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IP Rights and Technological Platforms

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Abstract

This paper is about intellectual property rights (IPRs) and platform technologies. After a brief introduction explaining some basics of networks, standards and platforms, I turn to three policy issues. The first is the role of IP in what might be termed platform policies, the decisions by courts and regulators concerning whether and how to promote multi-party access to important digital platforms such as media player hardware, cell phones, PCs, and the like. I argue that for the most part there is no need for IP law to directly promote interoperability, since market competition among competing platform technology owners will usually protect consumers quite well. Voluntary interoperability at various levels is the norm, an arrangement facilitated by the fact that property rights can and often are waived for strategic reasons. The apparent potential of IP law, and individual IP rights, to restrict access and harm consumers must therefore be seen in the context of competitive battles in which IP owners very selectively enforce their rights. Where coerced access through IP rules does prove necessary, it should be promoted sparingly and strictly ex post, only after rights have issued and their deployment and enforcement are shown to create anticompetitive effects. Second, I discuss optimal policy with respect to platform-content combinations, e.g., the question of whether to regulate or prohibit exclusive content licensing for a single platform, for example, the Apple iTunes/iPod system. Again I argue that competition, together with the divergent interests of content and platform owners, will usually protect consumers without the need for excessive regulation of platform-content deals. Finally, I consider ways to better accommodate traditional IP doctrines and policies to the need for flexibility and openness in platform battles, in particular, the need for a robust set of rules that permit an IP owner to credibly commit to open access to IPRs with a binding full or partial dedication of IP rights to members of the public or specific sub-groups. The idea is to more fully institutionalize the right of an IP

owner to implement an “owned but open” platform strategy. I characterize this new sort of binding commitment to openness as “the right to include” – by analogy with the traditional notion of property as involving at its core a “right to exclude.”

1. Introduction

Many intellectual property (IP) scholars have emphasized the important benefits of openness with respect to technological platforms. This desideratum takes a variety of forms, most typically calls for doctrinal modification or interpretation and outright statutory reform. The general idea is simple enough: digital markets, driven by the internal logic of widespread availability and network effects, will better flourish and better serve the goals of the intellectual property system if digital content and the platforms that carry it are freed of as many restrictions on use as the law can promote. In a nutshell, the dominant idea is that in the digital age, the best IP policy is a minimalist IP policy.

In this paper I take issue with this now widely prevailing wisdom. My basic idea is this: robust IP protection is in no way inconsistent with the promotion of a flourishing environment for digital media. Quite the contrary: IP rights are essential to this goal. IP facilitates a wide range of effective strategies in the digital era, ranging from extensive control and enforcement to the promotion of widespread open access. IP as traditionally defined and understood permits private firms a very large degree of flexibility, which is just what is needed in the dynamic and challenging environment for digital media. As compared to the top-down, one-size-fits-all approach of the “IP minimalists,” traditional, strong IP protection encourages and facilitates a wide variety of approaches, including various degrees of openness, without mandating or coercing any single approach. To summarize, the traditional virtues of individual property ownership – autonomy, decentralization, flexibility – are in no way obsolete in the digital era; they are indeed just as important and useful as ever.

This emphasis on the benefits of strong intellectual property in the digital media setting leads me to three specific doctrinal/policy questions, which I address after a brief introduction explaining some basics of networks, standards and platforms: (1) the role of IP in what might be termed platform

policies, the decisions by courts and regulators concerning whether and how to promote multi-party access to important digital platforms such as media player hardware, cell phones, PCs, and the like; (2) optimal policy with respect to platform-content combinations, e.g., the question of whether to regulate or prohibit exclusive content licensing for a single platform; and (3) ways to accommodate traditional IP doctrines and policies to the need for flexibility and openness, in particular, the need for a robust set of rules that permit an IP owner to credibly commit to open access with a binding full or partial dedication of IP rights to members of the public or specific sub-groups. I will also discuss the important topic of DRMs, and the idea that digital protection systems will inevitably lead to an “imbalance” between content owners and consumers. In my view, competition between DRM systems and between the owners and distributors of content, will mitigate any of these concerns.

2. Networks, Standards, Platforms: A Brief Overview¹

Standardization is important to the software industry because it allows different software components to work together – or “interoperate.”² Many aspects of programming are somewhat arbitrary, and agreeing on a specification for implementation allows for greater compatibility between programs. Further, compatibility allows programmers to build upon the previous work of others without reinventing the wheel. In this vein, standards may be broadly defined as any technical specification that may be implemented in software for interoperability (e.g., file formats, file systems, programming languages, protocols).³

Standards may be controlled by a single firm, a group of firms, a non-profit organization, or by the industry at large.⁴ As with software code,

¹ This section is derived from Robert Merges and Jeffrey Kuhn, *An Estoppel Doctrine for the Age of Standards*, forthcoming *California Law Review* (2008).

² See David Alban, *Rambus v. Infineon: Patent Disclosures in Standard-Setting Organizations*, 19 *BERKELEY TECH. L.J.* 309, 309 (2004); Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 *CAL. L. REV.* 1889 (2002).

³ See, e.g., Lemley, *supra* note 2, at 1896.

⁴ See Stanley M. Besen & Joseph Farrell, *Choosing How to Compete: Strategies and Tactics in Standardization*, 8 *J. ECON. PERSP.* 117, 119-120 (1994) (explaining how firms may reasonably choose to compete for the “prize” of

standards exist on a continuum from “non-proprietary” (i.e. entirely unencumbered by intellectual property rights) to “fully owned” (i.e. a license is required for use). In addition, depending on which policy a standard owner adopts, standards may be “open” or “closed.” An open standard is one that is widely shared, and a closed standard is one that is not widely shared – at the limit, it may be private to one firm or organization. It is important not to confuse these two issues. Some fully proprietary standards are widely shared; some are not. Some non-proprietary standards can effectively be kept closed; many are widely shared. The key point is this: property rights over a standard do not automatically make it a closed standard. They give its owners a choice regarding whether, and to what extent, the standard will be shared with others. The following grid summarizes these points.

owning a proprietary standard or choose to agree on a standard and compete within, rather than between, technologies); *see also* Joseph Farrell & Garth Saloner, *Coordination Through Committees and Markets*, 19 RAND J. ECON. 235 (1988) (describing a combination of committee-based and unilateral action as the most efficient means of standard setting).

Table 1: Standards Strategy Grid⁵

	Open	Closed
Proprietary	Adobe Acrobat ⁶	Apple iTunes music format ⁷
Non-Proprietary	Open source software, e.g., Linux Operating System	Encase Forensic Disk Analysis software ⁸

In some markets, particularly small or niche markets, closed standards are quite useful. Closed standards can ensure code integrity, allow greater control for features such as DRM, and make it easier to direct the development of a standard. Often, however, open standards are more beneficial to an industry. One of the driving forces toward open standards is economic – a standard freely disseminated has a better chance of being widely adopted than one with restricted access. Another driving force is industry reliance – a widely adopted standard seems more trustworthy, in terms of reliability, utility, and long-term support, than one used by only a few industry actors. For example, nearly every computer has software that implements the HyperText Transfer

⁵ From Robert P. Merges, *Software and Patent Scope: A Report from the Middle Innings*, 85 *Tex. L. Rev.* 1528 (2007).

⁶ Adobe.com, *Adobe Acrobat Family*, <http://www.adobe.com/products/acrobat/> (last visited Jan. 5, 2008). This quadrant corresponds to the notion of “open but owned” standards described in the work of Michael Borrus and John Zysman. See Michael Borrus and John Zysman, *Globalization with Borders: The Rise of Wintelism as the Future of Industrial Competition*, 4 *Indus. & Innovation* 141 (1997), reprinted in *Enlarging Europe: The Industrial Foundations of a New Political Reality* (John Zysman et al., eds, 1998), pp. 27-62, at 36. See also Urs von Burg, *The Triumph of Ethernet: Technological Communities and the Battle for the LAN Standard* (2001), at 34-35 (discussing the spectrum of “openness” that describes platform “ecosystems”).

⁷ Wikipedia.com, *FairPlay*, <http://en.wikipedia.org/wiki/FairPlay> (last visited Jan. 5, 2008).

⁸ Guidancesoftware.com, *EnCase Forensic*, http://www.guidancesoftware.com/products/ef_index.asp (last visited Jan. 5, 2008).

Protocol⁹ (HTTP) standard used to transmit web pages as well as the HyperText Markup Language¹⁰ (HTML) standard used to describe them. Making these standards widely available spurred their adoption because many different software authors were able to implement them and felt they were sufficiently reliable to adopt.

A standardized, even playing field facilitates true technological innovation in the software industry, much as standards in the physical world facilitate commerce. Open standards are particularly useful to spur adoption of a technology when no single firm is sufficiently powerful to dictate standards.¹¹ The emergence of a standard, particularly an open one, can harm market incumbents but help consumers through reduced uncertainty, reduced lock-in, increased competition *within* the market rather than *for* the market, increased competition on *price* rather than *features*, competition for proprietary extensions, and competition for components rather than entire systems.¹²

Standards not only benefit consumers; there are several strategies that allow firms to benefit from the power of standards as well. The first strategy is to specialize in complementary products. A standard component – such as an operating system or programming language – can create a larger market for proprietary products that “plug in” to a standard. For example, this is the logic behind IBM’s championing of the Linux operating system; IBM has a strong position in the market for products that complement Linux.¹³ The second strategy is to specialize in the creation or maintenance of standard technologies, as Microsoft does for personal computer operating systems and Qualcomm does for cell phones.

B. Network Effects and Standards Adoption

Software is a “network product,” which means that its value increases as more users adopt it.¹⁴ Standardization spurs network effects because a

⁹ See Wikipedia.com, HTTP, <http://en.wikipedia.org/wiki/HTTP> (last visited Jan. 5, 2008).

¹⁰ See Wikipedia.com, HTML, <http://en.wikipedia.org/wiki/HTML> (last visited Jan. 5, 2008).

¹¹ Carl Shapiro & Hal R. Varian, *Information Rules, A Strategic Guide to the Network Economy* 199 (1999).

¹² *Id.* at 227-33. See also URS VON BURG, *THE TRIUMPH OF ETHERNET* (2001) (discussing the victory of the open, non-proprietary Ethernet standard over IBM’s Token Ring standard for network communication).

¹³ See Robert P. Merges, *A New Dynamism in the Public Domain*, 71 U. CHI. L. REV. 183 (2004).

¹⁴ Alban, *supra* note 2, at 309.

program that interoperates with a variety of programs and files is more valuable than one that works only in isolation. Standardization also results from network effects because it often makes more sense to adopt a technology already widely used rather than a relatively untried technology without an “installed base” of adopters.¹⁵

Like other “network goods,” technological standards are different from “normal goods.” For most of the things that people buy, it makes very little difference how many other people buy them. In general, I do not care much whether many or few buy the same laundry detergent I buy. But with network goods, I do care. When I participate in a network, it matters to me how many other people are on it: generally, the more the better. If I use a PC computer, and create a presentation using Microsoft PowerPoint, I will be able to share it more easily if many others also use a PC and run PowerPoint. Also, if I am at a conference and my computer battery runs out, I can borrow someone else’s to do my presentation. This is why, unlike in the case of laundry detergent, when I am deciding which network good to buy I do care about what others choose.

The networks we are interested in are known as “two-sided networks.”¹⁶ Software is an example: I can use a product such as PowerPoint on my own, but it has even more value if others use it as well; I can share files, for example, or show my presentation on someone else’s computer. And the more

¹⁵ Lemley, *supra* note 2, at 1896.

¹⁶ Geoffrey G. Parker and Marshall W. Van Alstyne, Two-Sided Network Effects: A Theory of Information Product Design, 51 Mgt. Sci. 1494 (2005) (hereinafter Parker and Van Alstyne, Two-Sided Networks); J.C. Rochet and Jean Tirole, Platform Competition in Two-sided Markets, 1 J. Eur. Econ. Assoc. 990 (2003). These are known in the technical literature as “two way virtual networks.” Two-way networks include many transportation and telecommunication networks, where nodes are distinctly connected in both directions. In contrast, one-way networks, such as broadcasting and paging, have connections in only one direction. Nicholas Economides, *The Economics of Networks*, 14 INT’L J. OF IND. ORG. 673, 674-75 (1996). Another important distinction is between actual networks, such as telephones and fax machines, and virtual networks, such as computer software. See Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CAL. L. REV. 479, 488 (1998); CARL SHAPIRO & HALL R. VARIAN, *INFORMATION RULES, A STRATEGIC GUIDE TO THE NETWORK ECONOMY*, (1999). Actual network goods, such as telephones, derive all of their value from their connection through the network. A telephone by itself, unconnected to a working phone line, is worthless. Virtual networks have independent value as well as value that increases with network growth. Economides, *supra* note 16, at 675. See also, Michael L. Katz & Carl Shapiro, *Systems Competitions and Network Effects*, 8 J. ECON. PERSP. 93, 94-95 (1994).

people that join a network, the more valuable it is for others.¹⁷ In this sense, individual decisions to join benefit others. In the language of economics, they create “externalities,” spillover effects that impact the economic situation of others.¹⁸

The key to the benefits of networks is compatibility. While standards provide widespread benefits through compatibility, there is a dark side: the possibility of “lock-in.” Lock-in refers to the often high cost of switching from one network to another. If the cost is high enough, users will be “stuck” in an old network even though a new, superior network has entered the scene.¹⁹ One type of lock-in occurs with “information and databases,” and takes the form of “converting data to [a] new format.”²⁰ This type of cost “tends to rise over time” as the collection of data stored in the format increases.²¹ Standardization presents another type of lock-in cost – collective switching costs.²² If everyone else uses a particular standard, unilaterally switching becomes cost prohibitive. In effect, the entire network is locked in. It would be too difficult, for example, to persuade all users of one software product to switch

¹⁷ This added-value property implies that networks based upon open standards often have greater potential for growth than those based upon closed standards both because the cost of joining the network is low and because the potential for others to join the network is high. Likewise, networks based upon non-proprietary standards often have greater potential for growth than networks based upon proprietary standards because a community of supporters is often more reliable than a network with a single point of failure. However, the complexity of the underlying technology may be a countervailing effect in that a relatively narrow technology, such as Ethernet, may be easier to develop in an open, non-proprietary way than an expansive and highly complex technology, such as an operating system, where Windows maintains a clear market lead over Linux. *See* Urs von Burg, *supra* note 12, at 199-212.

¹⁸ Economides, *supra* note 16, at 678. The positive feedback networks enjoy leads to a new sort of economic effect, one that may be termed “demand side economics of scale.” Shapiro & Varian, *supra* note 16, at 179. *See also* Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AM. ECON. REV. 424 (1985) (describing the sources of and an economic model for network externalities).

¹⁹ Shapiro & Varian, *supra* note 11, at 116.

²⁰ *Id.* at 117. For example, one might convert a collection of images stored in a particular graphics format to a different graphics format to achieve greater compression or simply to move to newer technology in favor of technology that will soon be unsupported.

²¹ *Id.*

²² Shapiro & Varian, *supra* note 11, at 184.

instantaneously to a superior replacement.²³ Knowing this, people stay loyal to a no-longer-optimal system for far longer than they otherwise would.²⁴ At a minimum, the prospect of lock-in suggests that market participants should bargain hard prior to being locked in to a new technology and then take steps to minimize that lock-in over the course of the technology cycle.²⁵

In network markets, much of the value comes from the existence of a large installed user base.²⁶ Sellers of network goods know this, of course, which is why they compete so hard to establish their network as the dominant one. Indeed, one rationale for the “standards estoppel” doctrine is the possibility that a seller will encourage network-building by permitting free use of a standard, and then, after a large network is in place, switch its approach abruptly and begin charging high access fees.²⁷

Buyers know it too. One strategy, already mentioned, is to take this “lock-in effect” into account when initially bargaining with a seller by seeking a lower price or a long-term agreement. But this has its limits, particularly for buyers who worry that they will not be able to foresee all the creative techniques the seller may employ later, once the network is firmly in place. In the face of this uncertainty, another approach can be appealing: participating in the building of an **open access** network – one which is not controlled by a competitive rival. This is the basic idea behind open standards.

²³ Witness the difficulty, for example, in effecting the switch from IPv4 to IPv6. Carolyn D. Marsan, *IPv6 Guru Predicts Last-minute Switch to Protocol*, NETWORK WORLD, Dec. 17, 2007, <http://www.networkworld.com/news/2007/121707-how-feds-are-dropping-the-ball-side-1.html>.

²⁴ See, e.g., *id.*

²⁵ *Id.* at 136.

²⁶ See *id.* at 108.

²⁷ This is true when the seller of a product employs a “penetration pricing” strategy. But recent research shows that in two-sided networks, a product seller might well maintain a “perpetual subsidy” on one side of a market in order to stimulate demand on the other. So for example, it may be that, in the case of the pdf format, it is and will always be optimal for Adobe to give away the pdf document reader – because this strategy effectively maximizes profits by stimulating demand for document *preparation* software. See Parker and Van Alstyne, *supra* note 16, at 1497. Standards estoppels may still be necessary in cases where two-sided market intermediaries divest themselves of one half of their product pair (which changes the optimal strategy for maximizing profits from that half), or where the conditions change such that a cross-product “subsidy” in such a joint market is no longer optimal.

The backers of an open standard understand that it is not safe to grant any single entity absolute control over access to a valuable network. Their solution is to replace single-entity control, usually with some form of collective control. Specific cases vary considerably. Patent pool-based standards require licenses from the holders of all patents essential to the standard; the pool entity then licenses the standard as a whole to any user willing to pay the required fee. Pure “open source” standards are usually available for free, and are often created through the collaboration of far-flung contributors, rather than a tightly organized group of patentees. Yet even open source software requires a committee structure of some kind, to evaluate potential additions and changes to the standard, and to decide on “official” versions of the software.

3. Platform Policies

The revolution in digital media platforms, and the intellectual revolution surrounding our deepened understanding of network effects, has led to a simplistic set of proposals in the IP literature. Call it “openness uber alles.” The single minded focus in this strain of IP scholarship is on directly promoting maximum access to shared platforms. This is an indiscriminate approach, which promotes curtailing or eliminating IP rights that might effectively restrict access to a shared platform (e.g., calls for special rules to restrict copyright or patent protection for standards, operating systems, access protocols, and the like); promotes “interoperability” as a catchall policy with which to interpret doctrines of infringement, fair use, and the like; and argues for an aggressive intrusion of antitrust principles into IP law to take account of market consequences that might follow from enforcement of IP rights.

Optimal policy in this area in my view would look very different. It would trust competition to address many of the concerns with open access. And therefore it would be very reluctant to restrict the awarding and enforcing of IP rights over platforms or access to platforms *ex ante*. Regulation, when necessary in the rare case, would take the form of *ex post* policing of the enforcement of IP rights. Trust in competition between platforms would replace concern with the possibility that IP rights might at some future point give unwarranted power to the owner of a dominant platform. Interoperability would cease to be the paramount virtue, and would take its traditional place among the policies that IP seeks to promote.

What I see as the proper frame for platform policy draws equally from intellectual property (IP) and antitrust law. From IP – or, more precisely, property theory – comes the idea that property rights confer on their owners merely an *option* to enforce; they do not in any sense require or demand enforcement.²⁸ This means that policymakers need not be overly concerned with theoretical threats raised by the fact that some platforms, or some aspects of platforms, are subject to IP protection. They ought not fear, in other words, the mere *possibility* of ubiquitous or social welfare-damaging enforcement. And from antitrust comes the principle that in the first instance, “the consumer’s best friend” is competition, not regulation. Or, to put it another way, when there are concerns over the potential economic power of a platform owner, we need to look first to the possibility that competition at various levels will relieve the relevant concerns. Regulation is appropriate only *ex post*, and only as a fallback, in the rare case when competition does not for some reason do the job it normally does.

To summarize: property rights are options, placing in the hands of their owners the decision whether and how they are to be enforced. And competition between rival sellers is the first and best safeguard of consumer interests, with regulation a distant second.

Now, how do these principles interact; what is the relationship, and why does it matter for what I have called platform policy?

The answer, put simply, is this: the flexibility of property rights, combined with the desire of competitive sellers to gain market share and maximize profits, leads to a multitude of competing platform-based business

²⁸ This is related to the idea of property as a multi-dimensional institution. See for example legal theorist Lior Strahiloetz of the University of Chicago Law School and his concept of “hermit’s right” versus “bouncer’s right”. Lior Jacob Strahilevitz, Information Asymmetries and the Rights to Exclude, 104 Mich. L. Rev. 1835, 1839 (2006):

When the law grants an owner a right to exclude, it delegates authority over that resource to an owner or group of owners, who can decide whether to fence it off from the outside world or allow users to come and go as they please. These are in rem rights, good against the entire world, and the state will side with the owner when someone seeks to violate those rights. . . . This delegation to the resource owner can be advantageous for a host of reasons: it assigns the gatekeeper right to the party with the greatest incentive to exercise it in a wealth-maximizing way; it reduces the need to coordinate among multiple stakeholders in order to make decisions about how to use the resource; and it may maximize consumer options if different owners of fungible resources adopt varying exclusion strategies for optimizing the value of their property.

models. Though temporary advantages, often based on lead time and (usually limited) lock-in effects, may prevail for a time, the pressure of competition will usually erode this power in fairly short order. All of which significantly reduces the potential harm from ownership of property rights in various aspects of platform technologies.

A. Property Rights and Platform Technologies

The essence of a technological platform is that it can be accessed and used by many people. That's what makes it valuable: lots of people want to use it. But if access is crucial, why do property rights matter? If platforms are valuable because they are open and inclusive, what need is there for exclusive rights such as property?

The key is that property can be deployed *selectively*. As against the many consumers who want access to a platform, and whose adoption makes it more valuable, property owners are most welcoming. They choose not to exercise their property rights; in legal terms, owners waive their rights on a massive scale. A good example is the "pdf" format created and distributed by Adobe. Adobe figured out a long time ago there was much money to be made in championing and then essentially *giving away* a document viewing format that is simple to use and appealing to many people.²⁹ The gamble – which has paid off handsomely – was that widespread adoption of the pdf format as a technological platform or standard would lead to robust sales of Adobe's proprietary Acrobat line of software, useful in composing and editing documents in the pdf standard.³⁰

What then is the value of property rights for platforms? The value is in excluding *competitors*, of course. For as surely as Adobe wants to encourage

²⁹ For a detailed explanation of product strategy in the Adobe pdf case, and a systematic comparison of it to other "two-sided" network examples, see Parker and Van Alstyne, Two-Sided Networks, *supra* note 16.

³⁰ For a straightforward but detailed discussion of the economics of complementary goods in "lock-in" markets (i.e., platform settings), see Carl Shapiro and Hal R. Varian, Information Rules 159-162 (1999). See also Urs von Burg, The Triumph of Ethernet: Technological Communities and the Battle for the LAN Standard (2001), at 34 ("reliance on a single firm represents a bottleneck in the innovation process and a severe handicap in modular systems requiring a great diversity of capabilities"); Annabelle Gawer & Michael A Cusumano, Platform Leadership (2002), at Chapter 1, "Complementary Innovation".

users to adopt its pdf format, it wants to prevent competitors as much as possible from exploiting the popularity of the pdf format. If it could not keep competitors from copying all aspects of the pdf standard, or duplicating all Adobe products that work with it, its strategy would be an abject failure. You can get a sense of how important this is every time you open a pdf document, and a long list of Adobe patents scrolls by in the opening screen. These patents are obviously irrelevant to the average user; they are part of the bundle of rights that Adobe implicitly waives when it gives away the pdf format, saying “please use this!”³¹ The patents are aimed instead at competitors who might want to copy the functionality of Adobe’s complementary products, or who simply want some of the credit for sponsoring the free pdf format. (This is valuable too: imagine how much Adobe would have to pay for advertising that reached people as effectively as having its logo flash onscreen every time a pdf document is opened up!

Adobe has enforced some property rights against competitors in the past, and of course is free to do so again in the future.³² Indeed, to judge by its developer licensing agreement it has reserved at least one patent for potential use against competitors.³³ Adobe’s behavior here highlights a crucial feature of competition for platform leadership. Platform strategy usually revolves around not *whether* to be “open,” but precisely how open to be – which partners to let onto the platform, and how to attract adopters and customers so as to maximize profit. Even Carl Shapiro and Hal Varian, who must be counted as major advocates of openness, write in their book *Information Rules* : “If you control a key interface or bottleneck, you should open it up – **but on your own**

³¹ It is worth noting that on its website Adobe grants royalty-free licenses to software developers developing pdf-compatible software under most, but not all, of its patents. See http://partners.adobe.com/public/developer/support/topic_legal_notices.html (licensing U.S. Patent 5,860,074 to developers for “the sole purpose of developing software that produces PDF files,” but specifically declining to license this patent for creation of “software that consumes and/or interprets PDF files.” See also Edward R. Rowe, et al., “Method and Apparatus for Displaying an Electronic Document with Text Over an Object,” issued Jan. 12, 1999, assigned to Adobe, Inc. (describing sequential page downloading process, presumably a technique used in downloading files in pdf format, e.g., from within a web browser).

³² See “Settlement Reached in Adobe Suit,” May 26, 1998, avail. at http://www.typeright.org/suit_02.html (describing Adobe suit against competitor for copyright infringement involving Adobe’s copyrighted fonts).

³³ See note XX, supra.

terms and conditions.³⁴ The same theme is sounded by other commentators on platform competition; Gawer and Cusumano, for example, stress that “platform leaders . . . need to make decisions about the degree of modularity, the degree of openness of the interfaces to the platform, and how much information about the platform and its interfaces to disclose to outside firms – potential complementors who may also become competitors.”³⁵

Because platform leadership usually comes to those platforms that offer the greatest number of complementary products, every firm that controls a platform has good reason to encourage other firms to develop compatible products. But there is a razor-fine line between too little openness and too much. Choosing exactly which competitors to “let into the inner circle” of platform participation requires a very deft hand (and, to be truthful, perhaps some luck, which has been consistently identified as a component of the “path dependency” that leads to the widespread adoption of a standard). And from a legal perspective, there is one instrument above all others that best facilitates the fine-grained control that permits the careful management and tending required by effective platform strategy: property rights.

1) Property Rights, Strategies, Competition

The heart of property is well known: it is the right to exclude. This widely understood fact has led, however, to a widely shared misunderstanding – the idea that property rights, wherever they exist, somehow dictate highly exclusive behavior. The assumption is that property rights not only enable but inevitably lead to a great deal of actual exclusion; that property, where it exists, constrains its owners to operate primarily by excluding others. The power inherent in the right, in other words, leads people to assume that the rational person will maximally, incessantly, and perpetually deploy that power to the fullest extent possible.

This notion is fully manifest in many a discussion of platform policy and the role of IP rights, especially in Europe. The typical discussion proceeds along these lines: the author outlines the basic legal rights conferred by an IP entitlement; then describes the economic and technological basis for network

³⁴ Carl Shapiro and Hal R. Varian, *Information Rules* 248 (1999).

³⁵ Annabelle Gawer and Michael A. Cusumano, *Platform Leadership: How Intel, Microsoft and Cisco Drive Industry Innovation* 8-9 (2002).

externalities and widely-shared standards; then points out that the exclusivity inherent in property runs deeply against the grain of network logic. The “bottom line” proposal is often to limit the grant or deployment of property rights in settings characterized by network effects.³⁶ Limits at the grant stage may involve restrictions on the grant of property rights over standards;³⁷ regulation of standard-setting so as to offset the private power of individual property owners in the process; limits on the scope of property rights to facilitate widespread “interoperability”,³⁸ or regulation of the way that property

³⁶ See, e.g. Mikko Valimaki and Ville Oksanen, DRM Interoperability and Intellectual Property Policy in Europe, 11 Euro. Intell. Prop. Rev. 562-568 (2006). The idea that interoperability is a paramount policy and must be promoted by the legal system is codified in the French law that deals with DRM technologies. See generally Yves Gaubiac, “Technical Measures and Interoperability in Copyright and Related Rights Law,” UNESCO e-Copyright Bulletin, June 2007, avail. at http://portal.unesco.org/culture/en/files/34712/11901225931Mesures_techniques_YvesGaubiac_eng.pdf/Mesures_techniques_YvesGaubiac%20eng.pdf. Scholars in the U.S. have sometimes come close to this position, see, e.g., Mark A. Lemley & David McGowan, Legal Implications of Network Economics Effects, 86 Cal. L. Rev. 479, 533 (1998) (suggesting that, when returns to interface innovators are sufficient to provide “an adequate return to the initial creator even absent intellectual property protection,” interoperability ought to be thoroughly promoted, e.g., by raising patentability standards for programming interfaces); Pamela Samuelson, Software Compatibility and the Law, 38 Comm. of the ACM 15, 16, 21 (1995) (noting that copyright law does not protect internal program interfaces, and such protection may impede innovation of competing and complementary products); but for the most part U.S. scholars have rejected the extreme notion that copyright ought to be restricted in a way to promote interoperability at all costs. See generally David R. Owen, Note, Interfaces and Interoperability in *Lotus v. Borland*: A Market-Oriented Approach to the Fair Use Doctrine, 64 Fordham L. Rev. 2381 (1996) (describing a balanced view of the proper deployment of the fair use defense in interface cases).

³⁷ The proposed EC Directive on software patentability of 2005 (which eventually went down to defeat in 2005 in the European Parliament), for example, included “a blanket rule that patents cannot be used to prevent interoperability between computer systems.” See “Proposed directive on the patentability of computer-implemented inventions,” http://en.wikipedia.org/wiki/Proposed_directive_on_the_patentability_of_computer-implemented_inventions.

³⁸ See, e.g., Valimaki and Oksanen, *supra*; European Commission, “Commission sees need for a stronger more consumer-friendly Single Market for Online Music, Films and Games in Europe,” EC Doc. No. IP/08/5, avail. at <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/5> (“The Commission therefore seeks to establish a framework for DRM transparency concerning, amongst others, the interoperability of different DRMs, and ensuring

rights are deployed (i.e., licensed or waived) in situations where network effects are present.³⁹ The unifying theme, when the particulars are boiled down, is this: property rights are inconsistent with social welfare goals where standardized platforms are concerned.

2) Property Rights Facilitate Diverse Strategies

This section has one main point: that IP rights facilitate diverse strategies among firms in a competitive environment. To fully appreciate this, I need first to take a quick detour to discuss the idea of property rights (and IP specifically of course) as options.

a) IP Rights as Options

I have been arguing that IP critics make one fundamental mistake when they talk about the role of IP in platform markets. They focus on what might happen if all IP rightholders pursued a strategy of maximum enforcement.⁴⁰ They lose sight of a central fact: it is market conditions – most importantly, the demands of competition – that typically drive firm behavior, in markets

that consumers are properly informed of any usage restrictions placed on downloaded content, as well as of the interoperability of related online services.”).

³⁹ This is the essence of the European case against Apple Computer in the iPod/iTunes case.

⁴⁰ See, e.g., John T. Cross and Peter K. Yu, *Competition Law and Copyright Misuse*, 56 *Drake L. Rev.* 427, 430 (2008) (footnote omitted):

The emergence of new communications technologies and the proliferation of new copyrightable subject matters have led to the gradual expansion of copyright protection. The widespread use of mass-market contracts and alternative technological protection measures, along with the newly-instituted protection against the circumvention of those measures, has also greatly enhanced the market power of copyright owners.

Note the automatic assumption that stronger IP rights translate into greater market power. See also Sabrina Safrin, *Chain Reaction: How Property Begets Property*, 82 *Notre Dame L. Rev.* 1917 (2007) (arguing that property expansion is a reactive and self-perpetuating process, rather than a rational response to an increase in the value of underlying assets, a la Demsetz);

characterized by platform competition as in other markets. In this sense, they suffer from what might be called “legal centrism” – an excessive concern with legal *rights*, rather than competitive *realities*.⁴¹

The emphasis on acquisition and accumulation of legal rights *in vacuo* has the potential to divert attention from what really matters: the enforcement environment rightholders find themselves in. The chief factor in this environment, and thus the key determinant of rightholder enforcement (or deployment) decisions, is the competitive situation faced by the rightholder. This, and not the *potential* or *legally theoretical* set of rights it holds, will determine the rightholders’ actions in almost all cases.

Two related examples will suffice to show what I mean. The first concerns patent portfolios, large collections of interrelated patents typically held by large firms and covering a wide variety of technologies (including platforms). The patent portfolio literature can be said, in a way, to take as its starting point the fact of underenforcement – what is sometimes called the “patent paradox,” i.e., that firms acquire many patents despite the small likelihood that an individual patent will produce revenue or be enforced, and the general absence of value attributable to the marginal patent.⁴² According to Parchomovsky and Wagner, patent portfolios are valuable because they preserve firms’ ability to innovate in

⁴¹ A similar critique was recently leveled at the vast literature criticizing legal enforcement of online contracts. This literature starts from the proposition that customers faced with complex contracts in the online environment do not read or understand the terms they are agreeing to, and therefore these agreements lack the traditional element of true “assent.” See, e.g., Robert A. Hillman & Jeffrey J. Rachlinski, Standard-Form Contracting in the Electronic Age, 77 N.Y.U. L. Rev. 429, 478-86 (2002) (discussing rational, social, and cognitive factors that place consumers at risk from standardized internet contracts). In a recent critique of this literature, Ronald Mann and a coauthor find, based on empirical analysis of 500 online contracts, that sellers do not in fact include “pro-seller” terms, or even require explicit enough assent to insure online contracts are enforceable, nearly as often as the critics would predict. Ronald Mann and Travis Siebeneicher, Just One Click: The Reality of Internet Retail Contracting, 108 Colum. L. Rev. 984 (2008). The reason, the authors say, is that online retailers must balance enforceability and harsh contract terms against the ease of use of the website and the negative consumer reaction to harsh contract terms. The desire to maximize revenue, in other words, constrains the exercise of theoretically available legal power – which is exactly my point here.

⁴² Gideon Parchomovsky & R. Polk Wagner, Patent Portfolios, 154 U. Pa. L. Rev. 1, 5, 17 (2005) (summarizing the patent paradox). See also Mark Lemley, Mark A. Lemley, Rational Ignorance at the Patent Office, 95 Nw. U. L. Rev. 1495, 1507 (2001) (“[T]he total number of patents litigated or licensed for a royalty (as opposed to a cross-license) is on the order of five percent of issued patents.”).

numerous directions in the future. They also provide a hedge against various forms of uncertainty, particularly technological uncertainty – that is, they give a firm wide latitude to pursue a given technology along whatever growth and development path it happens to follow.⁴³ In a word, then, portfolios give firms *options*. The crucial thing to recognize, for present purposes, is an elementary fact of options theory: to have value, an option need never be exercised. Indeed, it is the idea that a certain contingency is guarded against, or provided for, that gives an option its value. Actual exercise – in the case of IP rights, actual enforcement – is not necessary for the right to have value. IP scholars often miss this point when they assume that the only way to realize the value of an IP right is to enforce it.⁴⁴

⁴³ *Id.*, at 38-40.

⁴⁴ The same general point lies behind the failure of “anticommons theory,” and perhaps “thicket theory” also, to predict actual firm behavior. Anticommons theory predicted a major bottleneck in fields where patents are becoming numerous and fragmented, yet the predicted slowdowns in R&D, innovation, and information exchange have failed to materialize. The simple explanation is that patents are enforced far less frequently than anticommons theory (implicitly) predicts they will be. See generally Lior Jacob Strahilevitz, *Information Asymmetries and the Rights to Exclude*, 104 *Mich. L. Rev.* 1835, 1850 (2006):

If a tragedy of the anticommons has failed to materialize, what explains this? It appears likely that the explanation stems from bouncer's right behavior by holders of the relevant patents, as opposed to hermit's right behavior. Intellectual property scholars have determined that major pharmaceutical and biotechnology firms are acquiring large patent portfolios as a means of trading with their competitor firms, engaging in transactions that permit both firms to engage in profitable lines of research. To be sure, these portfolios might be used to exclude new entrants in the biomedical industries, and in that sense a tragedy might arise. But, to date, the evidence appears to suggest that selective licensing through patent portfolios is helping firms in the industry avert a serious tragedy of the anticommons.

See also Christopher M. Holman, *The Impact of Human Gene Patents on Innovation and Access: A Survey of Human Gene Patent Litigation*, 76 *UMKC L. Rev.* 295 (2007) (noting “[t]he paucity of documented examples in which the fears surrounding gene patents [including anticommons concerns] have manifested themselves”); John P. Walsh, Charlene Cho, & Wesley M. Cohen, *View From the Bench: Patents and Material Transfers*, 309 *Science* 2002, 2002 (2005) (noting that bench scientists widely assume non-enforcement of patents against them in their academic research, and that this “norm” explains the failure of anticommons theory to predict actual developments in biotechnology research). Likewise, in network-oriented markets, Parker and Van Alstyne argue that strong IP rights on the part of a rational platform owner are critical in order to make the anticommons problem less severe. Specifically, the platform sponsor needs strong IP rights in order to coordinate downstream developers who, left to their own self-interests, would create an anticommons in second generation applications. The platform owner’s own

b) The Value of Optional Enforcement

Property rights over platform standards allow their owners to pick and choose who will have access to the platform – who will be let into the “inner circle” and who will be excluded. This is the optional nature of property rights. When multiple entities hold options, decisions about how to enforce them, and against whom, can become an integral part of the competitive dynamic. In the platform context, holding property rights on various aspects of the platform permits firms to compete on the basis of how open their platforms are.⁴⁵ One may choose not to license any other firm, and thus maintain tight control over access to the standard. Apple Computer has pursued this strategy with its iPod/iTunes/digital music product package.

Another firm might choose to license a small number of allies, building a relatively small “ecosystem” around their platform. This is what Research in Motion (RIM) did with its Blackberry operating system when it licensed a small number of select cell phone makers to include the OS on their phones.⁴⁶ Video game manufacturers do the same thing when they bring selected game developers into their “platform family.”⁴⁷

Other firms – sometimes in response to these strategies – may choose to throw their platforms wide open, by effectively waiving their property rights almost completely. Or they may choose to retain the right to enforce them against only those who directly compete – one option open to those firms that

self-interest ensures that downstream developers do not misuse their rights in a fashion that is locally optimal for them but globally sub-optimal for the platform. But, this would not be feasible without strong IP rights in the platform. See Geoffrey Parker and Marshall W. Van Alstyne, “Innovation, Openness and Platform Control,” Working Paper, July 24, 2008, avail. at SSRN: <http://ssrn.com/abstract=1079712> (hereinafter Parker and Van Alstyne, Innovation and Platform Control) (describing advantages of platform “sponsor” coordination of downstream development and stating, among other conclusions, that longer-duration IP rights for platform sponsors, as compared to downstream developers, may be optimal).

⁴⁵ For case studies on this issue, showing examples in which platform competition led to robust innovation, see Parker and Van Alstyne, Innovation and Platform Control, *supra* note 44.

⁴⁶ David S. Evans et al., *Invisible Engines: How Software Platforms Drive Innovation and Transform Industries* 181 (2006).

⁴⁷ David S. Evans et al., *Invisible Engines*, at 152-153.

pursue an “open but owned” strategy.⁴⁸ Thus even an “open” strategy need not be purely based on the complete absence of property rights.⁴⁹

Sometimes it makes sense for a private firm to join or champion a platform that is explicitly and formally open: the open source model. I have argued elsewhere that this might make sense as a reactive strategy, effectively offsetting fears that the owner of a proprietary standard platform will use its holdup power to extract excessive rents from others in the platform ecosystem.⁵⁰ This obviously lies behind IBM’s sudden evangelism over the Linux operating system in the early 2000s – an open source strategy adopted only when its own proprietary alternative to Windows was finally given up for dead. This strategy requires that the platform be turned into a free access public domain thoroughfare, with the profit strategy centering on lucrative ancillary businesses that “plug into” the platform, or depend on the public domain thoroughfare. IBM’s complementary, proprietary software and services clearly fit this description. Even here, however, IP rights play a crucial role. They are the mechanism by which a firm can assure its open source allies, and the users of the platform, that no proprietary rights will be used to execute a holdup strategy. Open source licenses assure users that no one who contributes to the platform can “propertize” any aspect of it. (Paradoxically, the right to exclude inherent in the property right can be used by the open source community to prevent a rogue open source contributor from trying to enforce IP rights in its contribution: the threat of exclusion, used to insure inclusion.) This amounts to a credible commitment that no member of the open source community can employ IP rights in a holdup strategy. This may have appeal where a competitor is seen as having the potential to deploy such a strategy; as such, it can be described as a clever use of IP rights to guarantee open access.

⁴⁸ This was the strategy that 3Com pursued in the late 1990s with its Palm handheld organizer. See David S. Evans et al., *Invisible Engines*, *supra*, at 168-170.

⁴⁹ For a systematic and analytic account of how platform owners can make downstream developers better off than a “purely open” standard, see Parker and Van Alstyne, *Innovation and Platform Control*, *supra* note 44. See also Thomas R. Eisenmann, Geoffrey Parker and Marshall W. Van Alstyne, “Opening Platforms: How, When and Why?,” Harvard Business School Entrepreneurial Management Working Paper No. 09-030 (Aug. 31, 2008), avail. at SSRN: <http://ssrn.com/abstract=1264012> (describing the general conditions under which firms at each “layer” of a complex network market decide on optimal degrees of openness).

⁵⁰ Robert P. Merges, *A New Dynamism in the Public Domain* 71 *U. Chi. L. Rev.* 183-203 (2004).

The table below summarizes these various strategies, and the role that IP rights play in each.

Platform Strategy	IP Deployment
Completely closed	Retain and enforce all rights
Semi-Open: “Trusted Circle”	Selective Waiver
Open	Waive (almost) all rights

B. Regulating IP Deployment: If You Must, Make it Ex Post

As I have argued, IP rights will not normally by themselves create anticompetitive conditions in the area of platforms. On occasion, however, a platform owner might find itself with some degree of durable market power, which IP rights could play a part in preserving or extending. The two crucial points to recognize are (1) that this will be a rare exception, and (2) it will usually be impossible to foresee in advance. Thus it makes no sense to enact a blanket prohibition on platform-related IP rights, or to codify an “exception” to conventional IP rules in favor of promoting interoperability. Significant barriers to interoperability will not normally exist, and when they do they cannot be expected to be apparent at the time an IP right is granted. Ex post regulation – regulation that specifically grows out of the deployment of one or more IP rights in a specific competitive situation – is a far superior alternative.⁵¹

⁵¹ This approach would militate against a provision such as the one suggested during the course of the (ultimately unsuccessful) European Software Patent Directive, which read:

Member States shall ensure that, wherever the use of a patented technique is needed for a significant purpose such as ensuring conversion of the conventions used in two different computer systems or networks so as to allow communication and exchange of data content between them, such use is not considered to be a patent infringement.

2) Ex Post Regulation: The Search for a Workable Approach

As I have argued, ex post regulation is really the only viable way to correct excessive market power conferred by IP rights in the platform context. The problem with this approach, however, is that it requires an enormous amount of information and even sound business judgment to implement properly. This is a tall order for any court.

Evidence for the difficulty of ex post regulation comes from the various remedies ordered in antitrust actions against Microsoft based on anticompetitive conduct surrounding the Windows operating system. One example from what could be many will show the point. In the U.S. antitrust case, the court was concerned that Microsoft might maintain the barrier to entry in applications programs by extending Windows' dominance onto mainframe "middleware" platforms. To prevent this, the court ordered that Microsoft make available to middleware software developers technical protocols that facilitate communication between Windows and the middleware environment.

While plausible in theory, this mandated licensing program has proven extremely difficult to implement. In a recent paper studying this phase of the Microsoft antitrust case, antitrust scholars William Page and Selden Childers state:

The protocol licensing requirement . . . did not respond to a proven violation and did not address technologies that were the focus of the liability phase of the case. Nor was there an independent showing of need for a forward-looking provision—evidence taken during the remedial phase of the case did not support compulsory licensing of protocols. Second, the court should avoid regulatory decrees, especially in high-technology markets. The protocol licensing program has become highly regulatory. The plaintiffs have directly supervised the price of the licenses and other terms of dealing. More important, they have regulated the quality of the product through complex testing. If these

Mikko Valimäki, Software Interoperability and Intellectual Property Policy in Europe, 3 Euro. Rev. Pol. Techs. 1, 5 (2005) (quoting a Working Document from the European Commission from 2005), avail. at http://www.politech-institute.org/review/articles/VALIMAKI_Mikko_volume_3.pdf.

characteristics appear in future monopolization cases, they should be treated as warning signs.⁵²

As this example shows, there are serious difficulties implementing competition-enhancing remedies that require mandatory interoperability. Perhaps these remedies are superior to a blanket remedy decreeing a platform no longer proprietary at all, but they do present a host of real problems that must be taken seriously before interoperability

4. Platform-Content Combinations

Contemporary scholarship worries a great deal about platform-content combinations.⁵³ Some observers of the IP scene argue that IP rights ought to be restricted or regulated when they might promote platform-content combinations that threaten the competitive balance in a particular industry. This is the theory behind various European regulatory initiatives with respect to Apple's integrated music system that combines the iTunes content portal and iPod hardware platform.⁵⁴ Though a minority view actually champions

⁵² William H. Page and Seldon J. Childers, *Software Development as an Antitrust Remedy: Lessons from the Enforcement of the Microsoft Communications Protocol Licensing Requirement*, Working Paper 2008, avail. at <http://ssrn.com/abstract=978815>, at p. 1. See also Press Release, Antitrust: Commission imposes €899 million penalty on Microsoft for non-compliance with March 2004 Decision, Feb. 27, 2008, avail. at <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/318&format=HTML&aged=0> (describing penalty levied against Microsoft after three years of contentious litigation over whether Microsoft's royalties for Windows interface information, and access to patents, was "reasonable" or not). See generally Robert J. Hart, *Interoperability Information and the Microsoft Decision*, 28 *Euro. Intell. Prop. Rep.* 361-365 (2006).

⁵³ For an overview of the economics of content bundling, which explains some features of record label-digital music platform deals, see Yannis Bakos & Erik Brynjolfsson, *Bundling Information Goods: Pricing, Profits, and Efficiency*, 45 *Mgmt. Sci.* 1613 (1999).

⁵⁴ See, e.g., Norway: Apple's FairPlay DRM is illegal, *MacNN*, Jan. 24, 2007, avail. at <http://www.macnn.com/articles/07/01/24/norway.rules.against.drm/>:

Norway today ruled that Apple's digital rights management technology on its iPod and iTunes store is illegal, following a report earlier this week that both France and Germany have also decided to go after

policies that promote platform-content integration, on the theory that this will facilitate the optimal production of compatible content,⁵⁵ most observers express real concern over business deals that tie together content and platforms.

As with IP protection for platforms themselves, I see little reason for *ex ante* concern with platform-content dealmaking. IP rights permit content owners to explore a wide variety of options: exclusive licensing with specific platform owners in some cases; time-limited exclusives; exclusives in some media but not others; etc. This competition, which IP rights makes possible, will resolve most concerns that scholars have shown with respect to content-platform dealmaking.

A. Case Study: Music DRM Systems

The controversy (especially in Europe) over Apple's iPod/iTunes platform, combined with its proprietary FairPlay DRM system, provides a good case study of some of the issues described in this section. I begin by describing Apple's IP position with respect to its platform, and then discuss how competitive forces in the music content industry have influenced Apple's overall strategy in this area.

Apple Computer was not particularly aggressive in acquiring or asserting patents over its iPod and iTunes products, but it has seemingly stepped up its activities in this area lately.⁵⁶ Many critics would no doubt be highly suspicious of any patent that covered crucial aspects of Apple's media platform, such as a communications protocol that allows the iPod to interact with other devices.⁵⁷ A patent like this would be subject to the same concerns that have arisen over

Apple's closed iPod/iTunes ecosystem. . . . [T]he Consumer Ombudsman in Norway has ruled that the closed system is illegal because the songs, encoded with Apple's FairPlay DRM cannot be played on any music device other than an iPod, breaking Norway's laws. "It doesn't get any clearer than this. Fairplay is an illegal lock-in technology whose main purpose is to lock the consumers to the total package provided by Apple by blocking interoperability," Torgeir Waterhouse, senior adviser at the Consumer Council, told the publication.

⁵⁵ Douglas Lichtman, Property Rights in Emerging Platform Technologies, 29 J. Leg. Stud. 615 (2000) (arguing that double marginalization and self-interested pricing decisions lead to less-than-optimal production of platform-compatible content, and therefore that policy ought to encourage integrated production of content and platforms).

Apple's proprietary FairPlay DRM: namely, that it could theoretically be used to restrict access to Apple's market-leading media player – in a word, that it works against “interoperability.”

[O]nline music services have emerged that allow permanent music downloads in an unprotected format, such as, for instance, Amazon's music store launched in September 2007. Further, some of the major music labels announced that they would make parts of their music catalog available to online stores in an unprotected format for a premium. Arguably, these developments are a response to interoperability concerns voiced by users and illustrate the market dynamics in the field of DRM interoperability⁵⁸

As long as there is competition *between* platforms for the distribution of content, consumers will be largely protected. Temporary lock-in, such as what we see with the iPod, may be a factor, but as competition among platforms

⁵⁶ See, e.g., Michael Rosenblatt, “Personal media devices with wireless communication,” U.S. Pat. App. 20080113614, published May 15, 2008, assigned to Apple Computer, Inc., avail. at <http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&u=%2Fmetahtml%2FPTO%2Fsearch-adv.html&r=10&f=G&l=50&d=PG01&s1=%22Apple+Computer%22.AS.&p=1&OS=AN/%22Apple+Computer%22&RS=AN/%22Apple+Computer%22> (describing addition to iPod of wireless capability for receiving information from local merchants, e.g., a song title and ordering information for customers using iPods while having coffee at a Starbucks coffee shop).

⁵⁷ This is not a strictly theoretical possibility. See Gregory Thomas Lydon, “Communication protocol for use with portable electronic devices,” U.S. Patent App. 20070271387, issued Nov. 22, 2007, assigned to Apple Computer, avail. at <http://appft1.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=2&u=%2Fmetahtml%2FPTO%2Fsearch-bool.html&r=97&f=G&l=50&co1=AND&d=PG01&s1=%22Apple+Computer%22.AS.&OS=AN/%22Apple+Computer%22&RS=AN/%22Apple+Computer%22>.

⁵⁸ Urs Gasser and John Palfrey, *Breaking Down Barriers: When and How ICT Interoperability Drives Innovation*, Berkman Center for Law and Society, Publication Series, November 2007, avail. at <http://cyber.law.harvard.edu/interop>, at p. 6. For a detailed discussion of Apple's strategy of exclusively bundling its DRM technology (FairPlay) to music content, and the antitrust actions brought by public officials and private parties in an effort to thwart it, see Nicola F. Sharpe and Olufunmilayo B. Arewa, *Is Apple Playing Fair?: Navigating the iPod FairPlay DRM Controversy*, Northwestern Univ. School of Law, Public Law and Legal Theory Series, No. 07-18, 5 Nw. J. Tech. & IP 331 (2007).

intensifies, lock-in will decline. This is because lock-in is a direct function of the cost of the platform, and competition among platform owners naturally and necessarily tends to reduce the price of a platform. This dynamic is evident in the current market for digital music, as a recent interview with Jeff Bezos of Amazon.com makes quite clear. Amazon's entry into the digital music business has been watched closely by the primary content owners – the big record labels – because it is seen as a crucial counterweight to Apple's dominance of the music platform market:

[Wall St. Journal:] Are you [Amazon] benefitting from the fact that the content companies, at least some of them, are not always very happy with Steve Jobs [of Apple]?

Mr. Bezos: I would frame it somewhat differently. I would say it is clearly in their enlightened self-interest to have a vibrant multitude of companies distributing their music. The music [intellectual property] owners are watching our growth rates very carefully. And I think they're very happy.⁵⁹

This is in keeping with other commentators, who have observed that competition among platform owners (and among the makers of complementary products, such as music content) is (1) pervasive, and (2) often underestimated by regulators, who tend to be blinded by market share numbers taken as a “snapshot” in a long and dynamic competitive process.⁶⁰ It is easy to look at these market share numbers, in conjunction with information about the IP rights held by a platform owner, and quickly conclude that the IP rights are

⁵⁹ Walt Mossberg, “The Way We Read: Amazon.com's Jeffrey Bezos on Why Books are Like Horses, Wall St. Journal, June 9, 2009, at p. R3, R10.

⁶⁰ See Robert Hahn and Peter Passell, Microsoft: Predator or Prey?, Economist's Voice (Berkeley Electronic Press), April 2008, avail. at <http://www.bepress.com/cgi/viewcontent.cgi?article=1335&context=ev>., at 1-2:

he real story here is the ever-briefer period in which companies with clear leads in technology and marketing seem able to sustain their advantages. As a consequence, antitrust policy built around traditional tests of market power are at best a way to keep lawyers well remunerated and, more likely, a significant barrier to productive change. While Microsoft's ongoing disputes with [European] regulators are many and varied, they generally follow from the company's past successes achieved at the expense of faltering rivals. . . . [W]hatever market power Microsoft possessed was already ebbing by the time the company became mired in battles with regulators over which software applications could be bundled with operating systems, and what sorts of proprietary information must be shared with rivals.

dangerous in the platform setting. But as the rapidly evolving digital music scene shows, it would be a mistake to make rash changes to IP policy here. Competition, and not interoperability mandated by weakened IP protection, or blanket ex post IP regulation, is the best guarantor of consumer welfare. Meanwhile, a firm like Apple may well need its patents to protect against technological incursions and to police the boundaries of its “inner platform circle.”

5. Refining Property Rights in the Platform Era: “The Right to Include”

I have tried to show throughout this paper that platform strategies take on many forms, and that IP rights help facilitate many of these strategies. One of the key points I have emphasized is that property rights are by their nature *optional* entitlements: there is no requirement that they be enforced to be valid or legitimate. As I hope I have shown, it is this flexibility that permits them to play a role in so many different platform strategies.

One strategy I have discussed is the strategy of complete openness – a wide scale waiver of rights. This is often associated with “open source” software development. One way to characterize what I have argued about IP rights as options is that they preserve the option of complete openness, while also of course keeping other options open. In this brief section I want to discuss how IP rights might be better structured to more easily accommodate decisions to waive rights broadly. Ideally, an effective waiver system would be available at the outset of a project, to assist in the ex ante dedication of a given work to the public; and in addition, it could serve to help a firm broadly waive IP rights after they have been acquired.

The desire to facilitate widespread dedication to the public is fairly well served now by private institutions such as Creative Commons.⁶¹ The advocates of openness are right that there are great private and social rewards from openness. My argument is that, in the main, conventional IP law promotes this worthy goal quite well; organizations such as Creative Commons take good advantage of these features of the law. But there are a few ways in which current law could do this better. Specifically, I believe we need better mechanisms for IP owners to credibly commit to openness, by waiving or dedicating IP rights to the public or to specific groups (e.g., users of a standard,

⁶¹ See www.creativecommons.org.

non-commercial users of content, etc.). IP law requires some modest revisions – at the level of both doctrine and statutory changes – to promote this important goal.

The basic problem is that Creative Commons and similar schemes rely on contract law for their legal effectiveness. Though contract is an incredibly flexible and robust legal institution, it carries with it some built-in limitations. The primary problem is that contract binds parties through mutual bilateral consent. So to be effective, a Creative Commons license must “flow through” or somehow apply to every “downstream user” who comes in contact with a piece of content whose authors wants it to carry Creative Commons licensing restrictions. To put it conceptually, there must be an unbroken chain connecting the creator of content with an ultimate user whose activities challenge the limitations meant to accompany that content. If licensing restrictions become severed from the content, the status of intended restrictions will become uncertain.

Some have argued that this defect can be cured by reconceptualizing Creative Commons and open source licenses as “covenants” that “run with” the underlying content. This is an interesting and useful construct that holds the potential to solve the problems that contracts create. It may at the end of the day be the best option for preserving the restrictions that creators want to accompany content.

But at least in theory, there is a superior alternative. It is to legislatively enact a scheme very much like the (private) Creative Commons idea. This would build a robust *and legally binding* waiver mechanism right into the very structure of IP law, rather than try to append techniques for waiver onto the existing structure of IP-rights grants. The basic concept is simple: harness the essence of a property right – that it is “good against the world” – to the desire of rightholders to (sometimes) effect a binding waiver of their rights. By building a binding waiver mechanism into the fabric of IP law, we will avoid the legal complexities of handling digital works that flow rapidly and pervasively among and between multiple users. And we will provide a single, unitary mechanism for public dedication, as opposed to the confusing welter of available licensing forms available now.⁶²

⁶² These points are made in Robert P. Merges, Robert P. Merges, *A New Dynamism in the Public Domain*, 71 U. Chi. L. Rev. 183 (2004).

At the theoretical level, the idea of building a robust waiver mechanism into the fabric of IP law is hardly radical. As I have argued throughout, waiver is intrinsic to property; it is the flip side of the enforcement option, always latent but always possible as a permitted strategy. Contemporary economic realities, particularly in the platform area, have highlighted the importance of waiver. So it makes sense now to attend to the need for an effective waiver mechanism. The ideal one would be codified in statute; would permit binding selective waivers (e.g., all “noncommercial uses” are permitted, or all uses by end users or consumers who do not directly compete with the IP owner); and would be backed by an online registry and notice system.

This simple structure would go a long way toward regularizing and institutionalizing an important aspect of property, what might be called “the right to include.” In the contemporary context, this is an important adjunct to the traditional idea of the core right of property, “the right to exclude.” The addition of a robust waiver mechanism would therefore bring conceptual symmetry while addressing an important economic need.

Conclusion

Proponents of interoperability have failed to realize just how much openness now prevails in digital media. The more content that is created and disseminated on an open access basis, the less a sweeping critique of IP-based based platform control is truly relevant. One canonical example of the open access phenomenon is, of course, the Creative Commons organization. What many fail to acknowledge is that this “anti-IP” organization is itself founded on widespread copyright licensing – on selective enforcement of IP right, in other words. And this model is now successfully competing with alternative, more “closed” content distribution models, also (of course) based on IP rights.

This is only one species of a larger class of developments relating to market competition with respect to digital works. As with companies that allow access to portions of their copyrighted works in order to expand the market for them, competition for sales of digital works will inevitably lead some sellers to a low transaction cost, open access business model. So we can state the overall phenomenon as one of market competition interceding to protect the interests of consumers. This serves as a mitigating force, intervening between the robust property rights regime and the practical interests of consumers. As I argued earlier, we should see market competition as a mediating factor which tends to put space between formal rights definitions and actual practices, or

“law in practice.” The lesson is simple: when we are considering the real world impact of a certain set of property rights and entitlements, we must be cognizant of market competition as a mediating factor. Otherwise, we are likely to fall prey to the fallacy that the “law on the books” will be enforced in all cases, and therefore lead to bad social consequences. Practically the only people who are really worried about platform IP rights creating systematic anticompetitive effects are those who fall prey to this fallacy. The rest of us can look at today’s experimental and variegated landscape, and declare instead that IP rights have created the foundation for a robust and competitive landscape that sure seems to be providing a lot of value to consumers. And isn’t that just the way it is supposed to work?