* (adopted by the Diplomatic Conference on December 20, 1996), 'Concerning Article 10.'

[22] *WIPO Performances and Phonograms Treaty (WPPT)*, Geneva, December 20, 1996.

requires contracting parties to give performers the exclusive right of authorizing the reproduction, distribution, rental and making available to the public of the original or copies of their performances,[23] whether by traditional means or via new means such as those typified by the internet.[24] The treaty also requires contracting parties to give the equivalent rights *vis-à-vis* phonograms to producers of phonograms.[25]

Of particular interest is the fact that the '… storage of a protected performance or phonogram in a digital form in an electronic medium constitutes a reproduction within the meaning of [the articles in the treaty].'[26] In other words, downloading on to a computer (whether a desktop, portable or handheld computer) a piece of music purchased through an online music service, such as Apple's iTunes service, or making a copy of that music, counts as 'reproduction' under the treaty. The fact that the reproduction may take place digitally or over a network does not exempt the copying from being subject to the exclusive authority given to authors, performers and producers under the law of copyright and related rights.

The two WIPO treaties of December 1996 (the *WCT* and the *WPPT*) provide broad overall protection to the exclusive rights of (i) authors of musical works, cinematographic works and other works, (ii) authors of computer programs, (iii) performers of musical and other performances, and (iv) producers of phonograms, to authorize the reproduction, distribution, rental and communication to the public of their works, via the internet or via any other means. These rights include the right to forbid circumvention of technological measures designed to protect the covered works from unauthorized use. In the absence of permitted exceptions to these rights, enacted by contracting parties to the treaties, or in the absence of other legislation that might take precedence over those rights, the *WCT* and the *WPPT* provide a strong basis for believing *prima facie* that Apple has a right in all countries that are party to the treaties to protect the digital works sold or rented through its iTunes service from unauthorized copying or use.[27] They also provide a strong basis for believing that Apple has a right to employ its DRM system and to obtain legal protection against violation or circumvention of its DRM system.

DRM and the TRIPs Agreement

The 1994 *TRIPs* agreement of the World Trade Organization (*WTO*)[28] shares some elements in common the *WCT* and *WPPT*, including the requirement that computer programs be protected under copyright law according to the *Berne Convention*[29] and that copyright protection and related rights be provided for performers, producers of phonograms and broadcasting organizations.[30] The *TRIPs* agreement, to which the United States and all

[23] *WPPT*, Art. 7, Art. 8 & Art. 9.

[24] *WPPT*, Art. 10.

[25] *WPPT*, Art. 11, Art. 12 & Art. 13 & Art. 14.

[26] See *Agreed Statements concerning the WIPO Performances and Phonograms Treaty* (adopted by the Diplomatic Conference on December 20, 1996), 'Concerning Articles 7, 11 and 16.'

[27] This assumes, correctly, that Apple has first of all negotiated the necessary rights and permissions from the authors, performers and producers as appropriate. The content sold or licensed through Apple's iTunes service is either: (i) licensed by Apple from the existing large-scale recording companies (Steve Jobs, 'Thoughts on Music' (February 6, 2007), http://www.apple.com/hotnews/thoughtsonmusic/ (accessed 5 March 2008)), (ii) licensed by Apple from independent artists / small recording companies (http://www.apple.com/itunes/contentproviders/ (accessed 5 March 2008)), or (iii) published directly by Apple, in cooperation with independent artists (see 'iTunes Originals,' accessible though the iTunes store, at http://www.apple.com/itunes/ (accessed 5 March 2008)).

[28] *Agreement on Trade Related Aspects of Intellectual Property Rights, Including Trade in Counterfeit Goods* (*TRIPs*), Annex 1c of the General Agreement on Tariffs and Trade (*GATT*) of 1994 World Trade Organization (*WTO*), Final Act of the 1986 —1994 Uruguay Round of trade negotiations (1994).

[29] *TRIPs* Art. 10.

[30] *TRIPs* Art. 14.

members of the European Union are parties, requires contracting parties (members of the *WTO*) to give performers the right to authorize or prohibit the fixation and reproduction of their performances[31] and to give the producers of phonograms the right to authorize or prohibit the direct or indirect reproduction of their phonograms.[32] To the extent that Apple has properly negotiated appropriate agreements with the authors, performers and producers for the sale or rental of their works, the company appears entitled to enjoy basic rights in *WTO* member countries to control the reproduction, distribution, rental and communication to the public of those works, as well as its own computer software. In summary, *prima facie* legitimation for Apple's employment of DRM technology to protect digital content sold through its retail service may be found in all three pertinent international treaties, namely the *WCT*, the *WPPT* and the *TRIPs* agreement.

Apple's DRM System Under Copyright Law in the United States

During 1998 the United States enacted new legislation, the *Digital Millennium Copyright Act* (*DMCA*)[33], which among other things formally implemented the *WCT* and the *WPPT* (thereby also affirming and embracing key principles of the *Berne Convention*) as part of copyright law within the United States Code.[34]

The copyright laws of the United States provide exclusive rights to the owners of copyright to authorize the reproduction, distribution, performance, display, transmission or production of derivative copies of their works.[35] These rights cover computer programs and music, along with all the other categories of literary and artistic works normally covered by copyright. On top of these basic building blocks, the U.S. Code implements Article 11 of the *WCT* and Article 18 of the *WPPT* in Section 1201 of Chapter 12, including the following requirement: 'No person shall circumvent a technological measure that effectively controls access to a work protected under this title.'[36] The Code implements Article 12 of the *WCT* and Article 19 of the *WPPT* in Section 1202 of Chapter 12, including the following requirement: 'No person shall, without the authority of the copyright owner or the law … intentionally remove or alter any copyright management information … .'[37]

It therefore appears that U.S. law provides Apple with a basic right to apply its DRM system as part of its products and services and to receive protection under U.S. law against those who may try to circumvent the system. What exceptions, however, to these rights are allowed under U.S. law?

Sections 107 through to 122 of the U.S. Copyright Act[38] provide for various limitations on the exclusive rights of the owners of copyright and related rights. The most general of these, the so-called 'fair use' limitation, contains the following exception: '… the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified … , for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is

[31] *TRIPs* Art. 14(1).

[32] *TRIPs* Art. 14(2).

[33] *Digital Millennium Copyright Act*, Pub. L. No. 105-304, 112 Stat. 2860 (Oct. 28, 1998).

[34] 17 U.S.C. §§ 101-1332 (2007) (*The Copyright Act of 1976*, *as amended (2007)*). The Act was signed in to law by the President of the United States on October 28, 1998. Chapter 12 of Title 17 of the U.S. Code, entitled 'Copyright Protection and Management Systems,' embodies the essential features of the *DMCA* intended to ensure compliance with the *WCT* and the *WPPT* (17 U.S.C. ch. 12 §§ 1201-1305 (2007)).

[35] 17 U.S.C. § 106.

[36] 17 U.S.C. § 1201 (a)(1)(A).

[37] 17 U.S.C. § 1202 (b)(1).

[38] 17 U.S.C. §§ 107-122 (2007).

not an infringement of copyright.'[39] The text of the statute does not define clearly what constitutes 'fair use,' but indicates that in each case factors to be considered would include whether the use was for commercial or nonprofit purposes, the nature of the work, the proportion of the work copied, and its effect on the value or market of the copyrighted work.[40]

The statute also includes other limitations to the exclusive rights of copyright holders, such as permission for legitimate purchasers of a computer program to make an additional copy of the program where this is necessary for strictly functional or archival reasons (so long as it does not interfere with the normal rights of copyright holders).[41] In summary, the U.S. legislators have provided an extensive set of—in most cases—carefully defined and carefully restricted limitations to the exclusive rights of the owners of copyright and related rights, within the basic copyright statutes. There appears to be no reason to believe that these exceptions, if appropriately interpreted and respected, would not also apply to works legitimately obtained through Apple's iTunes service.

In addition to affirming[42] the existing limitations and exceptions to copyright just summarized, the *DMCA* provided seven additional exceptions or limitations (to the exclusive rights otherwise permitted by the Act) *specifically related to technological copyright protection systems*. While strictly speaking these are separate from the 'fair use' exemption the spirit behind them is similar to that of the 'fair use' doctrine.[43] As with the general limitations and fair use rules of the U.S. Copyright Act, there appears to be no reason to believe that these exceptions, if appropriately interpreted and respected, would not also apply to Apple's FairPlay DRM system.

One of the seven limitations to prohibition of circumvention of copyright protection systems allowed under the Act is potentially the most important one *vis-à-vis* current disputes surrounding Apple's FairPlay system; and it relates to legal debates within the European Community to which we will refer below. It concerns the permissibility of *reverse engineering* of technological measures to allow *interoperability* of independently created computer software programs with other programs. In the words of the Act:

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[39] 17 U.S.C. §§ 107 ¶ 1.

[40] 17 U.S.C. §§ 107 (1)-(4).

[41] The additional exceptions include the following instances: reproduction by libraries and archives; sale or transfer of a legal copy of a work or phonorecord; performances and displays as part of certain nonprofit educational activities; secondary transmissions of broadcasts (in certain limited circumstances, such as within a hotel); making a back-up (ephemeral) copy of a permitted broadcast; display of useful (copyrighted) articles as part of advertisements; independent creation of simulated versions of sound recordings, or use of recordings in educational broadcasts, provided that such activities are not commercial in nature; compulsory licenses for certain classes of non-dramatic musical works, under specified restricted conditions; secondary transmissions of 'superstation' and network stations for private home viewing; displaying images of copyrighted architectural works, or modifying such works; specialized copying of certain specified works for disabled people; and, secondary transmission by satellite carriers within local markets (17 U.S.C. §§ 108-122). Note: this list of limitations and exceptions consists of paraphrases and summaries only, due to space restrictions. Each limitation or exception comes with strict conditions and qualifications, too numerous to adumbrate further here.

[42] 17 U.S.C. § 1201 (c).

[43] First, if nonprofit libraries, archives, or educational institutions gain access to copyrighted works solely in order to make a good faith determination of whether to acquire a copy of those works for legally permitted uses, they will not be guilty of violating the Act (17 U.S.C. § 1201 (d)). Second, law enforcement officers and other government officials are permitted to engage in appropriate investigative and security activities not otherwise allowed (§ 1201 (e)). Third, an exception is permitted for certain kinds of encryption research (§ 1201 (g)). Fourth, circumventions of technological protection measures may be permitted if they are necessary to prevent access of minors to inappropriate material on the Internet (§ 1201 (h)). Fifth, circumventions of technological protection measures may be permitted under some circumstances if they are necessary to protect personally identifying information (§ 1201 (i)). Sixth, certain permissible acts of security testing may justify acts related to technological protection measures that are not otherwise permitted (§ 1201 (j)). The seventh limitation is discussed explicitly in the body of the text above. Note: these and the previous five listed copyright limitations consist of paraphrases and summaries only, due to space restrictions. Each limitation is accompanied in the statute by qualifications that are too extensive to describe here.

> … a person who has lawfully obtained the right to use a copy of a computer program may circumvent a technological measure that effectively controls access to a particular portion of that program for the sole purpose of identifying and analyzing those elements of the program that are necessary to achieve interoperability of an independently created computer program with other programs, and that have not previously been readily available to the person engaging in the circumvention, to the extent any such acts of identification and analysis do not constitute infringement under this title.[44]

The Act permits not only the above-defined circumvention of technological measures, but it also permits the development and employment of technological means for that purpose[45] and the use of pertinent information thus obtained,[46] so long as its use does otherwise constitute an infringement of the Act or of other laws.

The simple implication of all this is that U.S. copyright laws would allow circumvention of Apple's FairPlay DRM system for any of the fair-use or other defined exceptions, so long as the activities are engaged in by a legitimately qualified person according to the Act and that all pertinent conditions and restrictions of the limitations and exceptions are respected. *Attaining interoperability between Apple's DRM software and other software appears to be a legitimate reason, under the Act, for reverse engineering of Apple's DRM software.*

It is important to stress, however, that the use of information so gained to copy works obtained from Apple's iTunes service without permission from the copyright owner would not be permitted under the Act. In other words, while reverse engineering Apple's DRM software may be permitted (under certain specified conditions), using the resulting reverse engineered software (or information) to copy protected works or to engage in any other acts that are defined by the Act as being within the exclusive authority of the copyright owner, would be illegal. In addition, in keeping with Article 12(1)(i) of the *WCT*, circumvention of Apple's DRM system (by reverse engineering, to attain interoperability, or otherwise) in the knowledge that such circumvention will induce, enable, facilitate or conceal copyright infringement of the music available through iTunes, is forbidden.

While reverse engineering of Apple's DRM software may not be a copyright infringement if it is carried out for the purpose of obtaining permitted interoperability of software programs (or for other permitted exceptions to copyright), does it follow that Apple must therefore be obliged to 'open up' its DRM software (i.e., make available the code for the software) to competitors or to anyone who wishes to take advantage of the various limitations and exceptions enunciated above? The answer is no. There appears to be nothing in the copyright laws of the United States (or in the WCT and WPPT) that requires Apple to open up FairPlay to others. Others may legitimately reverse engineer the software or circumvent the system (under certain limited conditions) without infringing copyright; but it does not logically follow that Apple must therefore be required under U.S. copyright law to either assist those persons engaged in acts of reverse engineering or circumvention or to provide others with the means by which the copyright of works distributed through iTunes may be violated.

[44] 17 U.S.C. § 1201 (f)(1).

[45] 17 U.S.C. § 1201 (f)(2).

[46] 17 U.S.C. § 1201 (f)(3).

Apple's DRM System Under Copyright Law in Europe

As mentioned above, all member states of the European Community are subject to the rules of the *WCT* and the *WPPT* and all EU member states (except Malta) have also become *WCT* signatories directly in their own right. They are also, as indicated above, subject to the relevant copyright obligations and fair-competition obligations of the TRIPs Agreement. The basic international obligations under which European laws concerning software interoperability and protection of digital works are framed are the same as those adopted by the United States. In essence, the laws of copyright and related rights in member states of the European Community provide exclusive rights to the owners of copyright to authorize the reproduction, distribution, performance, display, transmission or production of derivative copies of their works. As in the United States, these rights cover computer programs and music, along with all the other categories of literary and artistic works normally covered by copyright.

The current scope of European Copyright Law is determined by a series of EC Directives. One of the most recent of these and certainly the central one is the so-called 'Information Society Directive.'[47] While the Directive itself does not have specific provisions dealing with interoperability, the issue is addressed in Recital 54: "In an increasingly networked environment, differences between technological measures could lead to an incompatibility of systems within the Community. Compatibility and interoperability of the different systems should be encouraged." However, this statement merely expresses an ideal that drafters of the Directive believed represented the aspirations and interests of member states. It neither imposes any legal obligations on users of DRM nor confers any rights on competitors wishing for interoperability.

In contrast to the approach adopted in the Information Society Directive, the Software Directive from the early 1990s[48] contains a detailed interoperability provision. According to Art. 6(1) of the Directive, the reproduction and the translation of a computer program do not require the authorization of the right holder where they are "… indispensable to obtain the information necessary to achieve the interoperability of an independently created computer program with other programs … ." Of course, this permission to copy a computer program will assist a competitor wanting to understand the secrets of FairPlay if that competitor is either granted access to the source code of the FairPlay DRM software (which Apple keeps secret) or has the requisite technical capability to identify that code through reverse engineering. A provision that could force copyright owners to reveal the information necessary to achieve interoperability is missing in the Software Directive. It seems, therefore, that the European Copyright law framework does not oblige Apple to open up its FairPlay DRM system in any way.[49]

Given that the European Community is a community of separate member states it is important to examine the pertinent law in individual EU member states, in addition to that contained in Community directives and regulations.

So far, France appears to be the only country that, in its implementation of the Information Society Directive, has adopted provisions dealing explicitly with DRM

[47] Directive 2001/29/EC on the harmonization of certain aspects of copyright and related rights in the information society.

[48] Directive 91/250/EEC on the legal protection of computer programs.

[49] The Information Society Directive (2001/29/EC), in particular, stresses the importance of EC member states supporting the rights for authors and owners of software to protect their property with technological protection measures, including DRM software and information. Art. 6 of the Directive even explicitly limits the obligations of right holders to accommodate various statutory limitations and exceptions (otherwise applicable) in the situation where sales/rentals are made over the "internet" (or its equivalents), subject to contract.

interoperability that go beyond the minimal requirements of the Directive. After the amendments and alterations introduced by the 2006 French law on authors rights and neighboring rights in the information society[50] the French Copyright Act now states that technological protection measures must not hinder the effective establishment of interoperability.[51] The Act also establishes a regulatory authority for technological protection measures[52] which, upon request of manufacturers of computer programs and technical systems and owners of internet services, can oblige rights-holders of technological protection measures to grant access to the essential information relating to the interoperability of their protection systems.[53] If the decisions of the regulatory authority are not followed it can impose financial sanctions.[54] The information that the Authority may insist be released includes the technical documentation and the programming interfaces that are necessary for a technical device to access a work protected by technical protection measures.[55]

Under the provisions of the French law it seems that once competitors officially complained, all other things being equal, the newly established regulatory authority in France would have the power to force Apple to open up its FairPlay DRM system. Nevertheless, there remains some uncertainty about the likelihood of the French model leading to such an outcome. First of all, the regulatory authority is bound to guarantee only that TPMs don't impose limitations on the use of a work other than those expressly agreed to by its author.[56] There also still exists the possibility that TPM right holders could prevent the publication of the source code of an independently created program if they could prove that this would significantly prejudice the security and effectiveness of their TPMs.[57] How these provisions are to be interpreted, however, is unclear since to date no interoperability-related decisions of the authority have been reported.[58] Time will therefore have to tell whether the ARMT will prove to be a valuable tool for competitors wanting to overcome interoperability problems and whether it may eventually threaten Apple's FairPlay system.

Implications of Copyright Law in Europe and the United States for License Agreements between Apple and iTunes Customers

Do people who purchase or license copyrighted music or other copyrighted digital works via Apple's iTunes service have a *right* to make as many copies as they wish of those works or to use those works on whichever devices, or in whichever digital format, they wish?

It is plausible that the 'fair use' exception in US copyright law might be justifiably interpreted to allow a legitimate purchaser of a copyrighted work to make a single 'back up copy' for personal use on a digital music player, although the statutes and case law are not clear about this matter. Despite this possible and limited exception there is nothing in the *U.S. Copyright Act* that suggests such consumers have an inalienable *right* under the 'fair use' doctrine to make as many copies as they wish of those works or to use those works on whichever devices, or in whichever digital format, they wish.[59]

[50] Loi sur le droit d'auteur et les droits voisins dans la societé de l'information (abbreviated as DADVSI).

[51] Code de la propriété intellectuelle (CPI), Art. L331-5, 4th paragraph.

[52] Autorité de Régulation des Mesures Techniques (ARMT).

[53] CPI, Art. L331-7, 1st paragraph.

[54] CPI, Art. L331-7, 5th paragraph.

[55] CPI, Art. L331-7, 2nd paragraph.

[56] CPI, Art. L331-6.

[57] CPI, Art. L331-7, 3rd paragraph.

[58] See ARMT website www.armt.fr (last visited on 5 March 2008).

[59] 17 U.S.C. §§ 107 ¶ 1.

In Europe, the *Information Society Directive*[60] specifically allows member states to allow exceptions for copying for private use, so long as the copyright holders are appropriately compensated. In most member states this is generally interpreted to mean that an individual person may make one copy of a work so long as the copy is made from a legitimate original purchased copy; and the compensation is effected through the collection societies active in each state.

Thus, it seems plausible under both U.S. and European copyright law (but especially under European law) that consumers may legitimately make one copy of music purchased from an online music store for private use (and, presumably, this copy may be played on a player of choice), without seeking specific approval from the copyright owner. However, notwithstanding these exception clauses or 'fair use' clauses in European and U.S. copyright law, it does not logically follow that Apple must therefore be required to assist those who wish to avoid DRM protections (in cases where a DRM might be an obstacle) in order to make their legitimate personal copy. This situation appears to be no different to the situation of distributors of CDs or vinyl records who are not expected to have to provide technical support to their customers to make copies of the purchased recordings to other media (such as magnetic tapes) without loss of fidelity—unless, of course, an agreement to do so was included in a licensing agreement when the original copy of the music was purchased (but, of course, such a situation would be absurd).

Additionally, it is important to recall that U.S. copyright law provides exclusive rights to the owners of copyright to authorize the reproduction, distribution, performance, display, transmission (which includes licensing or sale) or production of derivative copies of their works.[61] While copyright is a right conferred by individual states in Europe (not by the European Community, as such) similar rights are also provided to copyright owners in most (if not all) European states, and all are required to provide such rights under the various copyright and related directives of the E.C.[62] Against that backdrop, we need to consider the status of license agreements entered in to by purchasers of digital content from the iTunes Store.

Apple enters in to contracts with copyright owners to sell or license copies of their works through the vehicle of iTunes; and, in doing so, Apple has to accept conditions placed upon it by the copyright owners. Apple has a legal obligation to respect the authority of the copyright owners when it distributes copies of their works. In addition, Apple also has the freedom (within the limits allowed by its contracts with the copyright owners) to set conditions in licensing agreements with its customers who, in turn, are free to either enter in to agreement with Apple or not enter in to agreement if they are not satisfied with the terms.[63]

Each transaction between an iTunes customer and Apple requires the customer to agree to two contracts: a 'Terms of Service' agreement concerning use of the iTunes Store service; and a 'Terms of Sale' agreement for all purchases or rentals made by end-users through the iTunes Store service.[64] These agreements specify many terms, including the number of copies that may be made of each work and the conditions under which they may

[60] EC Directive 2001/29/EC of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, Art. 5(2)(b).

[61] 17 U.S.C. § 106. These rights are subject, of course, to the limitations and exceptions discussed above.

[62] See, especially, EC Directive 2001/29/EC of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, Arts. 2-4.

[63] Of course, such agreements would probably be invalid if they contained illegal clauses of it they otherwise conflicted with the basic or inalienable rights of customers. However, we are not aware of any specific law or fundamental legal right that is violated by Apple's standard agreements with customers.

[64] Both of these agreements are available online from the iTunes store, at http://www.apple.com/itunes/ (accessed 5 March 2008).

be used. They also include an agreement by customers not to circumvent the DRM protection system. The practical restrictions imposed upon Apple's iTunes customers by the application of Apple's FairPlay DRM system do not go beyond restrictions already agreed to by the customers when they enter into purchase/license agreements or rental agreements. In fact, the conditions imposed by Apple on its customers (e.g., up to five copies of a work may be made by the customer for use on his or her computers) appear to be significantly more generous than those allowed under the 'fair use' and special-exception clauses of copyright laws. Apple's DRM system, in other words, does not appear to undermine any of the use-rights purchased under contract by Apple's customers. There is no evidence *prima facie* that the license agreements entered in to by Apple with its iTunes customers conflict with copyright law.

In the light of these considerations it is difficult to imagine how the 'fair use' doctrine or the special exceptions clauses of U.S. and European copyright law could be used as a legal basis to require Apple to open up its FairPlay DRM system to third parties.

Competition Law in the United States

It appears that in both Europe and the United States it is difficult to mount a convincing case, on the basis of the law of copyright and related rights, to require Apple to open up its FairPlay DRM system to third parties. However, as indicated earlier in this paper, charges based on competition law have been raised against Apple in both Europe and the United States. It is therefore appropriate for us to review the basic competition laws of those jurisdictions.

In the United States, competition law is typically referred to as 'anti-trust' law, and is based primarily on three legislative acts: the *Sherman Antitrust Act* of 1890[65], the *Clayton Act* of 1914[66] and the *Federal Trade Commission Act* of 1914[67]. The Federal Trade Commission (established under the auspices of the *Federal Trade Commission Act*) may initiate proceedings against parties engaged in acts inconsistent with fair competition or that negatively affect commerce, under either the *Sherman Antitrust Act* or the *Clayton Act*. The *Sherman Antitrust Act* is directed primarily against monopolies and restraints of trade. The *Clayton Act* was enacted to reinforce the *Sherman Antitrust Act* through specific provisions dealing, among other things, with mergers, cartels and various price-fixing arrangements.

The foundational clause in the *Sherman Antitrust Act*, concerned with constraints to trade stemming from cooperation, agreements and organizational arrangements between parties, is worded as follows: 'Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal. …'[68] The other fundamental clause in the Act, directed against monopolies, is worded as follows: 'Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony ... .'[69]

The application of the *Sherman Antitrust Act* by the U.S. courts has generally reflected the view that it is not intrinsically illegal for a firm to dominate an industry, so long as the firm's position is based upon merit and fair practice rather than upon artificial attempts

[65] Codified at 15 U.S.C. §§ 1-7.

[66] Codified at 15 U.S.C. §§ 12–27 and at 29 U.S.C. §§ 52–53.

[67] Codified at 15 U.S.C §§ 41-58.

[68] 15 U.S.C. § 1 ¶ 1.

[69] 15 U.S.C. § 2.

to manipulate prices or upon other disreputable practices. For example, the U.S. Supreme Court has stated: 'Since the earliest decisions of this Court interpreting this provision[70], we have recognized that it was intended to prohibit only unreasonable restraints of trade.'[71] In other words, *U.S. anti-trust law does allow some level of market power and some level of restraint of trade, so long as it is 'reasonable.'* This is sometimes known as the 'rule of reason,' meaning that the courts should determine on a case-by-case basis whether the practices of a firm generate unreasonable constraints on competition, taking into account all pertinent information and factors.[72]

The abuse of market dominance or the pursuit of a monopoly position through unscrupulous means, rather than the accomplishment of market dominance through good business practice, innovation and providing superior products and services to customers, is the essence of what is proscribed under U.S. anti-trust laws.

Competition Law in Europe

In the European Union, competition law is based on Articles 81 and 82 of the *EC Treaty*.[73] Article 81 prohibits the following as incompatible with the common market: "… all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the common market ... .'[74] The article, which goes on to list a number of specific examples of forbidden agreements, decisions and concerted practices, embodies a basic principle the spirit of which is essentially the same as that embodied in Section One of the *Sherman Antitrust Act.*

Like its sister act in the United States, the EC Treaty's proscriptions apply to behaviors that take place *between* undertakings ('firms' or 'enterprises'). The latter part of Article 81, however, qualifies the basic prohibitions within the article by allowing an otherwise forbidden agreement, decision or concerted practice which:

> … contributes to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit, and which does not: (a) impose on the undertakings concerned restrictions which are not indispensable to the attainment of these objectives; (b) afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question.[75]

This clause is very close in spirit to the principle of U.S. anti-trust law which holds that some constraints on trade may be permissible if they are 'reasonable.' The *E.C. Treaty* directly articulates the basic parameters of what should be treated as 'reasonable,' whereas the pioneering U.S. legislators left most of the rules to be fleshed out by judges through case law. Nevertheless, the two bodies of competition law appear to have reached a very similar position *vis-à-vis* allowing a reasonable level of constraint on competition (where the aggregate good to the community appears to outweigh the friction against competition).

[70] The term 'provision' here refers to Section 1 of the *Sherman Antitrust Act* (15 U.S.C. § 1).

[71] *Business Electronics Corp. v. Sharp Electronics Corp.*, 485 U.S. 717 (1988), at II A ¶ 1.

[72] *Ibid.*, at II A.

[73] *Treaty Establishing the European Community* (adopted at Rome on March 25, 1957, as amended), Title VI, Chapter 1, Section 1, Article 81 (ex-Article 85) and Article 82 (ex-Article 86).

[74] *EC Treaty*, Art. 81 (1).

[75] *EC Treaty*, Art. 81 (3).

Article 82 of the *E.C. Treaty* addresses the question of monopoly power, directly, as follows: 'Any abuse by one or more undertakings of a dominant position within the common market or in a substantial part of it shall be prohibited … insofar as it may affect trade between Member States.'[76] This article fulfills a similar function within European Community law that Section 2 of the *Sherman Antitrust Act* fulfills within U.S. law. As is the situation with U.S. anti-trust law, Community competition law in Europe is concerned primarily with the *abuse* of a dominant position of an enterprise in the market rather than with the occupying of a dominant position by that enterprise as such.

In summary, the competition laws of the European Community and the United States hold certain basic themes in common. Firstly, both are based on the fundamental principle of promoting competition between enterprises (firms or undertakings) by proscribing unfair business practices associated with market collusion or monopoly power. Second, both recognize the value of allowing some 'non-competitive' practices by enterprises if they are reasonable in the sense that they are good for improving business and not too harmful to competition or that they bring certain types of benefits to the community. Third, both do not disallow enterprises from occupying dominant market positions, as such; rather, both bodies of competition law are directed against the abuse of a dominant market position.

Application of Competition Law in the United States and Europe Against Apple

Competition law has been applied against Apple by its critics in both the United States and Europe.

The primary court action in the United States against Apple based on complaints of unfair competition in relation to its FairPlay DRM system is a class action suit in which claims have been filed under the *Sherman Antitrust Act*[77] accusing Apple of engaging in 'tying and monopolizing behavior' by attaching 'unjustifiable' technological measures on its products for the purpose of constraining consumer choice and competition.[78] In that suit the claimants assert: 'Apple has repeatedly acted to foreclose even the possibility of competition by using its market power to force consumers to choose its products not based on their merits but instead because technological restrictions and incompatibilities prevent them from buying competitors' products.'[79]

Interestingly, even though this case has been brought under competition law and consumer protection law, the claimants make explicit references in their suit to the *interoperability* requirements of U.S. copyright law. For example, their claims include the following statements: 'Apple deliberately makes digital music purchased at the Music Store inoperable with its competitors' Digital Music Players'[80] and '… Apple also makes the iPod unable to play music sold at its rivals' Online Music stores.'[81]

[76] *EC Treaty*, Art. 82 ¶ 1.

[77] *Melanie Tucker v. Apple Computer, Inc*., U.S. District Court, No. C-06-04457-JW (N.D. Cal. Filed July 21, 2006). Note: An earlier class action case on the same subject (*Thomas William Slattery v. Apple Computer, Inc*., U.S. District Court, No. C-05-00037-JW (N.D. Cal. Filed January 3, 2005)) was consolidated with the *Tucker* case (on March 21, 2007). During February 2008 the court decided to link together two other related cases to this case. As of March 13, 2008 a final decision in the case had not yet been reached. Note: this case was filed not only under U.S. Federal anti-trust law (both the *Sherman Antitrust Act* (15 U.S.C. §§1-2) and the *Clayton Act* (15 U.S.C. §15 & §26)), but also with reference to selected State law, including California's unfair competition law (Cal. Bus. & Prof. Code §§16270, *et seq*. & §§17200, *et seq.)* and California's consumer protection law (*Consumer Legal Remedies Act,* Cal. Civil Code §§1750,. *et seq*.).

[78] *Tucker v. Apple* (2006) at page 2, Clause 12.

[79] *Tucker v. Apple* (2006) at page 3, Clause 13.

[80] *Tucker v. Apple* (2006) at page 3, Clause 14.

[81] *Tucker v. Apple* (2006) at page 3, Clause 15.

In short, competition law in the United States is being used as a vehicle by which Apple's critics may address their grievances about interoperability issues on which they were apparently not confident of gaining satisfaction under copyright law. As of the writing of this paper the case (actually, this combined group of cases) had not yet reached a conclusion, so we do not yet know how the U.S. courts are likely to resolve legal problems of this type. However, the case reveals the importance of considering competition law to find a solution to the problems surrounding Apple's FairPlay strategy.

A number of initiatives have emerged in Europe try to force Apple to open its FairPlay technology to competitors through compulsory licensing. Interoperability of computer software, furthermore, has recently risen very high on the agenda of the European Commission, especially after the decision of the Court of First Instance upholding the Commission´s decision to fine Microsoft for anticompetitive behavior.[82] European cases are instructive as to the potential for tension arising between intellectual property law and competition law.

The European Court of Justice (ECJ) has confirmed the principle that the mere ownership of intellectual property rights does not violate Art. 82 of the EC Treaty.[83] However, some observers have directed attention towards the issue of the 'improper' exercise of intellectual property rights, with the implication that Art. 82 of the EC Treaty should be applied in such cases, such as Apple's, where a company supposedly improperly applies its rights.[84] Accordingly, some commentators have argued that because Apple´s DRM technology aims at protecting the contents of downloaded material by preventing unauthorized copying it thereby expands the protection intellectual property rights outside of their statutory scope and, hence, may be classified as abusive.[85] This argument seems to hinge on the idea that Apple's FairPlay restricts or eliminates 'fair use' by Apple's customers for copyright protected material. To apply Article 82 of the EC Treaty to this issue (which would probably otherwise be treated as an issue under copyright law) Apple's critics would need to show that the company held a dominant position in the geographic area covered by the EC, or a substantial part of it, and that the company's behavior would consequently have an effect on trade between Member states. Thus, deciding what criteria ought to be used to define what Apple's business is (i.e., defining in which technology, product or service markets it is active) may have a big impact on both the choice of law and the outcome of a case.

Some commentators assume that Apple's dominance of one or more of its product or service domains automatically places under the ambit of Article 82, and others see it as obvious that Apple's refusal to license its FairPlay DRM to competitors could constitute an abuse of that dominant position; and these perspectives may be reinforced by the view that intellectual property rights are monopolies which by nature hinder competition and are therefore naturally vulnerable to accusations of anti-competitive effects under competition law.[86]

At least one ECJ decision has defined as an abuse under competition law a situation in which a dominant firm owns or controls a facility to which one of its competitors would

[82] CFI, T-201/04, September 17, 2007, Microsoft v. Commission of the European Communities.

[83] Jones, Alison; Sufrin, Brenda (2004), *EC Competition Law: Text, Cases and Materials*, Oxford: University Press, at page763

[84] Whish (2003), *Competition Law*, LexisNexis, at pages 757-758

[85] Valimaki, Mikko; Orksanen, Ville, *DRM interoperability and intellectual property policy in Europe*, [2006] E.I.P.R., at page 566

[86] Kirk, E: *Apple´s iTunes digital rights management: „Fairplay' under the essential facilities doctrine*, Communications Law, 2006 at page 162

like to gain access to so that it can sell its goods or provide its services.[87] As pointed out in the Bronner Case, such a facility would have to be indispensable for the competitor to carry out his business.[88] This so-called 'essential facilities' doctrine has been applied without being specifically mentioned[89] in cases where a dominant enterprise refused to license its intellectual property to competitors.[90] Some have therefore argued that the essential facilities doctrine should also be applied to Apple and its DRM.[91] Under this approach, Apple's proprietary assets —such as its Fairplay DRM, its iPod, its iTunes Store, or the technologies embedded inside them—would be treated as essential facilities for the business of other companies.

There has been one notable case in the European Community in which a national competition law authority has tackled the application of this line of thinking to Apple's situation. The French competition authority (Conseil de la Concurrence) had to review Apple´s refusal to license its DRM technology under competition law following a complaint by rival VirginMega in late 2004. VirginMega uses Windows' own audio and DRM technology—it´s online music service is supplied by Loudeye's European subsidiary, OD2—which is not supported by the iPod. Since Apple would apparently not build WMA compatibility into the iPod, Virgin wanted Apple to license FairPlay so it could incorporate the technology into the tracks it sold, making them iPod-compatible. Apple however refused. VirginMedia claimed that the refusal to grant access to the FairPlay DRM constituted an abuse of a dominant position according to French competition law and Article 82 of the EC Treaty.

The French competition authorities, however, decided in favor of Apple and ruled that the refusal to license was not in breech of Article 82 of the EC Treaty. First, the competition authority found that only a minority of consumers in the market listened to music on portable digital devices as opposed to music from a CD-playing machine or a personal computer. Second, and rather surprisingly, it described a method by which consumers could bypass the existing lack of interoperability and thereby download music from VirginMega onto their iPod. Third, the French competition authority found that the market for portable music players was sufficiently competitive and offered several portable players in addition to the iPod and that it was at that stage too early to define markets for DRM and thus it was unclear whether Apple had a dominant position in that market. In deciding thus the Conseil effectively ruled that Apple´s Fairplay DRM was not an 'essential facility' (according to ECJ doctrine) since customers were able to access VirginMega´s services and play songs on Apple's iPods or to play songs obtained from iTunes on MP3 players other than an iPod by circumventing Apple´s DRM.[92]

The above-mentioned case was heard in 2004 and since then the market shares of the iPod and iTunes have remained buoyant. Nevertheless, it appears unlikely that Apple´s resistance to license its DRM to rivals will be treated as anticompetitive under European competition law. Furthermore there is evidence that Apple´s competitors are mounting aggressive attacks against Apple to reduce its market share. For example, it has recently been announced that Amazon will launch a music portal in which the contents will not be

[87] Dabbah, Maher M. (2004) *EC and UK Competition law: commentary, cases and materials*, Cambridge University Press, at page 351

[88] Oscar Bronner GmbH v Mediaprint (case C-7/97)

[89] Jones, Alison; Sufrin, Brenda (Fn. 2), at page 493

[90] *Magill*; ECJ, C-418/01, 35 IIC 564 (2004)

[91] Kirk, E: *Apple´s iTunes digital rights management: 'Fairplay' under the essential facilities doctrine*, Communications Law, 2006 at page 163

[92] It appears, as discussed above, that under Art. 5(2)(b). of the *Information Society Directive* (2001/29/EC) such circumvention is perfectly legal, so long as the person's actions otherwise comply with the law.

protected by DRM[93]. Hence, it appears that despite Apple's leadership position, competitors are still able to access the market successfully so that competition is still flourishing. Even the expansion of the term 'indispensability' from application in strictly technical contexts to application in a broader economic context of intellectual property (as found in the decisions of the Court of First Instance of the European Communities in the Microsoft case[94]) does not appear to provide a basis for requiring Apple to open up its FairPlay DRM.

Valimaki and Oksanen have opined, however, that '… dominant DRM standards should always be treated with suspicion as they can be used to leverage intellectual property rights beyond their statutory scope. In such a situation,' according to Valimaki and Oksanen, 'intellectual property and competition laws are in direct conflict. One can even ask why there would be a need for 'exceptional' circumstances to establish a compulsory license'.[95]

If, as these two commentators have claimed, intellectual property law and competition law have a propensity for direct conflict, how might we deal with such conflict? Valimaki and Oksanen's solution appears to be that competition law should hold sway over intellectual property law. Once again, on the assumption that these two domains of law exhibit a natural propensity for conflict, could an equally plausible case be argued for intellectual property law holding sway over competition law in situations where clear conflict may be discerned?[96] Answering this question is beyond the scope of this paper.[97] However, perhaps there is a third approach, one that involves weighing evidence and weighing arguments in an attempt to resolve the apparent conflict?[98] Perhaps that third approach might involve some simple but critical thinking centered on wisely defining the boundaries of 'businesses' and 'markets' when applying competition law? Perhaps 'competition' and 'property rights' could flourish synergistically if a subtlety was applied to the analysis of competitive domains. Rarely, these days, do companies operate in only one product market (either geographical or product-wise) and rarely are the relationships between such markets stable. Taking these factors in to account may help to produce robust win-win solutions that simultaneously serve the needs of customers and enterprises in 'the market.'

We will now explore this 'third way' of dealing with potential conflict between competition law and intellectual property law by taking a closer look at the nature of Apple's business model and the implications this might have for applying competition law to the question of whether Apple ought to be forced to open up its proprietary DRM to competitors.

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[93] http://www.spiegel.de/netzwelt/spielzeug/0,1518,531286,00.html (in German)

[94] CFI, T-201/04, September 17, 2007, Microsoft v. Commission of the European Communities.

[95] Valimaki, Mikko; Orksanen, Ville, at page 566.

[96] For example, this appears to be the position taken by Stother (C. Stother, 'The end of exclusivity? Abuse of intellectual property rights in the E.U.,' *EIPR* (2002), at p. 91.)

[97] Michael Lehmann's classic article ('Property and Intellectual Property - Property Rights as Restrictions on Competition in Furtherance of Competition,' 20 *International Review of Intellectual Property and Competition Law* 1 (1989)) presents an alternative perspective here, arguing that the 'monopoly' rights of copyright holders (and other IPR holders) can be pro-competitive rather than anti-competitive. See also M. Lehmann, 'Theory of Property Rights and Copyright Protection of Computer Programs in Europe,' *Int J. Law Info Tech*, 2 (1994), 86-97.

[98] Derclaye has produced evidence to show that this apparent conflict is not infrequently a result the fact that decisions of the ECJ and the Court of First Instance have been unclear and confusing on the matter of the criteria for determining whether a copyright owner has abused a dominant position (Estelle Derclaye, 'An economic approach to what the conditions of abuse of a dominant position of copyright would be,' Unpublished manuscript, Queen Mary Intellectual Property Research Institute, University of London, 2003). In contrast with Valimaki and Oksanen, she argues that there is a need for better harmonizaton of the case law and also of the competition and copyright statutes themselves. In particular, she advocates that the 'conditions at which a compulsory license can be granted by courts is when the copyright (and even any IPR) holder's refusal to license prevents the appearance on the market of a new and (substantially) better product (work) and a certain reasonable period (to be defined) has elapsed since the creation of the original work.' (at p. 24).

What is Apple's 'Market' for the Purposes of Competition Law?

Deciding Upon an Appropriate 'Market' is the Pivotal Step

What are the implications of the themes discussed above in competition law for Apple and its DRM system? Since both bodies of competition law—European competition law and U.S. competition law—place so much emphasis on the *abuse of a dominant market position* we first need to determine whether or not Apple actually occupies a dominant market position. If it does, then the principle of permissible 'reasonable' constraints to competition, found in both bodies of law, will not apply. If, on the other hand, Apple does not occupy a dominant market position, then considerations of 'reasonable' exceptions, such as whether or not Apple's practices contribute 'to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit,'[99] will come in to play. Identifying what market, or combination of sub-markets, is the appropriate business domain for judging market dominance, is a critical step in determining who the competitors of an enterprise are, and whether or not the enterprise occupies a dominant position.

The 'Obvious' Common Sense Approach

The exercise of deciding exactly what the appropriate market is for determining whether or not Apple is a dominant player is probably not easy, but it may have huge implications for the application of competition law. For example, if we make the common-sense assumption that the appropriate market is the market for downloadable digital music (see Figure 1) then there is a reasonable chance that Apple might be found to hold a dominant position. However, this is actually highly debatable. In 1996 there were about 500 legitimate online music services in over 40 countries, at least 14 of which operated in the United States and significantly more than a hundred of which operated in Europe, making Apple's iTunes service just one among many competitors (despite the fact that it was clearly the dominant pioneer in the market).[100] If the market is defined as all downloadable digital music (rather than just legitimate downloadable digital music) then the chance that Apple is in a dominant position is insignificant. For example, a 2006 survey in the U.K., France and Germany indicated that only about 14% of portable digital player owners used paid music as their main source of music.[101] Since Apple only distributes content through the 'legitimate' online music market, it could hardly be seen as a dominant player. If the market is defined, instead, as all legitimate music (comprising CDs and online sales) then, once again, it is almost impossible to consider Apple as a dominant player. In 2006 digital music accounted for about 12% of the total worldwide recorded music market, with Apple being active only in the digital segment.[102]

The Complex Common Sense (but Reductionistic) Approach

If we adopt an alternative assumption and define Apple's market as the combined markets of legitimate downloadable digital music, desktop music-player software and

[99] *EC Treaty*, Art. 81 (3).

[100] *Digital Music Report* (London: International Federation of the Phonographic Industry (IFPI), January 2007), page 8. Available from: www.ifpi.org. For a precise and up-to-date list, see: www.pro-music.org/musiconline.html (accessed on March 13, 2008).

[101] *Digital Music Report*, ibid., p. 14.

[102] iSuppli Corp. (2006), at www.metrics2.com/blog/2006/11/22/ (accessed on March 13, 2008).

portable digital music players (see Figure 2), then Apple's position becomes much stronger—due to its very strong position in the portable digital music player segment (due to the popularity of its iPod models), creating the possibility that it might indeed occupy a dominant market position across the combined market segments. Data from a 2006 In-Stat consumer survey revealed that 49% of MP3 player owners owned an Apple iPod.[103] This puts Apple in the ambiguous 'gray area' of potential market dominance, if we define Apple's market as the portable digital music player segment only.

It would require much more extensive investigation to determine whether Apple is actually dominant in terms of the competition laws of the United States and Europe, in that particular market segment. However, when the market is viewed as a combination of the three sub-markets of legitimate downloadable digital music, desktop music-player software and portable digital music players (as illustrated in Figure 2), Apple's share would be smaller, due to its lower share of the digital music market (i.e., the whole digital music market, both formal and informal).[104] It would be even smaller again if other segments (i.e., CDs and DVDs, etc.) of the recorded music market were added to the list. The purpose of citing these figures here is not to make a precise claim about what Apple's market share actually is under each of these alterative market definitions. Rather, the purpose is to illustrate how *a small change in which sub-markets are considered to belong to a market, or even in how the boundaries those sub-markets are defined, may have a big impact on the matter of how much market share a particular company might capture*.

Even if Apple is the single largest player in this slightly more-broadly defined market (as illustrated in Figure 2), it is not obvious that it has market dominance from an anti-trust point of view. The International Federation of the Phonographic Industry (IFPI) has noted that '2006 saw the development of a competitive digital music market with a mixture of different business models,' despite Apple's otherwise strong position.[105] A market may still be competitive, even if one company is the obvious and substantial market leader.

The Less-obvious but Realistic (Holistic Suite Management) Approach

In a competitive market there are a variety of strategies that firms may follow to thrive in business and to increase their market share. Typically, experimentation with such strategies will involve reconfiguring the markets and sub-markets in which a firm is active; it will also involve reconfiguring the relationships and interdependencies of those markets and sub-markets and of the industry players who participate in those markets and sub-markets. Without the 'room to move' for firms to operate in multiple markets and sub-markets simultaneously, and to dynamically arrange and rearrange their various dependencies and interdependencies, innovation and competition in an industry will not be viable. An implication of this perspective is that a narrowly-construed, or 'tunnel vision,' approach to defining markets for competition-analysis should be seen as misguided.

With this perspective in mind we need to ask what is Apple's business model and in what markets and sub-markets is it actually operating? The significance of Apple's music retailing business, and the various technologies associated with that business, cannot be understood without looking at the company in such a manner. The diagram in Figure 3 was

[103] In-Stat, *Portable Digital Audio Players: Market Growth Exceeds Expectations* (#IN0603155ID), at http://www.instat.com/press.asp?ID=1648&sku=IN0603155ID (accessed on March 13, 2008).

[104] Apple's total market share would be larger under this scenario if the informal ('illegitimate') music market was excluded from consideration. However, under the EC's marginal-pricing/demand-elasticity approach to defining markets it is arguably necessary to include the informal product alternatives since these actually constitute the majority in the 'marketplace' for downloadable digital music.

[105] *Digital Music Report*, ibid., p. 12.

designed to illustrate this point. If we inquire how Apple actually makes its money and how the company actually goes about trying to build a sustainable competitive advantage for itself, then we end up drawing a map something along the lines illustrated in Figure 3. Apple has always followed a business strategy of developing and selling a range of information-technology products and services (including hardware, software applications, operating systems, utility software and digital services, etc.) and more-or-less managing them together as part of a total package. That is part of the so-called 'closed systems' approach that used to be more common in the technology-intensive industries, followed (mostly in the past) with some success and some frustrations, by companies such as IBM and Sony. Apple is now probably the iconic example of a firm that has persisted with employing the 'closed systems' (or holistic suite management) approach, against general industry trends, but with considerable success.[106] This element of its strategy has been a key ingredient of Apple's success in product design and it is a key factor in making Apple's suite of products and services attractive to its customers. Apple leverages value from one part of its suite to create value in another part of its suite.

This 'suite management' or 'holistic suite management' approach that characterizes Apple's business strategy and technology strategy is also what has enabled the company to remain in business in the face of competition from large companies such as Microsoft, Intel, IBM, Samsung and Sony. Apple competes with Microsoft in almost all of the product/market segments illustrated in Figure 3. When the totality of Apple's *actual* 'market' is considered, it will be seen that the list of competitors it has to face will be much larger than may previously have been thought. More importantly, for the purpose of our analysis, the proposition that Apple dominates 'the market' becomes less plausible to entertain. In addition, weakening Apple's ability to flourish in one segment of its market (by requiring it to forego part of its competitive advantage in that segment, through anti-trust injunctions) may undermine its ability to compete across its whole market against more powerful competitors. When the 'holistic' approach to contemplating markets, as adumbrated here, is adopted, it becomes possible to see that constraining the freedom of an enterprise such as Apple, in one part of its suite (viewed in isolation from the whole) may in fact lead to a reduction of its ability to compete with much larger enterprises, such as Microsoft.

If the goal of competition policy is to promote competition, then allowing freedom for an undertaking such as Apple to manage the elements of its 'suite' as a total business and technological system may enhance overall competition in the market rather than reduce it. If Apple's market is construed as illustrated in Figure 3, then it is highly improbable that the company could plausibly be accused of dominating the market; and the proposition that it may be abusing its position becomes even less plausible.[107]

[106] It would require going much beyond the space limitations of this paper to fully document the relevant history of the Apple company and its strategies. However, an increasing number of commentators are beginning to recognize both the role and the value that Apple's 'integrated /closed systems' strategy has played in the company's rise from ignomy. For a recent example, see: Leander Kahney, 'How Apple Got Everything Right By Doing Everything Wrong,' *Wired Magazine*, 16, 4 (2008). Available at http://www.wired.com/print/techbiz/it/magazine/16-04/bz_apple (accessed on 23 March 2008).

[107] Admittedly, this 'holistic' approach to defining markets may go against the preferred approach of the European Commission and the ECJ, both of which, some might argue, are more comfortable with a narrow or microscopic approach to construing markets. One key source document on this topic, published by the Commission (*Commission Notice on the definition of relevant market for the purposes of Community competition law* (97/C 372/03, 9.12.1997)) illustrates the Commission's preference for narrow construction of markets, driven especially by its focus on analysis of marginal pricing and demand elasticity. However, it does also reveal some open-ness to flexibility on this matter, as evidenced by paragraphs 26-27 of the *Notice*: 'In general, and for all practical purposes when handling individual cases, the question will usually be to decide on a few alternative possible relevant markets. For instance, with respect to the product market, the issue will often be to establish whether product A and product B belong or do not belong to the same product market. It is often the case that the inclusion of product B would be enough to remove any competition concerns. ... In such situations it is not necessary to consider whether the market includes additional products, or to reach a definitive conclusion on the precise product market. If under the conceivable alternative market definitions the operation in question does not raise competition concerns, the

Applying the 'Holistic Suite Management' Approach to Decisions about Competition

In the event that, even after adopting an holistic approach to construing Apple's market, it was found that the company did indeed occupy a dominant position, the holistic approach suggested here would enable a more robust and realistic assessment to take place concerning whether or not Apple was *abusing* its dominant position. The holistic approach to market analysis suggested here also opens up the possibility, as illustrated in Figure 4, of a more realistic treatment of relationships between Apple and its true competitors. In the event that Apple was found not to be occupying a dominant position, under either European or U.S. competition law, then the holistic market analysis approach (see Figure 4) would enhance efforts by the courts to determine whether or not Apple's behaviors in its market were reasonable (as understood within U.S. case law pertinent to the *Sherman Antitrust Act*) or permissible (as defined in Article 81 (3) of the *E.C. Treaty*).

A realistic—or, shall we say, systemic—way of construing Apple's true market and of construing its competitive relationships, as illustrated by the diagrams in Figure 3 and Figure 4, would suggest the following conclusion: not only under the copyright laws of Europe and the United States, but also under their respective competition laws, there does not appear to be any obvious grounds for requiring Apple to open up its FairPlay DRM system to its competitors. Of course, these questions deserve much more extensive analysis, and investigation of pertinent facts, than is possible here; but the above considerations reveal that Apple's behaviors in the use of its DRM technologies do not appear to be illegal.

Of course, the outcome of applying competition law to Apple's situation is not a foregone conclusion. It will depend, among other things, on the philosophy of those doing the analysis and, in particular, upon their approach to defining markets, the narrow/reductionistic approach or the holistic/systemic approach. We believe that the 'rule of reason' approach that is openly practiced in the United States, but probably practiced only unconsciously or accidentally in Europe, is probably applicable in the Apple case. This, in turn, suggests that there is probably not going to be an easy 'win' in the courts of either Europe or the United States for Apple's antagonists, using competition law as the vehicle.

Could there be other bodies of law, outside copyright law and competition law, upon which a plausible case might be made to require Apple to open up FairPlay? Perhaps. That would require further investigation and would probably fall outside the parameters of this paper. Are there a-legal or meta-legal arguments that might call for a change in the law to better accommodate issues such as the one addressed in this paper? Perhaps. Once again, we probably do not have the time to fully explore such a question. However, we will now move towards our conclusion by considering a number of arguments and perspectives that go beyond copyright law and competition law, narrowly defined.

question of market definition will be left open … .' Paragraph 56 of the *Notice* reveals another type of flexibility sometimes employed in the EC's market analysis: 'There are certain areas where the application of the [Commission's articulated principles for defining markets] has to be undertaken with care. This is the case when considering primary and secondary markets, in particular, when the behaviour of undertakings at a point in time has to be analysed pursuant to [Art. 82, *EC Treaty*]. The method of defining markets in these cases is the same, i.e. assessing the responses of customers based on their purchasing decisions to relative price changes, but taking into account as well, constraints on substitution imposed by conditions in the connected markets.' In addition, despite the ostensible bias of the Commission towards a narrow approach to construing markets, it appears that the Commission itself has adopted something of the 'holistic' approach in its treatment of Microsoft (see: *Microsoft v. Commission of the European Communities*, T 201/04 (17 September 2007), Judgment of the Court of First Instance (Grand Chamber)). In short, there appears to be some room-to-move within the Commission to consider alternative approaches to defining markets for the purpose of competition analysis.

Meta-legal Analysis of Apple and its Use of FairPlay DRM

If we accept the notion that the majority of the music industry (i.e., the owners of the majority of music content) has resisted the distribution the songs via the Internet without DRM protection[108], then it would seem unreasonable to focus attention in the DRM debate primarily on Apple. In fact, it would seem quite misguided to direct law suits singularly against Apple. Anti-DRM suits (insofar as they are advisable at all) should probably be directed against the major copyright owners, not just Apple.

However, while the early wave of court cases aimed at forcing Apple to open up FairPlay have been proceeding, a number of changes have been going on in the digital-content industries that may make the court cases, and the 'FairPlay' arguments in the literature, moot. Recently that a new category of iTunes products called 'iTunes +' was released wherein music is distributed DRM free via iTunes. The interesting point here is that it appears that the direct competitors of Apple anticipated or followed this shift in policy at Apple.[109]

There are two technological forces currently emerging that appear to be creating reasons for the abandonment of Apple's DRM that have nothing to do with copyright law or competition law. The first one is that the Apple's software DRM may not be very efficient at doing what it was designed to do. The other one is that a new kind of DRM is emerging that looks like it will probably 'creatively destroy' the current dominant software approach to DRMs practiced by both Apple and its competitors.

The Inefficiency of Software DRMs

As Steve Jobs averred in his article, 'Thoughts on Music,' DRMs have never been a fully effective solution to the problem of digital piracy.

What then would an 'efficient' DRM look like? We could argue that a DRM that both guaranteed the protection of the rights of copyright holders and that also respected the broader rights and interests of the public would be efficient. Viewed this way, none of the current DRMs, including Apple's FairPlay system, could really be considered efficient due to the ease with which they may be circumvented—sometimes, ironically, with the help of legally permissible technical means provided by Apple itself[110]. Furthermore, DRMs which restrict the freedom and convenience of consumers to listen to music they have legally purchased in the manner in which they wish, are considered by many as an affront to consumers' interests and perhaps also an infringement of consumers' rights. A DRM making it difficult to make a private copy of a piece of music (which in some countries is a consumer right[111]) is arguably also not really efficient.

In fact, to guarantee the efficiency of DRM technology, DRMs should be (as Steve Jobs has said) implemented in every song distributed on every medium (CDs, tapes, MP3s, etc.) and not just on digital files downloaded from music stores. Given that the majority of music (CDs, etc.) is already distributed DRM free, it is virtually impossible to efficiently serve the goals of DRM systems in the current environment. Software DRMs in particular are

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[108] *Steve Jobs*, Thoughts on Music: '*When Apple approached these companies to license their music to distribute legally over the Internet, they were extremely cautious and required Apple to protect their music from being illegally copied. The solution was to create a DRM system, which envelopes each song purchased from the iTunes store in special and secret software so that it cannot be played on unauthorized devices'*

[109] http://www.zdnet.fr/actualites/internet/0,39020774,39369519,00.htm (in French)

[110] http://smultra.blogspot.com/2007/04/how-to-circumvent-drm-legally.html

[111] As example Australia, France, Germany authorize the establishment of a private copy under certain circumstances.

inefficient due to the ease with which they can be circumvented, even by those with minimal technical knowledge.

Recently there has been some 'loosening of the belt' among the 'Big Four'[112] music publishing companies, with EMI in particular taking a lead by no longer requiring Apple to protect with DRM software its music sourced from EMI. What is the source of the emerging sea change? Are the big music companies really giving up the idea of requiring DRM protection on music distributed over the Internet, or did someone propose a better alternative to them?

The New Hardware DRM

The oncoming abandonment of software DRMs can be explained by technological evolution in the computer processor/chips domain, in other words, by the emergence of hardware-based DRMs. The main hardware DRM creators are the two biggest manufacturers of microprocessors in most computers used by members of the public: Intel and AMD.

We doubt that the major music companies suddenly decided to distribute their songs without any means to exercise control on copying and downstream distribution. As software DRMs have become unpopular with many consumers, and as they may also be considered as inefficient, the need for an alternative—less vulnerable—protection system was recognized. Thus, 'TCG', an association of companies specialized in new computer technology (of which two of the seven founders are AMD and Intel) has proposed a solution. It consists mainly in the implementation of hardware DRM. This new kind of DRM may be incorporated physically in the microprocessor of computers so that any circumvention of the DRM becomes impossible without very specialized and difficult-to-obtain technical assistance. This thereby makes circumvention almost impossible for the average consumer.

This kind of DRM has already been integrated in to recently released microprocessors. It is currently included as part of the Intel Pentium D dual core processor. Under this system the management of copyrighted files takes place via the AMT (Active Management Technology), which permits a person who has administrator rights to control all the computers on the network. This control is made directly at the motherboard level independently from the operating system.

AMD has proposed a slightly different hardware DRM that will control the access to the frame buffer of the graphic card. Consequently the DRM will permit determination of what content can be displayed or not by the machine equipped with AMD's graphic card. By making use of this DRM, rights-holders like Microsoft, Apple, AMD, Sony, Paramount and CBS, etc., may have access to the frame buffer of 'your' and 'my' personal computer. It is probable that during the next several years, due to normal obsolescence, the vast majority of personal computers will be equipped with AMD or Intel (maybe both) processors. It is important to notice that Apple, although they do not participate in the Trusted Computing Group, are equipping their newest computers with Intel processors.

Consequently, we are persuaded that one of the reasons why the music industry is showing signs of allowing Apple iTunes and its competitors to distribute DRM-free music on the Internet is that a new copyright management system is emerging, based on hardware DRMs. The emergence of these new hardware DRMs could substantially explain the evolution of strategies of both the big music companies and Apple.

Finally, in the light of this recent development, it is difficult to avoid coming to the conclusion that any legal actions to force Apple to open up its DRM to competitors—even if they make it through the web of statutory, courtroom and procedural obstacles briefly

[112] Universal, Sony BMG, Warner and EMI.

canvassed in this paper, are most likely to be irrelevant. Apple will probably abandon its current DRM strategy without any pressure to do so from the courts. Is it really worthwhile, then, to spend a lot of time, money and effort to fight legal battles that seem, at best, to have a very small probability of success?

Conclusions

The preceding analysis has shown that, despite the flurry of European and U.S. legal actions based on the contrary opinion, it is probably a fatuous quest to try to force Apple to open up its FairPlay DRM to competitors under either Copyright law or Competition law. Under these bodies of law, in both Europe and the United States, it is very difficult indeed to mount a robust case for requiring apple to share its proprietary DRM technology with third parties.

However, in the light of the ECJ approach towards competition policy and the fact that the recent Microsoft anti-trust decisions in Europe have placed interoperability higher than ever on the EC's political agenda, it would probably be prudent for Apple to be cautious and diplomatic in its DRM strategy by embracing interoperability as much as is feasible. This is probably more of a political and practical issue to deal with than a matter of law, as such. Prudence may be especially pertinent in France where a special authority has been established under the new copyright law to ensure that the principle of interoperability is respected by companies conducting business in France.

Finally, it has to be said that the question whether Apple should open up FairPlay has become less important since new technologies have evolved, shifting the focus from software DRMs to more effective hardware DRMs. The fact that most online music stores have already started distributing DRM-free music is evidence for this point of view. To the leaders in the consumer societies and competition authorities of the world our advice would be, 'Sure, go ahead with suits to force Apple to open up its proprietary DRMs to competitors, but please be aware that, in the end, your actions will have almost no practical effect.'

Figure 1

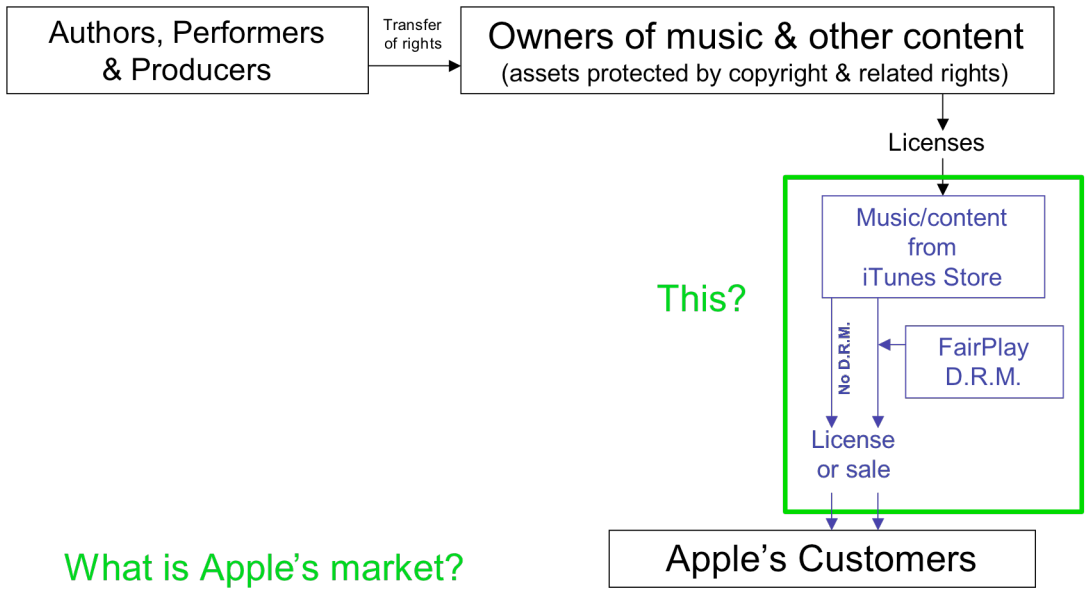

Figure 2

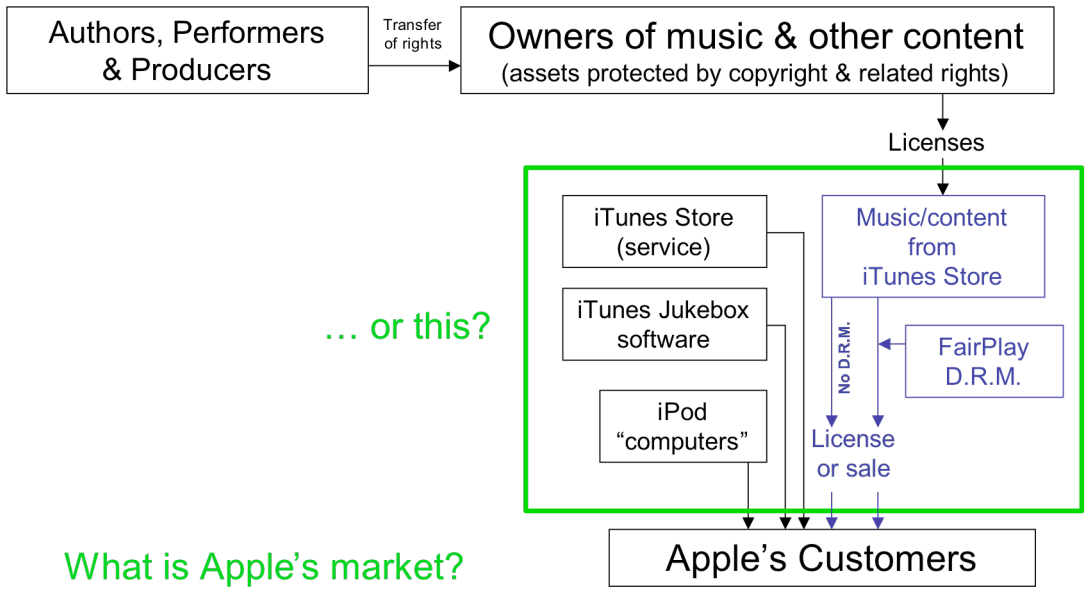

Figure 3

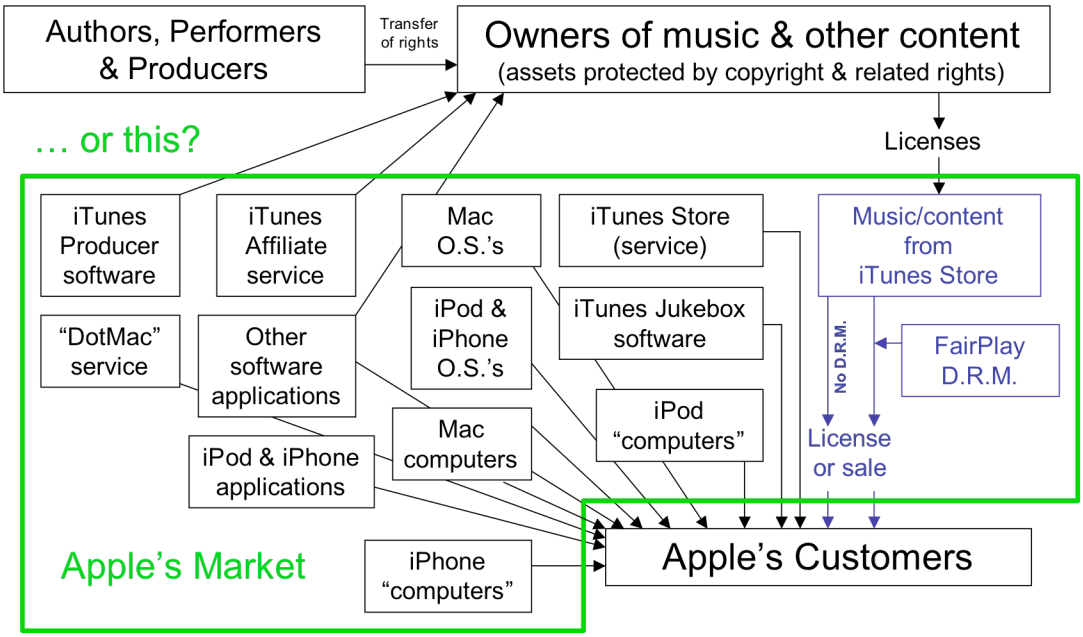

Figure 4