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William H. Page
University of Florida Levin College of Law, page@law.ufl.edu

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MANDATORY CONTRACTING REMEDIES IN THE AMERICAN AND EUROPEAN MICROSOFT CASES

WILLIAM H. PAGE*

I. INTRODUCTION

Violations of Section 2 of the Sherman Act often involve refusals to deal with rivals. The refusals may be primary, if the dominant firm denies its rivals access to a needed resource that it controls. Or the refusals may be secondary, if the dominant firm threatens to refuse to deal with upstream or downstream firms that deal with its rivals. The goal of any of these refusals to deal, if they are inefficiently exclusionary, is to destroy the rival or to limit its ability to compete by preventing it from contracting with vendors or outlets on beneficial terms. If successful, the harm to the rival may harm competition by preserving the defendant's monopoly power. Where a dominant firm's refusal to deal demonstrably reduces competition, courts may order the firm to contract or at least offer to contract. The American and European Microsoft cases resulted in several versions of this kind of remedy.

Mandatory contracting remedies are relatively rare for two reasons. First, refusals to deal are usually procompetitive. Competition only maximizes social welfare if firms can choose their trading partners and thus realize the gains from trade. Because of this dependency, antitrust has

* Marshall M. Criser Eminent Scholar, University of Florida Levin College of Law.


long recognized that firms have a qualified "right" to refuse to deal. The most famous expression of this right is the Colgate doctrine, which recognized the right of a trader "freely to exercise his own independent discretion as to parties with whom he will deal" so long as the trader does not intend to create a monopoly.\(^5\) More recently, the Supreme Court in Discon\(^6\) recognized that the "freedom to switch suppliers lies close to the heart of the competitive process that the antitrust laws seek to encourage."\(^7\) The same freedom provides the incentives for firms to enter markets where firms have gained monopoly power.\(^8\)

Mandatory dealing remedies are also rare because they are difficult to implement. In Trinko,\(^9\) the Court warned that mandatory dealing "requires antitrust courts to act as central planners, identifying the proper price, quantity, and other terms of dealing—a role for which they are ill-suited."\(^10\) Mandatory dealing may also cause unintended ill effects. The Court in Trinko noted, for example, that requiring a dominant firm to deal with rivals may give the firms perverse incentives either to reduce investment in "economically beneficial facilities"\(^11\) or to engage in "the supreme evil of antitrust: collusion."\(^12\) But there are other potential pitfalls. The remedy may require changes in the terms of dealing that are unwanted by the defendant's trading partners, unduly costly, or subject to manipulation by one side or the other.

Courts have sometimes tried to avoid the problems of mandatory contracting by imposing structural remedies that reduce firms' incentives to engage in the exclusionary conduct. For example, in the AT&T case, the court found that it would be impractical to draft an injunction "that would be both sufficiently detailed to bar specific anticompetitive conduct yet sufficiently broad to prevent the various conceivable kinds of behavior that AT&T might employ in the future."\(^13\) The structural consent decree, by contrast, was designed to limit the court's continuing regulatory tasks.\(^14\) In the U.S. Microsoft case, the vertical divestiture rem-

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\(^7\) Id. at 137.
\(^8\) Id. (observing that "the freedom of the individual right to contract when not unduly or improperly exercised [is] the most efficient means for the prevention of monopoly" (quoting Standard Oil Co. v. United States, 221 U.S. 1, 62 (1911))).
\(^10\) Id. at 408.
\(^11\) Id. at 407–08.
\(^12\) Id. at 408.
edy that Judge Jackson imposed in 2000,\textsuperscript{15} which the court of appeals later reversed,\textsuperscript{16} was designed in part to remove Microsoft's incentives to exploit its control over Windows to benefit its other products.\textsuperscript{17}

The history of structural remedies in public monopolization cases, however, has not been very encouraging.\textsuperscript{18} Structural remedies also require supervision, so they do not allow the court to escape the role of regulator. Moreover, structural remedies will often be impractical because, for example, the defendant is a unitary company.\textsuperscript{19} In other instances, particularly those in which the defendant was alleged to have illegally maintained monopoly power that it acquired lawfully, structural relief will be difficult to justify. In Microsoft, for example, the courts ultimately determined that the findings in the case did not warrant any form of structural relief, given the dearth of proof that Microsoft's actions, though illegal, had actually reduced competition.\textsuperscript{20}

Thus, the Microsoft court concluded that the only practical injunctive remedy was mandatory dealing, with all of its risks. The U.S. case rested on the charge that Microsoft had derailed a "platform threat" to its Windows monopoly. The idea was that an "applications barrier to entry" protects Windows from new rivals\textsuperscript{21} because most computer buyers will choose the operating system for which the widest array of applications is available.

\textsuperscript{17}Plaintiff's Memorandum in Support of Proposed Final Judgment at 14-15, 36, United States v. Microsoft Corp., No. 98-1232 (D.D.C. filed Apr. 28, 2000) (arguing that if the Windows business were separated from the applications business, the separated firms "will seek to maximize its own profits and will have incentives to ensure that its products interoperate with operating systems and applications produced by others"), available at http://www.usdoj.gov/atr/cases/f219100/219107.pdf.
available, and most developers will write to application programming interface\textsuperscript{22} of the operating system that has the most users. Netscape’s Web browser and Suns’ Java technologies were forms of “middleware” (applications with platform capabilities) that posed a threat to Windows, because they might have evolved into a rival dominant platform.\textsuperscript{23} If such a platform were to attract enough developers, it might erode the applications barrier to entry, because applications written to it could run regardless of the underlying operating system. The court of appeals affirmed holdings that Microsoft had thwarted this threat by contracts and design decisions that closed off the most attractive channels of distribution for Netscape’s browser and Java.\textsuperscript{24} The final judgments respond to these holdings by provisions aimed at preventing Microsoft from refusing to deal in ways that disadvantage its rivals, or from forming contracts that require or encourage its trading partners not to deal on favorable terms with Microsoft’s rivals. The goal of these mandatory dealing provisions is to encourage the sort of contracting that would both enhance wealth and make the market more competitive.\textsuperscript{25} The ultimate goal is to encourage the evolution of new platforms, thus reducing the applications barrier to entry.\textsuperscript{26}

In the European Microsoft case, the European Commission held that Microsoft had abused its dominant position in the operating system market in violation of Article 82 of the Treaty Establishing the European Community by tying the Windows Media Player to Windows\textsuperscript{27} and by refusing to provide interoperability information to rivals in the work group server market.\textsuperscript{28} The remedial order required Microsoft to “offer a version of Windows for client PCs which does not include Windows

\begin{itemize}
\item \textsuperscript{22} An application programming interface (API) is an interface that permits developers to provide convenient access to standard, low-level system functions.
\item \textsuperscript{23} D.D.C. Findings 1999, 84 F. Supp. 2d at 28–30.
\item \textsuperscript{24} D.C. Circuit 2001, 253 F.3d at 60–74.
\item \textsuperscript{25} See, e.g., Competitive Impact Statement at 3, United States v. Microsoft Corp., No. 98-1232 (D.D.C. Nov. 15, 2001) (stating that the judgments will benefit consumers by, among other things, “[e]nsuring that computer manufacturers have contractual and economic freedom to make decisions about distributing and supporting non-Microsoft middleware products without fear of coercion or retaliation by Microsoft, by broadly prohibiting retaliation against a computer manufacturer that supports or distributes alternative middleware or operating systems”), available at http://www.usdoj.gov/atr/\textasciitilde f222900/222994.pdf.
\item \textsuperscript{26} Id. (stating that the remedies would “restore the competitive threat that middleware products posed prior to Microsoft’s unlawful undertakings”).
\item \textsuperscript{28} Commission Decision 2004, supra note 27, ¶¶ 779–784.
\end{itemize}
Media Player” and to offer to potential rivals “complete and accurate specifications for the protocols used by Windows work group servers in order to provide file, print, and group and user administration services to Windows work group networks.” The EC’s decision was affirmed by the European Court of First Instance and Microsoft has agreed to drop any further appeals.

The remedies in the Microsoft cases also create institutional structures to implement the mandates. The U.S. judgments, for example, require Microsoft to provide information relevant to compliance to the plaintiffs, when requested, and to create internal enforcement mechanisms, including compliance officers. Because many of the mandatory dealing provisions raise complex technical issues, the remedies also assure that plaintiffs have access to the necessary expertise throughout the process. The consent decree provides for the creation of a Technical Committee (TC) of disinterested experts to supervise compliance. The European remedy required the appointment of a “monitoring trustee” to supervise enforcement of its order, a device the European Court of First Instance has now reversed. All of the plaintiffs and the actors within the enforcement structure can receive complaints and seek out information about Microsoft’s compliance.

We can gain some sense of the experience of enforcing these provisions through published accounts and, in the U.S. case, through the periodic reports of the parties to Judge Kollar-Kotelly. This experience provides some tentative conclusions about when mandatory dealing remedies are likely to be successful and when they are likely to fail and, in some instances, may shed light on the validity of the original liability rulings. Most of the terms have worked in the sense that Microsoft has

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29 Id. ¶ 1011.
30 Id. ¶ 999.
34 D.D.C. Consent Decree 2006, 2006 WL 2882808, at ¶ 8 § IV.B. Although the nonsettling states’ final judgment did not rely on the TC, the plaintiffs in that case have appointed a technical consultant, who had performed a similar role.
largely complied with them. They have not reduced Microsoft's dominant market share, but that is not a measure of the judgments' effectiveness. Some of the remedial provisions have altered terms of dealing and, in some instances, Windows itself, in ways that arguably have benefited consumers. Other provisions, however, have failed in the sense that they have required the creation of products and versions that few want. None, as yet, has failed in the sense that it has facilitated abusive contracting by Microsoft's rivals, but that remains a risk in the EC case.

II. REQUIRING MICROSOFT TO ALLOW TRADING PARTNERS TO DISTRIBUTE RIVAL SOFTWARE

Some of the liability holdings of the court of appeals in its 2001 opinion related to actions by Microsoft that expressly limited the ways in which Microsoft's trading partners could install or promote Netscape's browser in their products. (I defer until the next Part discussion of Microsoft's restrictions on deletion of the means of access to Microsoft's products, including Internet Explorer.) Consequently, some of the terms of the final judgments are expressly designed to protect the "freedom" of these trading partners to form productive agreements with producers of middleware that competed with elements of Windows. They aim "to end Microsoft's restrictions on potentially threatening middleware, prevent it from hampering similar nascent threats in the future and restore the competitive conditions created by similar middleware threats." These provisions contemplate that Microsoft will continue to deal with its trading partners, such as original equipment manufacturers (OEMs), but on terms that do not disfavor rivals that contract with the same trading partners. The strategy of the provisions is to constrain Microsoft's discretion and to increase its trading partners' discretion on critical terms of dealing.

Microsoft was held to have favored OEMs and other trading partners who cooperated with exclusionary measures and to have disfavored those who did not. Consequently, the final judgment prohibits

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36 In the competitive impact statement's description of the benefits of the proposed consent decree, the government repeatedly emphasized that the decree would give OEMs (and Microsoft's other trading partners) "freedom" to distribute, develop, or promote rival middleware. Competitive Impact Statement at 3-4, United States v. Microsoft Corp., Div. No. 98-1232 (D.D.C. Nov. 15, 2001), available at http://www.usdoj.gov/atr/cases/f222900/222994.pdf.

37 Id. at 24.

Microsoft from punishing OEMs and software or hardware developers for supporting rival middleware, although it allows Microsoft to compensate OEMs for specific promotional activities. It also prohibits Microsoft from paying its trading partners consideration for full or partial exclusivity, although it allows it to form productive joint ventures and to license intellectual property. The court of appeals also held unlawful license terms that limited OEMs' ability to modify the Windows interface, to install icons different in shape or size from Microsoft's, or to change a PC's initial boot sequence to promote rival products. These contractual provisions were exclusionary, the court found, because they amounted to limitations on the ability of OEMs freely to deal with Microsoft's rivals, and to sell them prime real estate within Windows. Consequently, the final judgments require Microsoft to allow OEMs to install icons, menu entries and shortcuts for non-Microsoft middleware, and to provide for automatic launches of rival middleware in place of Windows functions. Microsoft also must allow OEMs to provide users the option of launching rival operating systems ahead of Windows, and to include offers from Internet access providers in the boot sequence.

Various other provisions aim to prevent Microsoft from subverting these goals obliquely by pretextual terminations or coercive measures aimed at firms that deal with rivals. For example, Microsoft may not retaliate against OEMs for exercising their rights under the final judgments and must give them notice of the grounds for any proposed termination of an OEM's license so that the OEM can cure any violation of its terms. It must also provide Windows to OEMs under uniform li-

40 Id. at *3 § III.F.
41 Id. at *4 § III.G.
43 Id. at 62 ("The anticompetitive effect of the license restrictions is . . . that OEMs are not able to promote rival browsers, which keeps developers focused upon the APIs in Windows.").
44 D.D.C. Consent Decree 2006, 2006 WL 2882808, at *2 § III.C.1 (except that Microsoft may restrict including icons and entries in lists it legitimately specifies as providing "particular types of functionality").
45 Id. at *2 § III.C.2 (except where the shortcut would impair the functionality of the Windows interface).
46 Id. at *2 § III.C.3.
47 Id. at *3 § III.C.4.
48 Id. at *3 § III.C.5.
licenses, for a single published royalty, with some exceptions. In each of
these instances, the remedies try to preserve the integrity of the
mandatory dealing provisions without unduly hampering Microsoft’s
own ability to form productive contracts.

These provisions have raised few problems of compliance. Microsoft
created a new uniform license for all OEMs in 2001, which it has period-
ically updated. It has also created a royalty schedule accessible to all
licensees and has made market development discounts available to all
licensees on uniform terms. After an embarrassing incident in which
Microsoft included an exclusivity provision in a distribution of Windows
Media Player for portable music players, Microsoft detailed for the
court a program of extensive training for sales personnel in the obliga-
tions the final judgment imposes, and a system for antitrust compli-
ance review of contracts and Windows design. It has also revised its
OEM Preinstallation Kits for Windows to assure that OEMs have the re-
quise flexibility to add software and set defaults. Throughout the en-
forcement period it has responded to periodic complaints about the
implementation of various obligations.

These changes have apparently created a market for preinstallation of
programs on the Windows desktop. Microsoft recently reported to the
court the results of a study of new computers purchased on the open

50 Id. at 267–68, § III.B (except that it may charge different royalties for different lan-
guage versions, and may offer reasonable volume discounts, and “market development . . .
discounts” based on legitimate criteria).

51 Joint Status Report on Microsoft’s Compliance with the Final Judgments, at 19–20,

52 For example, Microsoft gives discounts to OEMs that promote Windows in advertis-
ing by including a “tagline” that the OEM “recommends” a specified version of Windows.
See Joint Status Report on Microsoft’s Compliance with the Final Judgments, at 6–7,

53 Joint Status Report on Microsoft’s Compliance with the Final Judgments, at 12–13,

54 Supplemental Joint Status Report on Microsoft’s Compliance with the Final Judg-
ments, at 10, United States v. Microsoft Corp., No. 98-1232 (D.D.C. filed Nov. 18, 2005),

55 Id. at 16.
56 Id. at 20.
57 JSR October 2004, supra note 52, at 11; Joint Status Report on Microsoft’s Compliance
with the Final Judgments, at 13, United States v. Microsoft Corp., No. 98-1232 (D.D.C.
58 See, e.g., id. at 14–15 (reporting resolution of an OEM’s complaint about customiza-
tion of the initial boot sequence).
market from seven leading OEMs. The study found that OEMs had preinstalled on the Vista desktop a variety of rival software, including media players, the Adobe Acrobat Reader, antivirus software, and games. Perhaps most significantly, five of the seven had installed Sun's Java Virtual Machine, which the government had alleged was one of the two principal forms of middleware that threatened the Windows monopoly. All but one of the manufacturers installed a rival search engine’s toolbar on Internet Explorer.

Interestingly, none of the manufacturers installed a rival browser, a point emphasized by the state plaintiffs that moved to extend the term of the final judgments. Why none of the OEMs preinstalls other browsers is not entirely clear. The OEMs apparently feel free to install other software that competes with Microsoft products. Dell, for example, has begun to offer machines with only the Linux operating system installed. It has not, however, preinstalled Mozilla's Firefox browser on new Windows computers, despite many requests on its Ideastorm user site that it do so. According to a notation on the Ideastorm site, the proposal to install Firefox has been “reviewed.” It may be that Mozilla will not pay for placement of its browser on the desktop, as other software developers presumably do. In any event, despite the lack of preinstallation, Firefox has grown significantly in popularity. Estimates of its usage share range from around 13 per cent to a high of around 25 percent.

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60 Id. at 6.
61 Id.
64 See Dell Ideastorm, available at http://www.ideastorm.com/article/show/62245/Have_Firefox_preinstalled_as_default_browser. According to this site, “Firefox advocates at Dell have initiated discussions and driven action around exploring alternative internet browsers and experiences.” Id.
There are a number of ways to evaluate the success of this category of mandatory dealing provisions. No one contends, apparently, that Microsoft actively tries to deter OEMs or other firms from installing or promoting rival software. Many software firms are able to gain prominent installation on the Windows desktop. These facts alone suggest that Microsoft has complied with the judgments and that no artificial barriers exist to initial installation on the Windows desktop. Moreover, this sort of mandatory dealing provision, which requires a firm simply to stop imposing specific restrictions on its licensees' dealings with other firms, poses few problems of enforcement.

The changes in the desktop are also consistent with the relevant liability holdings. For example, the Java Virtual Machine was one of the two critical pieces of software Microsoft was held to have hindered by illegal actions. A fully Sun-compliant version is now apparently installed on most new PCs. Rival media players, which were the subject of the European case, are also preinstalled on most PCs. The fact that consumers now receive these free applications with a new PC is a benefit. It is less clear that consumers benefit from preinstallation of large numbers of free applications. There are costs associated with excessive clutter, particularly when the "free" software consists of trial versions some have called "craplets." The fact that some OEMs are willing to sell space on the desktop to applications that many consumers find annoying suggests that the OEMs' incentives are not perfectly aligned with those of consumers.

III. REQUIRING MICROSOFT TO ALLOW OEMS TO DELETE OR HIDE WINDOWS FUNCTIONALITY

The courts in the U.S. case held that Microsoft had monopolized by adopting contractual and design measures that inhibited OEMs from deleting from Windows icons and other visible means of launching Internet Explorer (IE). It was illegal, for example, to impose license restrictions that prevented OEMs from hiding access to IE. It was also illegal not to include IE in an "Add/Remove Programs" utility and to "commingle" IE-only code in the same files as code for the Windows

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70 D.C. Circuit 2001, 253 F.3d at 60–62.

71 Id. at 65.
shell. Significantly, however, the court of appeals refused to condemn Microsoft's design of Windows to override the user's choice of a default browser in cases where Microsoft had a legitimate technical reason for doing so. The liability holdings rest on the finding that OEMs preferred to install a single browser on new machines, because installing more would confuse users and increase support costs. Thus, preventing OEMs from hiding IE inhibited them from installing Netscape's browser. At the same time, however, the court of appeals recognized that a design choice, like the default override, that had an indirect exclusionary effect was acceptable if there were legitimate technical justifications for it.

The decree's prohibitions and requirements attempt to strike a balance similar to the liability holdings. Microsoft must revise its OEM license and must provide a means, like an Add/Remove utility, for enabling or deleting access to certain Microsoft middleware. Microsoft must also allow OEMs to designate a rival middleware product to launch in place of Microsoft's middleware. Microsoft may, however, design Windows to invoke its own middleware to connect to a Microsoft server, or to accomplish functions that a rival product cannot. These orders are forms of mandatory dealing, because they define the terms on which Microsoft will deal with OEMs, specifically by requiring that OEMs be given flexibility, by contract and design, to delete portions of Windows. Microsoft has complied with these requirements by, for example, providing means within Windows Vista to define the preferred combination of program access and default settings not only for each machine but for each user.

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72 Id. at 65–66.
73 Id. at 66–67.
74 Id. at 64 (restating Judge Jackson's reasoning that "having the IE software code as an irremovable part of Windows meant that pre-installing a second browser would 'increase an OEM's product testing costs,' because an OEM must test and train its support staff to answer calls related to every software product preinstalled on the machine; moreover, pre-installing a browser in addition to IE would to many OEMs be 'a questionable use of the scarce and valuable space on a PC's hard drive'") (citation omitted).
76 The invocation must be in a "separate Top-Level Window" and display either the full interface or the MMP trademark.
77 D.D.C. Consent Decree 2006, 2006 WL 2882808, at *5 § III.H.2. Microsoft must ensure that Windows does not automatically alter an OEM's configuration of desktop icons without providing an unbiased option to the user, at least fourteen days after the initial boot-up, to confirm the change. Id. § III.H.3.
78 JSR October 2005, supra note 58, at 8–11. See also Joint Status Report on Microsoft's Compliance with the Final Judgments, at 19–20, United States v. Microsoft Corp., No. 98-
The final judgments in the U.S. case, however, do not require Microsoft to give OEMs or others the means to remove any significant part of the code constituting Microsoft middleware. Despite its holding that Microsoft had monopolized by commingling browser and OS code, the court of appeals agreed with Judge Kollar-Kotelly that the judgments properly did not require Microsoft to disentangle the code. It was sufficient that OEMs were allowed to delete icons and other visible means of access to the middleware's functionality. 79 Microsoft's actions preventing the deletion of Internet Explorer were held anticompetitive mainly because of the possibility that users would be confused by the sight of multiple icons for the same functionality. Thus, forcing OEMs to display IE supposedly deterred them from installing a second browser. But if the icons and other means of access were deleted, that deterrent would be removed as surely as if code were removed. Thus the final judgment “reduc[ed] the costs an OEM might face in having to support multiple internet browsers,” and it did so “without intruding itself into the design and engineering of the Windows operating system” 80 and without fragmenting the Windows API. 81

In the European Microsoft case, the EC found that Microsoft had abused its dominant position by refusing to offer OEMs a version of Windows without the Windows Media Player (WMP). The forced bundling of WMP with Windows, the EC reasoned, gave Microsoft an advantage over other player providers. Thus Microsoft was required to create a new version of Windows without its media player. 82 This order was also a form of mandatory dealing, but in this case the strategy was to require Microsoft to offer OEMs two versions of its product rather than provide the OEMs the means of customizing the product. The other key difference from the U.S. final judgments is that Microsoft was required not only to delete visible means of access to the player, but much of the code providing the player's functionality. The agency did not, however, require the unbundled version of Windows to be sold at a lower price; it was sufficient that it not be more expensive 83 or less functional. 84 Microsoft was also allowed to agree “with OEMs to pre-install Windows and [Windows Media Player] on a client PC in order to meet the corre-

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80 Id.
81 Id. at 1211–12.
82 Commission Decision 2004, supra note 27, ¶ 1011.
83 Id. ¶ 1013.
84 Id. ¶ 1012.

sponding consumer demand." Microsoft shipped "Windows XP N" in 2005 and later created "Windows Vista N." The Korean Microsoft decision reached essentially the same result and the same remedial order: Microsoft was required to create a version of Windows without the Windows media player for the Korean market.

Despite the differences in the U.S. and European remedies for bundling, the outcomes have been the same. Microsoft has successfully complied with both remedies. Otherwise, however, the remedies have failed. The unbundled version of Windows that Microsoft created for the European market has been a complete failure. Almost no OEMs even offered it as an option; one that did said there was no consumer demand for it. Although the corresponding U.S. remedy was presumably less costly to implement, it has fared no better. The study Microsoft commissioned of new Vista PCs, which found a range of third-party software installed on the desktops, also found that none of the OEMs had deleted any Windows middleware. The authors comment that OEMs "apparently want to provide consumers a choice between third-party alternatives and the corresponding functionality included in Windows, rather than only the third party alternative."

The outcomes of these mandatory dealing orders confirm Holmes's observation that we "need education in the obvious." In this case, the obvious proposition is that no one wants something with less functionality for the same price. If courts accept this proposition, they should no longer impose mandatory dealing remedies that simply require a firm to provide means to make its product less functional. More fundamentally, however, they should recognize that it is not unlawfully exclusionary to

85 Id. ¶ 959.
86 Paul Thurrott, Microsoft to Begin Selling Windows XP K and KN Editions in South Korea this Week, WindowsITPro, Aug. 23, 2006, available at http://www.windowsitpro.com/Article/ArticleID/93280/93280.html. The Korean case is slightly different in that even the standard versions of Windows will be required to include links to download rival products. Microsoft has also created K versions of Vista for the Korean market. See the Korean Vista site, http://www.microsoft.com/korea/windows/products/windowsvista/default.mspx.
88 Evans & Nichols, supra note 59, at 2.
89 Id.
90 OLIVER WENDELL HOLMES, JR., COLLECTED LEGAL PAPERS 292–93 (Harcourt, Brace & Co. 1920).
add functionality to a primary product when the functionality is free and when adding it does not physically exclude rival products.

IV. REQUIRING MICROSOFT TO PROVIDE INTEROPERABILITY INFORMATION TO RIVALS

All of the foregoing remedies required Microsoft to deal (or offer to deal) on specified terms with firms that provided a channel of distribution for Microsoft's rivals. The goal of these remedies was to prevent Microsoft from imposing terms of dealing that hindered the distribution or adoption of rival products through those channels. Another set of remedies, however, in both the U.S. and EC cases, sought to regulate Microsoft's dealings with rivals themselves to assure the rivals' applications could interoperate as well as Microsoft's own applications with Microsoft's operating systems. The simplest of these provisions is the U.S. requirement that Microsoft give developers early access to the application programming interfaces, or APIs, that Microsoft's middleware products use to interoperate with Windows. Judge Kollar-Kotelly refused to order the broader disclosures demanded by the nonsettling states, and the D.C. Circuit agreed, reasoning that "overly broad disclosure . . . could have adverse economic and technological effects, including the cloning of Microsoft's software." This provision has been enforced relatively easily, perhaps because Microsoft's entire business is built on promoting its APIs to developers. There have been a few disputes over the scope of the disclosures, but none that prevented Microsoft from achieving a level of compliance acceptable to the plaintiffs.

The other U.S. interoperability requirement, however, which Judge Kollar-Kotelly called the judgments' "most forward-looking provision" has been the most difficult to implement. The provision requires Microsoft to "make available" to software developers the communications protocols that Windows client operating systems use to interoperate "natively" (that is, without adding software) with Microsoft server operating systems in corporate networks or over the Internet. Microsoft must offer to license the intellectual property rights necessary

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95 D.D.C. Consent Decree 2006, 2006 WL 2882808, at *3 § III.E.
to implement this provision on nondiscriminatory terms, subject to certain limitations to ensure security. The immediate goal of the provision is to give developers who write applications for non-Microsoft server operating systems access to the protocols they need to interoperate with Windows client computers as well as applications written for Microsoft servers do. The longer-term goal is to preserve a "platform threat" to the Windows monopoly posed by middleware running on servers; such a threat, although not the subject of the government's case, was at least analogous to the one posed by Netscape's browser and Java. Judge Kollar-Kotelly suggested that this provision was important to assure that the remainder of the decree did not become "obsolete" as the computing market move toward server-based applications.

Seldon Childers and I have studied the implementation of the protocol licensing provision of the U.S. Microsoft case in some detail. We discovered that the implementation has been extraordinarily difficult and costly for both sides, with little to show for the expense. Few developers have taken licenses of Microsoft's communications protocols. At last count, the number was around forty, most of which are for very limited purposes, such as firewalls. When it first became clear that there were few licensees under the protocol program and still fewer who were producing products using the protocols, Judge Kollar-Kotelly expressed concern and urged the parties to make additional efforts to make the protocol program more attractive. Both sides have undertaken software development programs designed to prove that the documentation of the protocols is complete and clear enough to allow developers to implement them. Microsoft has provided extensive technical support at no charge and has provided other programs, such as plug-fests and an

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96 Id. at *5 § III.I.
97 Id. at *6 § III.J. Microsoft is only required to disclose its source code to the plaintiffs' Technical Committee, not to its rivals. Id. at *10 § IV.B.8c.
98 Id.
101 "Plaintiffs informed the Court . . . that Plaintiffs hoped to see progress in terms of additional licensees. The Court agreed, noting that it 'was very, very concerned' about how Section III.E. had been working and wanted to observe the impact of Microsoft's revised license in the marketplace." Interim Joint Status Report on Microsoft's Compliance with the Final Judgments, at 3–4 (citing transcript of July 24, 2003 status meeting), United States v. Microsoft Corp., No. 98-1232 (D.D.C. filed Oct. 17, 2003), available at http://www.usdoj.gov/atr/cases/f201300/201386.pdf.
interoperability lab, to try to help developers use the protocols in their own products. It has also, at the urging of plaintiffs, suspended royalties until the plaintiffs determine that it is in compliance with the disclosure requirement. These enforcement measures constitute price and quality regulation at a level few administrative agencies would undertake.

The protocol program has achieved some success in the sense that the protocols are extensively documented and capable of implementation in other firms' products. Microsoft has suggested that it was "unaware of any existing or potential licensee that has been unable to use any Communications Protocol because of flaws in the technical documentation." But the program has not been very successful in attracting actual users. Childers and I suggest that the reasons for the failure of the program were evident from the outset and should have been viewed as warning signs. Judge Kollar-Kotelly recognized in her 2002 opinions that "[t]here are a variety of methods used to overcome differences between client and server capabilities" apart from native interoperation. Developers could, for example, use the industry-standard protocols supported in Windows. Alternatively, they could add new software to the Windows client, thereby allowing interoperation through the Windows API. These ways of achieving interoperability would normally be more attractive than paying Microsoft royalties to use its proprietary protocols. Open-source rivals, for example, by their very nature, would never pay a license fee for proprietary technology to be used with their products.

Our findings are consistent with the trends the parties have identified in filings with the court on the accomplishments under the final judgments. Microsoft has submitted, and others have observed, that Microsoft's products face growing competition from network-based software. Interestingly, however, the competition comes from Web-based services that can be accessed by any browser that supports industry-standard Web protocols. These products include Web-based office suites, gaming sites, social networking sites, and many more. Thus, the parties who negotiated the consent decree and the courts that approved

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it correctly predicted that the market would move toward cross-platform, network-based applications in ways that held promise for reducing the applications barrier to entry. They were wrong, however, about the form that the movement would take. The leading market actors have opted for standard protocols rather than for licensing Microsoft's protocols under a system of mandatory dealing.

These developments, like the failure of the unbundling requirements described in the last Part, suggest that courts should ordinarily not impose mandatory dealing remedies unless there is good evidence that the products that are the subject of the desired contracts are actually needed. One way of identifying need is to focus on the conduct the court actually held illegal in the liability phase of the case. When a dominant firm illegally refuses to deal, there is reason to believe that the products or services that were the subject of the refusal were also needed for the victims to compete in the market. If the proposed remedy is "forward-looking," or otherwise designed to regulate conduct that was never held illegal, the court should require convincing evidence that there is a need for the goods and services that will be the subject of the mandatory dealing order. In the U.S. Microsoft case no adequate inquiry occurred about the need for the protocol licensing provision. Having decided that the middleware that was the subject of the government's case was no longer a threat, the government sought to identify the most likely future threat and focus the final judgments on insuring that that threat remained viable. Any such undertaking should demand new and convincing evidence.

For the same reason, the judgments should not be extended simply because it is difficult to predict from which quarter the next threat will emerge. John Kwoka, one of the state's experts in the recent proceedings on whether to extend the final judgments, made the following observation:

The anticompetitive acts for which Microsoft was found liable involved the undermining of a specific and, as it turns out, unusual competitive threat. This is unlike many antitrust violations that involve on-going and routine market events so that prohibiting the offending behavior may restore ex ante conditions and thereby restore competition on the merits. In the present case, even if prohibitions were to restore the conditions permitting entry, entry may not follow: The specific competitive threat that gave rise to the violation may no longer exist or may be significantly diminished. In that case restoration of competition may require awaiting the emergence of another equivalent threat. But that is an inherently unpredictable event, made even more so to the
extent that network effects and other heightened barriers entrench the incumbent monopolist.\textsuperscript{103}

Kwoka infers from these conditions that the final judgments should be extended five years to enhance the probability that a new, as yet unidentified competitive threat will emerge. First, it is not clear that Netscape/Java ever was the transformative technology that Microsoft feared that it was. The courts recognized that there was little evidence that these technologies would really have become a significant platform rival had Microsoft limited itself to lawful competitive responses. Even if Microsoft's illegal actions thwarted that threat, Kwoka's argument acknowledges that it is impossible to know what the next new, transformative technology will be. The experience of the enforcement of the decree suggests that the courts and the parties are poor predictors of the course of technology. The most important rivals may well emerge from technologies—Web services, Linux, and Apple's new operating system, for example—that the final judgments do not address.

In the European Microsoft case, the Commission and the Court of First Instance did find that Microsoft's refusal to provide "interoperability information" to its rivals was illegal. Thus, its order that Microsoft license the protocols it uses in the workgroup server market would appear to pass a need test. Indeed, the EC only began its investigation of Microsoft's actions in the workgroup server market after Sun Microsystems asked Microsoft for access to the information necessary for Sun's servers to interoperate fully with Microsoft operating systems in heterogeneous networks. Much of the EC's opinion and that of the CFI are devoted to explaining why the information the EC demanded Microsoft disclose is necessary for firms to compete effectively in the workgroup server market.

Despite the EC's findings of need, however, the disclosures it required are questionable. The U.S. Supreme Court has observed, "The unilateral termination of a voluntary (and thus presumably profitable) course of dealing [may suggest] a willingness to forsake short-term profits to achieve an anticompetitive end."\textsuperscript{106} But in the EC Microsoft case, the information the agency ordered disclosed had never been the subject of a disclosure program. Microsoft had, of course, disclosed other informa-


tion related to interoperability in earlier years. For example, in 1994, Microsoft gave AT&T access to certain Windows source code to aid in the development of Advanced Server/Unix, or AS/U, which allows a UNIX server to join a Windows network and interoperate with Windows clients. An AS/U server appears on the Windows network as a Windows NT 4.0 file server. Windows clients, therefore, can map folder shares on the UNIX AS/U server to drive letters in their Windows Explorer and can send jobs to printers attached to the UNIX server as though they were attached to a normal Windows NT 4.0 file server. The AS/U server can even participate as a domain controller.

Microsoft did not repeat this strategy with its later server operating systems. Consequently, AS/U software has not been updated to provide more recent Windows server support, such as Windows Server 2000 or Windows Server 2003. AS/U servers can, however, join Windows Server 2000 or 2003 networks as Windows NT 4.0 servers. The EC characterized the decision to not update the AS/U software as "a disrupt[ion of] its previous levels of supply" that is "one factor relevant to the assessment of Microsoft's refusal to supply."

Against this background, according to the court, Microsoft's decision later to deny access to the protocols associated with its new technology was an abuse of dominance, which justified a mandatory dealing order. The most important new Microsoft server technology is Active Directory, which allows servers to verify user access to files and network resources. Active Directory technology represents Microsoft's main innovation in server technology, one that the open-source Samba project has not cloned yet, although it may be getting close.

The EC concluded, and the CFI agreed, that the necessity of access to the Active Directory protocols constituted an "exceptional circumstance" justifying an order requiring licensing of Microsoft's intellectual property. Under the recently announced settlement between Microsoft and the EC, Microsoft will license its intellectual property, other than patents, for a
nominal one-time fee of €10,000; patents would be licensed for a nominal royalty.\(^{115}\)

There are a number of troubling aspects of this mandatory dealing order. First, Microsoft's earlier provision of source code to AT&T was quite different from the provision of communications protocols to Sun and others. The earlier AS/U disclosures were "interoperability information" in a broad sense, but not communications protocols, which were the information that the EC ultimately ordered Microsoft to disclose. Thus, the EC's order did not reinstate a pre-existing profitable relationship. Moreover, the earlier disclosures were expressly intended to bring about the cloning of Microsoft servers, because the AS/U servers were built on the same code base as Microsoft servers. Microsoft's decision to authorize that sort of cloning, under very different market circumstances, does not provide a market test that an order mandating disclosure of communications protocols, but not source code, will be productive.

Second, it is possible that the order will facilitate cloning of Microsoft's products. In the CFI proceedings the EC insisted that its disclosures would not necessarily allow rivals "to reproduce [Microsoft's] 'interoperability solutions.' What matters is that they are able to achieve an equivalent degree of interoperability by their own innovative efforts."\(^{114}\) A rival would be entitled to disclosures that permitted its server to act, not as a clone, but as a "functional equivalent," that is "a system that can provide the appropriate response to a specific request under the same conditions as that Windows operating system and can make a Windows client PC or server react to its messages in the same way as if they came from that Windows operating system."\(^{115}\)

The EC distinguished "specifications" and "implementations."\(^{116}\) Thus, Microsoft need only disclose the specifications of the functionality that the protocol permits, not its own implementation of that functionality or its source code. The licensee then must use the specifications to "innovate" and create its own implementation. "Thus," the EC reasoned, "the interoperability information at issue will be used by Microsoft's competitors not to develop exactly the same products as Microsoft's, but

\(^{115}\) See Lohr & O'Brien, supra note 32.

\(^{114}\) CFI Decision 2007, supra note 31, ¶ 140.

\(^{116}\) Id. ¶ 142 This is apparently also what the Commission and the CFI mean by "two-way" interoperability (¶ 226)—the disclosure must be sufficient to allow the licensee's product not only to do what it was designed to do within a network, but also to do everything that Microsoft's products do.

\(^{116}\) Id. ¶¶ 199–200.
to develop improved products, with ‘added value.’”\(^{117}\) So long as the rival’s implementation involves a degree of innovation, apparently, it is merely a “functional equivalent” of Microsoft’s server, not a clone.

Through this distinction, the EC and the CFI seem to be defining a “clone” as a line-by-line copy of Microsoft’s implementation. The CFI even asserted that Microsoft’s rivals would have no “interest in merely reproducing Windows work group server operating systems”:

> Once they are able to use the information communicated to them to develop systems that are sufficiently interoperable with the Windows domain architecture, they will have no other choice, if they wish to take advantage of a competitive advantage over Microsoft and maintain a profitable presence on the market, than to differentiate their products from Microsoft’s products with respect to certain parameters and certain features. It must be borne in mind that . . . the implementation of specifications is a difficult task which requires significant investment in money and time.\(^{118}\)

Consider, however, Judge Kollar-Kotelly’s definition of cloning in her remedial opinion in the U.S. case, which rejected proposals for extensive disclosure on the ground that it would facilitate cloning:

> By cloning, the Court means the creation of a piece of software which replicates the functions of another piece of software, even if the replication is accomplished by some means other than the literal repetition of the same source code. In most instances, where a clone is created without a copyright violation, the clone emerges from a process of reverse engineering—which consists of the study of functionality in the original product and the attempt to produce a product which accomplishes the same end. The process of cloning the functionality of a competitor’s product is usually an expensive and time-consuming undertaking which, if successful, will enable the cloned product to function as a replacement for the original product. To impose a remedy which facilitates the cloning of Microsoft’s products—far simpler task than the creation of a new product—would provide a windfall to Microsoft’s competitors.\(^{119}\)

Functional equivalence, the definition of interoperability that the commission and the CFI adopt, is cloning as Judge Kollar-Kotelly uses the term. The disclosures the EC requires will facilitate reverse engineering that could allow duplication of functionality at a lower cost than Microsoft’s. Contrary to the EC’s assertion, accepted by the CFI in the passage quoted above, a rival would have every incentive to engage in

\(^{117}\) *Id.* \(\uparrow \) 221.

\(^{118}\) *Id.* \(\uparrow \) 658.

simple cloning, regardless of whether the rival added value, because its cost advantage might allow it to compete with Microsoft on price alone.

The EC decision explicitly defines the interoperability information that Microsoft must disclose to include the protocols for Active Directory.\textsuperscript{120} Those disclosures, moreover, must be sufficient to allow a non-Microsoft server to act as a domain controller, and not merely as a member server, within a Windows domain using Active Directory.\textsuperscript{121} Microsoft argued that "in order for a domain control running under a non-Microsoft work group server operating system to be capable of being placed in a 'blue bubble' composed of domain controllers using a Windows work group server operating system employing Active Directory, those different operating systems must share the same internal logic."\textsuperscript{122} Thus, Microsoft claimed, to achieve functional equivalence for these advanced tasks, it would be required to reveal the internal algorithms of Active Directory, which are a proprietary competitive advantage for Microsoft. The CFI found that Microsoft had failed to prove this.\textsuperscript{123} Tellingly, however, it hedged this finding by stating that "Microsoft would

\textsuperscript{120} CFI Decision 2007, supra note 31, ¶ 195.
\textsuperscript{121} Id. ¶ 233.
\textsuperscript{122} Id. ¶ 262.
\textsuperscript{123} Id. ¶¶ 263–264. This is a fundamental point, which the CFI resolved against Microsoft. In the hearings before the CFI in 2006, John Shewchuk, a senior Microsoft Engineer, made the blue bubble argument in a PowerPoint presentation. Minutes of Proceedings, Day Three, Microsoft v. Comm'rn of the Eur. Cmty., Case T-201/04, Ct. of First Instance of the Eur. Cmty., Apr. 26, 2006, at 18 ("What we are seeing in the blue bubble here is that they will all be twins. They will have identical logic. Each makes assumptions about the way other servers will work."). On the next day, Andrew D. Tridgell, the founder and lead computer scientist of the Samba project contradicted this claim, stating, "What the blue barrier represents is a bubble of secrecy. The protocols used inside that blue bubble are exactly the same in nature as the protocols used in other parts of Microsoft's Active Directory infrastructure." Minutes of Proceedings, Day Four, Microsoft v. Comm'rn of the Eur. Cmty., Case T-201/04, Ct. of First Instance of the Eur. Cmty., Apr. 27, 2006, at 11–12. He further argued, based on the Samba team's analysis, that these protocols are not "inseparable" or "close-knit." Id. at 12. Because Active Directory is on all the "key servers" in corporate networks, the secrecy of its protocols gives Microsoft "a massive amount of leverage over its competitors." Id. Shewchuk responded that similar logic among Active Directory servers allows them to make efficient assumptions about each other, particularly when one drops off the network and the remaining servers must calculate a "spanning tree." Id. at 42–44. A non-Microsoft server, according to Shewchuk, would lack the parity of process with Microsoft servers, and would not be able to perform this function. He testified, "In order for me to have someone work with me inside the service boundary, they would need to have this same algorithm. That would mean I would have to explain to them how to create this map when they saw this information. I would need to disclose the same identical logic, the same internal information, so that they could calculate the map in the same algorithm." Id. at 44–45. He observed that all server vendors (IBM, Sun, etc.) rely on homogeneous networks within their corresponding blue bubbles. Id. at 42–43. Dr. Tridgell did not address the specifics of this argument. Who is right in this dispute will depend on what happens in the implementation of the EC order. For further discussion of this issue, see William H. Page & Seldon J. Childers, Bargaining
not be required to give any information about the implementation of [a critical] algorithm in its work group server operating systems, but could merely give a general description of [the] algorithm, leaving it to its competitors to develop their own implementation of it.\textsuperscript{124} This passage requires Microsoft to facilitate cloning under Judge Kollar-Kotelly's definition. It is likely that, in the implementation of the disclosure requirement, Microsoft's "general description" of an algorithm will only be adequate if it permits a rival to reverse engineer its functionality.

It is possible, of course, that the disclosures required by the EC will have as little market impact as the disclosures required under the U.S. final judgments. The patent licensing provision, even at the much-reduced royalty rate, may be incompatible with open-source licensing and thus may not benefit Samba, the leading open-source server project, whose technology provides the basis for many of Microsoft's rivals' products.\textsuperscript{125} Nevertheless, the risk of cloning remains.

V. CONCLUSION

Microsoft's market share in PC operating systems has not changed significantly since the entry of the final judgments in the U.S. case. One might view Microsoft's continued dominance of the OS market as an indication that the U.S. final judgments have failed to achieve their objectives. But the court of appeals in the U.S. case recognized, and Judge Kollar-Kotelly confirmed, that there was scant evidence that Microsoft's illegal actions had actually prevented the emergence of a rival platform. Thus, it is not surprising that, even without illegal conduct, no rival middleware platforms have emerged. Equally important, the final judgments were never intended to assure the emergence (or resurgence) of rivals in the operating systems market itself. By and large the remedial measures were intended to remove contractual and design measures that the court had found imposed artificial barriers to Microsoft's middleware rivals. In this more modest goal they have succeeded. If the conduct that was found illegal has been removed, then the market itself—a revived Apple, Linux, and Web services, to name a few—should determine the durability of the Microsoft monopoly. The failure of the forward-looking provisions in the final judgments suggests that the courts and the plaintiffs are unlikely to do the job better.


\textsuperscript{124} \textit{CFT Decision 2007}, supra note 31, ¶ 265.
