



RE-THINKING *U.S. v. MICROSOFT* IN LIGHT OF THE E.C. CASE

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(not meant for publication – do not quote)

If there is an icon, if there is a symbol, for the decade of the 1990s in the United States, it is Bill Gates and his Microsoft Corporation. A symbol for the best and the worst of those times. At best Bill Gates symbolized the possibility of success beyond the wildest dreams of a software nerd who quickly left university to go home, home to the garage culture of Seattle – with its coffee bars, its software buzz and its punk rock. Everyone, it seemed, wanted to be like Bill. Again, at best, Microsoft developed a software platform that catapulted Personal Computing into a worldwide technology for the information age. But there was the dark side: At worst, Microsoft wielded its Windows monopoly like a sword in a succession of predatory excesses not seen since the heyday of John D. Rockefeller and his Standard Oil Company. Both Gates and Rockefeller created networks for national distribution, one a physical network for petroleum transport and the other a virtual network for software standards. And both abused the economic power that network ownership created, according to the Justice Departments and federal courts of their eras.

But the similar means did not lead to similar ends. Whereas Standard Oil was broken up into 33 companies, Microsoft remains intact. Why was Microsoft not broken up into 2 firms, one with the intellectual property rights to Windows and the other to the applications software, as the Justice Department and 20 states demanded? Or 3 firms, each with all of Microsoft's intellectual property rights, three Baby Bills, as called for by laissez-faire advocate turned Netscape counsel Robert Bork? How is it that

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Microsoft faces E.C. investigation as a single firm?

According to the tenets of réal-politique, the answer may be that a presidential election, and its aftermath, produced a new administration with a dirigiste ideology hidden behind the rhetoric of laissez-faire. That is an easy answer and, perhaps, the right one. We can pursue that possibility over cocktails later this evening, should you care to.

In my view, however, that answer is too easy because it does not take into account the U.S. Government's approach to the Microsoft case and its limitations. Those limitations took a strong case on the facts and made it a hard case on the law and, finally, a disappointing one on the remedy. The E.C. case against Microsoft casts a sharp light on the U.S. Government's approach and its limitations. In that light, I want to re-examine three issues.

First, I will contrast the two approaches: Although the U.S. case included three claims, only the monopolization claim was ultimately successful. Even there, the Court of Appeals agreed with Microsoft that the Antitrust Division offered no theory of causation for its claim that Microsoft protected its Windows monopoly by maintaining the applications barrier to entering the OS market. In the E.C. case, the Commission repeatedly asserted a leverage theory of causation for its claims that Microsoft abused its dominant position in the operating systems market by seeking to dominate two adjacent markets. The central issue in both cases is the economics of leveraging, articulated in the E.C. case but repressed in the U.S. case. And so I will talk about leverage theory in the U.S.

Second, I will examine Microsoft's longstanding strategy of software integration, its purposes and its effects, particularly its impact on software developers. And so I will talk about attitudes toward integration in the U.S.

Third, I will contrast European and U.S. approaches to interoperability. Both the E.C. case and the U.S. remedies reflect positions regarding Microsoft's obligations to license and to provide information to competitors who produce software that must work efficiently within the technical standards defined by Microsoft Windows. Here, both antitrust and intellectual property policies about compulsory cooperation and compulsory licensing come into play.

But before turning to these three issues, I want to quickly recap the U.S. Government's antitrust litigation against Microsoft. It all began in 1990 with an extensive but inconsequential FTC investigation. The Justice Department took up where the FTC left off, actually making use of the FTC's documents to kick-start its own investigation. The Department of Justice filed two monopolization cases, the first in 1994 and the second in 1998. Both cases were ultimately settled, the first before trial and the second after trial but in the remedy stage. Some time after settlement of the first case, the Justice Department filed an action alleging that Microsoft violated the settlement agreement by bundling Internet Explorer with Windows 95. The trial court judge agreed with the Justice Department, but the Court of Appeals reversed the decision on the grounds that Microsoft's bundling was effected not by contractual tying but by software integration, which was permitted by the consent decree. This outcome was an embarrassment to the Justice Department because it had been outmaneuvered by Microsoft.

While this was going on, the Justice Department, joined by 20 states, filed its second *Microsoft* case, which involved Windows 98. There was a 76-day trial, with extensive coverage by news media in the U.S. The judge issued 412 findings of fact and, after the parties failed to reach a brokered settlement, the judge concluded that Microsoft had violated the Sherman Act by engaging in a predatory course of conduct.

The government's theory of the case was that Microsoft illegally maintained its Windows monopoly by excluding entry of Netscape Navigator, JAVA, and other middleware threats to its dominance of the market for operating systems running on PCs with Intel-compatible processing technology. Although Netscape Navigator got the most attention, JAVA was actually the greatest middleware threat.

Middleware is an additional layer of software that functions as an intermediary between operating systems and applications programs. In the absence of middleware, the great majority of software developers were writing applications for Windows rather than other operating systems because the Windows customer base promised far and away the largest market for their programs. Microsoft recognized that, without this enormous Windows library of applications programs – 70,000 of them, customers would have no good reason to choose Windows over faster, cheaper and more stable operating systems, such as Linux for example.

But middleware, especially JAVA, threatened this library – this overpowering reason to choose Windows. JAVA was designed to run not only on Windows but on 16 other operating systems. JAVA replaced, with its single set of APIs – its own applications program interfaces – the 17 sets of APIs needed to run in the individual operating system environments. As a result, writing for JAVA would be like writing for 17 operating systems at the same time. Should software developers begin to write for JAVA, a common library of applications programs would develop without regard to the underlying operating system. Indeed, neither PC users nor applications developers would care about the underlying operating system. JAVA might become the new industry standard and Windows would become as irrelevant as the brand of RAM or hard drive working unseen inside a PC. Microsoft's conduct was multi-faceted and the facts were complex but its purpose for eliminating the middleware threats was as simple as that. The government's monopolization claim succeeded at trial and was affirmed by the Court of Appeals.

The trial court also held that Microsoft attempted to monopolize the market for web browser software and illegally tied Internet Explorer to Windows. But the government spent little time and effort developing these claims. Trial transcripts of the Government's closing argument, for example, show that these two claims were barely mentioned. Indeed, the Court of Appeals found significant shortcomings and reversed the trial court's holdings in both the tying and attempt to monopolize claims. There were a number of inter-related reasons for reversal. But they can be summarized as follows: The attempt to monopolize claim failed because the Court of Appeals determined that the Government did not prove an element of the claim required under U.S. law: It failed to show a dangerous probability that Microsoft would achieve a monopoly in the browser market. In fact, the Court of Appeals declared that the Government failed miserably^B it did not even define a relevant browser market. This failure also undermined the tying claim, which the Court of Appeals declared called for an extended analysis of its competitive effects. The Government did not undertake such an analysis at trial because tying was thought to be illegal per se in cases like this one – where a dominant firm forces customers to accept a bundled package. But the Court of Appeals carved out a special exception for “technological tying” of platform and applications software – a special exception for Microsoft's well-known practice of integrating applications software into Windows. Given this technological tying exception, the Court of Appeals required the trial court

to consider Microsoft's reasons for software integration as well as the anti-competitive effects, and that meant a fact-intensive inquiry rather than *per se* illegality, despite the clear anti-competitive implications of forcing customers to take the bundled package. Microsoft's dominant position and the resulting forcing were not enough to support the Government's claim of technological tying.

One explanation offered for the government's neglect of the tying and attempt claims is litigation strategy: During trial, evidence of conduct to support those two claims was the same as that at the heart of the monopolization claim. For example, Microsoft coerced Compaq and IBM into distributing Internet Explorer but not Navigator or JAVA by threatening to withhold pre-release interoperability information for Windows. Thus, some have suggested, all three claims really depended on the same facts and reflected the same harms. Winning any one would win the case. In that light, it was good litigation strategy to focus the court's attention on one cause of action, given the complexity of the case and the volume of evidence. And that focus was monopolization of the OS market by excluding middleware competition.

I. Leverage theory in the US

In my view, however, there was more involved than the litigation strategy of betting on focus. There was the missing theory. Even as it affirmed the trial court's finding of monopolization, the Court of Appeals asked, how exactly did Microsoft's conduct maintain the barrier to entry? What was the Government's theory of causation? In sharp contrast, the E.C. asserted a clear theory of causation—"technological leveraging." Microsoft asserted its dominant position in the OS market, strengthened by the positive feedback tendencies of indirect network effects, as leverage to control the interoperability of complementary products. In the U.S. case, leverage theory does not appear in the Court of Appeals opinion. And in the trial court findings of fact, Judge Jackson used the word only in passing to describe Microsoft's bargaining positions vis-à-vis IBM and Apple. In fact, the word "leverage" appears more often in quotations from Microsoft employees.

Why the failure to assert leverage theory in the U.S. case?.

In the physical sciences – biology, chemistry, physics – new paradigms displace older ones. To burn paper, we are taught, requires oxygen, not phlogiston. To understand

supernovas, astrophysicists turn to Einstein, not Newton. But in antitrust economics, old paradigms continue to flourish despite the emergence of new ones. Thus, static price theory – the Chicago School – still has great influence among federal judges despite the widespread acceptance among economists of dynamic theories informed by information economics and the strategic marketing literature. The static and dynamic paradigms differ in two important respects. First, they proceed from different assumptions about market conditions. Chicago School theorists assume that market conditions remain static, allowing them to attribute changes in price to changes in output. Dynamic economic analysis examines changes in market conditions resulting from innovation, strategic conduct, and other exogenous factors. Second, static and dynamic methodologies deal with different time horizons: Price theory deals with snapshots of short-term price and output changes. Dynamic approaches, in contrast, deal with changed conditions resulting from innovation and strategic behavior over the longer term. The methodological difference persists even when the Chicago Schooler recognizes innovation and strategic behavior because the conduct is still analyzed in the snapshots of a statics analysis.

Tying doctrine offers a good example of the gap between policies to further static and dynamic efficiency. The traditional antitrust concern underlying tying is leverage – using power in one product market as a lever to gain power in a second market. Chicago Schoolers such as Robert Bork have persuaded many federal judges that traditional leverage theory makes no economic sense because a monopolist can already obtain the profit maximizing price in the monopolized market. For example, if Microsoft announced it would license Windows only on the condition that customers also purchase all of their rewritable CDs and printer paper from Microsoft, gaining second and third monopolies would not yield greater profits to Microsoft. They would not yield greater profits, according to statics logic, because the triple monopolist must still charge the same total price for the three products or lose those customers who refuse to pay more for the bundle than they paid for them separately. In short, statics analysis holds that the profit maximizing price for the bundle still equals the sum of the prices for the separate products.

This view seems correct within the static, short-run model of price theory. But even on its own terms, this “fixed sum” theory is limited by rigid assumptions: first, as in the example, Microsoft is assumed to be charging the perfect monopoly price in the Windows market and therefore has nothing to gain. But if the price is not profit-

maximizing, either because the monopoly is not perfect or not perfectly executed, then there is something to gain. Second, as in the example with CDs and printer paper, perfect competition is assumed in the tied product market. When real markets do not reflect such conditions of perfection, and they rarely do, the “fixed sum” theory simply does not apply. These conditions of imperfection typically go unrecognized.

Moreover, when a dynamic long-run view is taken, the logic changes drastically. Indeed, Harvard law professor Louis Kaplow described some 20 years ago how traditional leverage theory reflects the very concerns that are now termed dynamic effects, concerns such as market foreclosure, reputation effects, strategic positioning, and market share. It should be further noted that gains to tying increase in markets showing system effects, because expanding a customer base shifts the demand curve, increases the value of the bundle, and therefore permits a higher price.

As for the U.S. case against Microsoft, the government’s neglect of leverage theory had wide ranging results. Most obviously, it undermined their tying and attempt claims. Less visibly but equally important, it weakened the Government’s remedy request in the monopolization claim. The Court of Appeals explicitly instructed the lower court on remand to take the absence of causation theory into account in assessing remedies. Put bluntly, how could the trial court have even considered corporate dissolution without a theory of causation? What was left? Conduct remedies, themselves limited by the failure to offer a theory of causation. The E.C. cases, however, can support broader conduct remedies consistent with the causation theory of leverage. For example, requiring Microsoft not only to make APIs available but to distribute RealMedia with Windows or to un-tie Windows Media Player from Windows recognizes the leveraging power of Microsoft’s operating system monopoly – both its power to change standard APIs and its power to distribute and make software applications in complementary markets available by simply clicking.

In the U.S., Judge Richard Posner recently rehearsed his Chicago School “fixed sum” analysis of tying in a patent licensing case, undaunted by the real possibility that dynamic effects might have escaped his consideration entirely. In the U.S., we must rehabilitate leverage theory. We have something to learn from the E.C. case against Microsoft, which deploys a theory of leverage that embodies the dynamic approaches that are especially important in markets driven by Joseph Schumpeter’s perennial gales of creative destruction or Michael Porter’s strategic marketing approach to firm

decision making, even more in network industries.

II. Windows Media Player: Integrating applications software into the OS

I now turn to my second issue: Microsoft's longstanding strategic practice of software integration, with Windows Media Player as the most recent example. That practice began with the introduction of Windows. Early Windows versions, including the popular version 3.1, introduced in 1986, were not operating systems. Windows 3.1 was multi-platform middleware designed to run on all the popular versions of DOS (disc operating system) software, not just Microsoft's version. Taking the idea and iconography from Apple, Windows allowed users to issue DOS commands by pointing-and-clicking screen icons instead of typing arcane codes. Windows 3.1 translated the user's mouse clicks into DOS operating system commands. It was almost ten years later that Windows 95 would combine Microsoft's MS-DOS and the Windows 3.1 layer into an integrated platform, and eliminate DOS as a separate product market entirely.

Perhaps the clearest sight line into Microsoft's early integration strategy comes from Caldera's antitrust case against Microsoft, which settled before trial for \$155 million. Caldera charged that Microsoft included false error messages in Windows 3.1 that appeared on-screen whenever Windows detected Caldera DOS, in order to deceive and unnerve users into switching to Microsoft DOS. Caldera charged further that Microsoft later built needless incompatibilities into Windows 3.1 simply to assure that it would run properly only with Microsoft DOS.

As you all know, the U.S. case focused on the battle between Netscape Navigator and Internet Explorer. Explorer began as a separate applications program and ended as an integrated complement to subsequent versions of Windows. Windows Media Player has gone through the same life cycle. Microsoft's coercion of Intel and Apple, though characterized as protecting Windows, was more specifically intended to protect its Media Player from threats of multimedia software competitors with their own APIs. Yet because the U.S. case ultimately succeeded only on the monopolization claim, neither Internet Explorer nor Windows Media Player are granted significance outside the operating system market and the middleware threats posed by Navigator, Apple QuickTime, and Intel multimedia software development plans.

Moreover, recall that Microsoft's integration of Internet Explorer and Windows, according to the Court of Appeals, was a decision that should be granted some degree of deference. That principle stands without lower court application because the issue was not relitigated.

In consequence, the remedies are limited. For example, Windows must be configured to allow customers to hide Windows Media Player but not to remove it. And third-party media players are included in the remedy decree only to the extent of inclusion in the definition of middleware. In this regard, Microsoft must "disclose those APIs, along with related technical information, which [Windows Media Player] utilizes to interoperate with the Windows platform." The limited purpose is to restrain Microsoft from eliminating another middleware threat to Windows by technological lock-out. Microsoft is not required, however, to remedy the harm to Navigator or QuickTime, or JAVA for that matter, by distributing them with Windows because the government failed to show how Microsoft's exclusionary conduct caused harm to them. Nor must Microsoft dis-integrate Explorer and Windows.

By contrast, the E.C. complaint recognizes that there is more involved than a middleware threat to Windows' dominance. The bundling, the integration of Windows Media Player would harm both consumers and rivals by "undermin[ing] the competitive structure in the market for media players and risk[ing] . . . spill-over effects in adjacent markets [such as] server software [and] handhelds where streaming media is going to play an increasingly important role." Microsoft is already a powerful player in those markets, which hold the promise of additional revenues and, if dominated, additional monopoly profits. Thus, must-carry provisions or un-tying Windows Media Player are rightly under consideration.

III. Low-End Servers: Interoperability and obligations to share information about software protocols

Software integration and my final topic, interoperability requirements, raise a common issue. And that issue is industry standards. Microsoft wants its products to become technical industry standards because they raise *de facto* barriers to entry. Where the product is an operating system or other software such as a media player, which communicate with applications programs through protocols or APIs, there is the powerful dynamic of indirect network effects: As the number of complementary

products increases, the entry barrier grows for new operating systems or new media players. Integrating a media player into an operating system can heighten entry barriers to markets for both operating systems and media players.

But there is a beneficial side to industry standard platforms, particularly when there is little product integration by the standard owner. An industry standard platform can encourage intra-systemic innovation. With a common and stable base, applications programmers can feel confident in developing software that needs to link to only one standard set of APIs and other protocols. And applications users also feel confident that the standard will remain. A positive feedback loop develops between applications users and developers, encouraging further innovation and further adoption. In this environment, the competition issue becomes interoperability, which is really market access for software developers. And so market access requires technical information.

In market segments where Microsoft does not develop applications software, it has every incentive to make interoperability information universally available. In this regard, it is interesting to note that there have been no complaints about withholding technical interoperability information from software developers who do not compete with Microsoft products. Indeed, many developers have received from Microsoft not only interoperability information but also financial incentives. In sharp contrast, the first and second status reports to the court supervising the conduct remedies in the U.S. case describe the difficulty of obtaining licenses from Microsoft that provide interoperability information for middleware product developers. Only after much delay, did Microsoft eliminate provisions prohibiting licensees from dealing with Linux and from suing Microsoft. Over 100 companies have approached Microsoft for licenses under the remedial decree. But only seven have been granted.

As we know, Microsoft provides operating systems for servers, a market segment that also raises the issue of interoperability. When an industry standard results from a single firm's dominance, antitrust questions have been posed about that firm's duty to disclose information to market participants. In the landmark *Berkey Photo v. Eastman Kodak* decision, decided some 25 years ago, the influential Circuit Court of Appeals in New York rejected the claim of a competitor that Eastman Kodak, the dominant firm, owed Berkey a duty to pre-disclose new products in order to permit Berkey to learn how to make its products compatible with the new Kodak line. The court concluded

that Eastman Kodak had a right to its competitive advantages and, moreover, that a disclosure rule would be unworkable.

More recently, the Federal Trade Commission challenged Intel's refusal to provide technical information necessary for customers to produce complementary products compatible with Intel's microprocessor chips, which were the *de facto* industry standard. Intel stopped sharing the information with customers seeking to protect their intellectual property rights against Intel. The case was settled with a consent decree in which Intel agreed not to withhold information in such circumstances. But in a related private case, the Federal Circuit refused to apply the essential facilities doctrine because the complaining party was not a competitor but only a customer of Intel. As a general matter, the antitrust laws do not prohibit a firm, even a dominant firm, from withholding information for a legitimate business reason. And market advantage is a legitimate business reason.

The refusal to disclose technical information for compatibility arose in the U.S. case against Microsoft. The district court found, for example, that "Microsoft tried to convince IBM to move its business away from products that themselves competed directly with Windows and Office . . . When IBM refused, . . . Microsoft punished IBM . . . with higher prices, a late license for Windows 95, and the withholding of technical and marketing support." As a result, IBM was scheduled to pay almost \$50 million more in annual royalty payments than its favored rivals. Moreover, without pre-release access to the technical information needed for compatibility with Windows 95, IBM was unable to conform its products in time to compete with its rivals until the crucial initial selling season had passed. The trial court determined that those coercive refusals to share information were part of Microsoft's monopolizing course of conduct.

Nonetheless, as a general matter, U.S. antitrust laws do not impose on individual firms, even monopolies, a duty to do business with anyone. There have been a small number of decisions over the years - sometimes termed essential facility cases - imposing duties to deal by decreeing compulsory licenses. A firm, which controls an essential facility, cannot deny a competitor reasonable access to a product or service needed to compete, when the competitor is not able practically or reasonably to duplicate the essential facility. Still, two federal courts have recently disagreed whether Windows is an essential facility. In *Verizon Communications v. Trinko*, decided

last September, the Supreme Court defined quite narrowly a monopolist's duty to deal. In particular, the Court concluded that "deficient assistance to rivals" in providing access to its telephone network, access mandated by the 1996 Telecommunications Act, did not constitute monopolization. Justice Scalia also observed that the duty would be just as narrow for an essential facility, should the Court adopt the doctrine, which it declined to do.

Finally, neither the Patent Act nor the Copyright Act requires the intellectual property owner to practice or license the protected asset (outside a limited copyright exception for musical performances). And there is a fair use exception that permits limited unlicensed copying. But there is no comparable exception for patents. Beyond that, compulsory licensing is awarded only in the occasional essential facilities case and, it should be noted, that FTC and Justice Department settlements sometimes include agreements to license. In this climate, legislating interoperability requirements in the U.S. is both more necessary and less likely.

And so I end where I began: U.S. judges and antitrust enforcement officials, as well as practitioners and scholars, can take three lessons from the E.U. case against Microsoft:

1. The value of leverage theory, particularly to analyze network industries with links to adjacent markets for system components.
2. Closer attention to the competitive harms of software integration, especially when an application program is bundled into a privately owned industry standard platform such as Windows.
3. The need for mandatory transparency in interoperability requirements, again where there is a privately owned industry standard.