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VIA HAND DELIVERY

Mr. Donald Clark, Secretary
Office of the Secretary
Federal Trade Commission
Room 135-H (Annex D)
600 Pennsylvania Avenue, NW
Washington, DC 20580

Re: *In the Matter of Negotiated Data Solutions, LLC; FTC File No. 051 0094*

Dear Secretary Clark:

On behalf of Dell Inc., we respectfully submit the enclosed public comments regarding the Federal Trade Commission's proposed consent order in the above-referenced matter.

Sincerely,

M. Sean Royall
Counsel for Dell Inc.

MSR/jw
Enclosure

Public Comments of Dell Inc. Addressing the Federal Trade Commission's Proposed Consent Order with Negotiated Data Solutions, LLC

(FTC File No. 051 0094)

Submitted April 7, 2008

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I. Introduction

Applying antitrust principles in the context of unilateral abuses of collaborative standard-setting processes raises difficult and important issues of law and public policy.[1] The Federal Trade Commission has taken a leading role in tackling these issues and its recent enforcement actions – *i.e.*, the *Rambus* and *Unocal* cases – have helped to bring needed clarity to this area of law.

Both of these prior cases dealt with roughly similar factual allegations:

- a collaborative industry standard-setting process charged with defining open standards of critical importance to the affected industries;
- deception by a participant in the process regarding the extent to which the company possessed patent rights covering technologies under consideration for inclusion in the standards;
- reliance on the part of other standard-setting participants on the respondent's false patent-related representations and/or conscious failures to make required, good-faith disclosures concerning relevant patents;
- the existence of suitable alternatives to the respondent's patented technologies – alternatives to which the standard-setting group likely would have turned had its members known, at the time the standards were adopted, that certain technical features embedded within the standards fell within the coverage of the respondent's patent claims;
- formal adoption of the standards, and eventual industry "lock in," before the existence of the respondent's patents became publicly known; and
- subsequent efforts by the respondent to exploit its patents by demanding monopolistic royalties from users of the relevant standards.

In its proposed consent order with Negotiated Data Solutions LLC ("N-Data"), the Commission has taken another important step to protect standard-setting processes from anticompetitive exploitation. Dell believes the Commission majority reached the correct outcome in resolving the *N-Data* matter and supports the proposed consent order. However, the company would like to see the Commission go further in articulating the basis for its proposed order. Specifically, Dell believes the facts at issue here would support a Section 2 monopolization claim closely resembling the claims litigated by the FTC in *Rambus* and *Unocal*.

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1 *See, e.g.*, M. Sean Royall, *The Role of Antitrust in Policing Unilateral Abuses of Standard-Setting Processes*, ANTITRUST, Spring 2004, at 44 (hereinafter, "*The Role of Antitrust*").

The fact pattern in *N-Data* parallels the *Rambus/Unocal* scenario in many key respects. The principal differences being that in *N-Data*:

- the original patent holder – National Semiconductor ("National") – while actively participating in the relevant standards process, did not conceal that it possessed relevant patent applications, but rather openly lobbied for its patent-pending technologies to be standardized;

- National directly induced the relevant standards group (the IEEE 802.3 Working Group responsible for defining standards for wired LAN networking protocols commonly known as "Ethernet") to select its technologies over viable alternatives by providing express, written assurances that it would license its patents to any user of the standards for a one-time royalty charge of $1,000;

- after the U.S. Patent and Trademark Office issued patents to National covering the standardized technologies, National assigned the patents to a separately owned corporate entity, Vertical Networks ("Vertical"), which in turn assigned the patents to N-Data; and

- Vertical and N-Data, both aware of National's prior $1,000 license commitment at the time they took ownership to the patents, each sought to renege on National's prior licensing commitment and thereafter demanded vastly higher royalty amounts from Ethernet device manufacturers.

While these facts do not involve deception, they do involve a species of exclusionary conduct that poses an equally serious threat to the enterprise of collaborative standard-setting, and ultimately to consumers.[2] Dell also believes that the other central element of Section 2 liability is present here – that is, the acquisition of monopoly power causally linked to the underlying exclusionary behavior.

In *Rambus* and *Unocal*, the core concern was that the standards developers were induced, through alleged deception, into conferring a private monopoly upon patent holders that would later be positioned to leverage the full economic power of an entrenched standard to demand exorbitant royalties. In both cases, the alleged deception was deemed to be exclusionary conduct

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2 Although *Rambus* dealt with deception, in deciding the case the Commission recognized that other forms of exclusionary conduct were capable of distorting standard-setting processes and causing anticompetitive effects that would be actionable under the Sherman Act. *See In the Matter of Rambus, Inc.*, No. 9302, 2006 FTC LEXIS 60, at *75 (Aug. 2, 2006) ("Exclusionary conduct *such as deception* may distort the selection of technologies and evade protections designed by SSOs to constrain the exercise of monopoly power, with substantial and lasting harm to competition.") (emphasis added); *id.* at *70 n.151 ("anticompetitive conduct takes 'many different forms' and is highly 'dependent on context'") (quoting *Caribbean Broad. Sys. Ltd. v. Cable & Wireless PLC*, 148 F.3d 1080, 1087 (D.C. Cir. 1998)).

and the respondents allegedly used that conduct as a wrongful means of acquiring monopoly power.

In *N-Data*, by contrast, the standards developers had a specific reason to believe that the technology they were standardizing, once it became subject to issued patents, would be readily available to license for a token $1,000 royalty. While their eyes were open to the risk of a patent hold-up, they acted in advance to eliminate that risk through National's binding licensing commitment. But thereafter National assigned its patents; the standards became locked in; and the assignees reneged on National's preexisting commitment and began demanding exalted royalty amounts from manufacturers of Ethernet devices, including Dell. Importantly, the original assignment of the patents conferred no monopoly power on the assignees, given that the patents were encumbered by National's agreement to a non-discriminatory licensing program and a *de minimis* royalty. It was only through the brazen and opportunistic act of reneging on the prior license commitment – conduct that should properly be deemed exclusionary – that the assignees positioned themselves to exercise monopoly power.

As discussed in greater detail below, Dell believes the *N-Data* facts would support a well-founded Sherman Act claim. In explaining why it stopped short of finding a Sherman Act violation, the *N-Data* majority suggests that it was concerned about the potential to spawn private antitrust litigation.[3] But Dell sees no reason why such concerns should come into play here. On the contrary, the FTC's prior enforcement actions in this area have made important contributions by helping to clarify how the Sherman Act can be applied to prevent patent hold-ups in the standard-setting context. This in turn has placed private parties in a better position to defend against anticompetitive conduct through antitrust suits or counterclaims, and federal courts evaluating such claims have relied heavily upon the FTC's guidance.[4]

From the standpoint of antitrust policy, Dell is disturbed by the notion that conduct of the sort presented here could be held to escape the reach of traditional antitrust laws. The Commission, in recent years, has invested countless resources in investigating and litigating cases involving efforts to subvert procompetitive standard-setting activities. The Commission's leadership, including the Commissioners themselves and various officials from the Bureau of Competition, has also taken efforts to provide guidance to the legal and standard-setting communities concerning approaches to avoiding anticompetitive exploitation in this important

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3 *See* Analysis of Proposed Consent Order to Aid Public Comment, *In the Matter of Negotiated Data Solutions LLC*, No. 051 0094, at 6 n.8 (F.T.C. Jan. 23, 2008) ("It is worth noting that, because the proposed complaint alleges stand-alone violations of Section 5 rather than violations of Section 5 that are premised on violations of the Sherman Act, this action is not likely to lead to well-founded treble damage antitrust claims in federal court.").

4 *See, e.g., Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 311-12 (3d Cir. 2007) (relying upon the "extensive" Section 2 analysis in the Commission's "landmark" *Rambus* decision, as well as Commission's *Unocal* consent order, in support of the court's "exclusionary conduct" determinations).

area of commerce. One principle that flows from the Commission's many contributions in this regard is that standards organizations should generally be allowed to resolve patent-related issues *ex ante* – that is, before a given patented technology has been adopted as a standard, and before the standard has become entrenched in the fabric of affected industries. But what value are *ex ante* licensing commitments if the patent holders that provide such commitments, or subsequent assignees of the encumbered patents, are free to later revoke the commitments and launch a monopolistic patent assault on the affected industries?

That is the fundamental question posed by the *N-Data* case. While Dell applauds the Commission majority's efforts to negotiate a remedy to foreclose further anticompetitive acts by N-Data, Dell respectfully requests that the Commission reconsider the merits of supporting its proposed consent order through a Sherman Act-based claim against N-Data. In Dell's view, for the Commission to signal that the Sherman Act simply does not apply to this fact pattern is not merely mistaken, but indeed dangerous, for this message could serve to encourage other firms to renege on binding license commitments in the future. Nothing could do greater harm to the enterprise of collaborative standard setting.

II. Factual Background

In the early 1980s, the IEEE, a private standard-setting organization, developed and published the first standard Ethernet protocol governing communications between computer equipment over a LAN. The original IEEE Ethernet standards allowed LAN equipment to communicate over wired connections at speeds of 10 megabits per second ("Mbps"). During the next decade, Ethernet technology gained popularity and marketplace acceptance as more products, such as PCs, network hubs, switches, and workstations, adopted the Ethernet standards for synchronizing LAN communications. Ethernet technology was attractive to users in part because, unlike other alternative network communications technologies, it was relatively inexpensive and easy to administer. As a result, by the early 1990s Ethernet emerged as the dominant LAN communications protocol.[5]

Ethernet's 10 Mbps transmission speed was more than adequate for running most applications that existed at the time the first Ethernet standards were adopted. However, the exploding popularity of Ethernet led to the emergence of many new applications for LAN equipment, which fueled a growing demand for faster network communications technologies. In response to this demand, in 1993 the IEEE commissioned the 802.3 Working Group to develop a new generation of Ethernet standards that would facilitate higher-speed LAN communications. The 802.3 Working Group moved quickly to promulgate standards for a "Fast Ethernet" IEEE standard capable of transmitting data at speeds of up to 100 Mbps, ten times faster than original Ethernet.

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5 *See* URS VON BURG, THE TRIUMPH OF ETHERNET 158, 167 (Stanford Univ. Press 2002) (describing how Ethernet overtook Token Ring, an alternative networking technology developed by IBM).

One of the key issues the 802.3 Working Group needed to address was a feature commonly referred to as "auto-detection" or "auto-negotiation." Auto-negotiation was important because it would allow Fast Ethernet LAN equipment to be backwards-compatible with existing 10 Mbps Ethernet devices. Auto-negotiation was to accomplish backwards-compatibility by enabling two devices on a LAN to automatically detect their respective communication speeds and configure the connection to the highest transmission speed supported by both network endpoints. Absent auto-negotiation, installation of Fast Ethernet equipment into a standard Ethernet network would be extremely costly and time-consuming. LAN administrators would be required to either install an all-new Fast Ethernet network and discard existing 10 Mbps equipment, or manually configure every connection between the new Fast Ethernet equipment and existing equipment operating at slower 10 Mbps speeds. An auto-negotiation feature within the Fast Ethernet protocols would obviate the need for these prohibitively time-consuming and expensive upgrade options. By contrast, adopting Fast Ethernet standards without auto-negotiation would have significantly raised the cost of implementing 100 Mbps technology and hindered its marketplace acceptance.

The 802.3 Working Group considered National Semiconductor's "NWay" technology as one of several potential auto-negotiation options, including alternative proposals from AMD, Fujitsu, and others. Yet several of the auto-negotiation options under consideration, including NWay, were covered by existing patents or patent applications. IEEE rules prohibited the Working Group from standardizing a patented technology unless the patent holder provided an advance commitment to make the technology available at "nominal competitive cost" to anyone who desired to comply with an IEEE standard.[6]

As the Working Group reviewed its options in light of these patent-related concerns, National's representatives took decisive action in an effort to ensure that NWay would be selected as the industry standard. In a meeting that took place in March or April 1994, National's representative to the 802.3 Working Group announced that if NWay technology were included in any IEEE standard, the company would license any relevant patents for a trivial amount. In June 1994, a National Semiconductor representative formalized this commitment in a letter addressed to the Chairman of the 802.3 Working Group, confirming that National would openly license NWay in exchange for a nominal one-time royalty of $1,000. There was no indication that National reserved the right to later amend or withdraw the commitment. Consistent with the IEEE's policy and practice at the time, it was widely understood that National's licensing commitment was permanent and irrevocable.

National's broadly announced licensing commitment quickly broke the logjam between the competing auto-negotiation technologies under consideration. In the immediate aftermath of National's license commitment, even the principal advocate for AMD's rival technology was persuaded to throw his company's support behind NWay, effectively ending the standards battle. And, in 1995, the 802.3 Working Group formally adopted NWay as the Fast Ethernet standard for auto-negotiation.

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6 IEEE, *Standards Board Bylaws*, at 12 (Dec. 1994).

Over the next seven years, Ethernet equipment manufacturers and consumers directly and indirectly relied on National's commitment by investing billions of dollars in IEEE 802.3-compliant Ethernet equipment that incorporated NWay auto-negotiation. The IEEE also continued to incorporate NWay into future Ethernet standards. In 1998, the IEEE adopted NWay as the auto-negotiation standard for the subsequent generation of 802.3 Ethernet, dubbed "Gigabit Ethernet," which allowed communications speeds of up to 1,000 Mbps.

By 2002, industry investments in Fast Ethernet technology had become so substantial and pervasive that both the IEEE and the Ethernet equipment industry were irreversibly locked in to use of the NWay auto-negotiation technology. While it is true that IEEE's Fast Ethernet and Gigabit Ethernet standards treated NWay auto-negotiation as an "optional" feature, support of this feature was a commercial necessity. Ethernet equipment that lacked the NWay auto-negotiation functionality would have been unmarketable, as it would have been incapable of functioning within a typical LAN environment consisting of multiple generations of Ethernet devices.

This was the factual setting in which Vertical Networks and N-Data implemented their scheme to extract exorbitant royalties from NWay users. National had assigned the NWay patents to Vertical in 1998 and, at the time, informed Vertical that the patents may be encumbered by National's prior commitment to the IEEE.[7] Nevertheless, in March 2002 Vertical sent a letter to the IEEE expressing its intention to "supersede" National's prior licensing commitment and to begin seeking licenses based "on reasonable terms and conditions including its then current royalty rates."[8] Very shortly after delivering this letter to IEEE, Vertical launched a patent enforcement offensive, starting with relatively small companies but later expanding to larger networking equipment suppliers. In communicating with Dell about the possibility of a license, Vertical claimed the NWay patents covered auto-negotiation technology used in any 802.3-compliant Ethernet port and demanded that Dell pay a royalty of 10 cents per port, which would easily have translated into a multi-million dollar annual royalty burden.

In November 2002, Vertical brought two separate lawsuits for patent infringement, one against AltiGen Communications, Inc. and a second against The Linksys Group, Inc. Soon thereafter, Cisco Systems negotiated to purchase The Linksys Group and settled the Vertical litigation. Although Dell is not privy to the precise terms of that settlement, in December 2003 Vertical issued a press release simultaneously announcing the settlement and the fact that, in order to "further its intellectual property initiatives," Vertical was assigning the NWay patents to N-Data, a company controlled by Vertical's outside patent counsel, Alan Loudermilk.[9] Ten days later, N-Data sued Dell for patent infringement in the U.S. District Court for the Northern

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7 *See* Compl., *Negotiated Data Solutions*, No. 051 0094, ¶ 24 (F.T.C. Jan. 23, 2008).

8 *See* Letter from Scott Pickett, Chief Technical Officer, Vertical Networks, Inc. to IEEE-SA Standards Board Patent Committee (Mar. 27, 2002), *available at*, http://standards.ieee.org/db/patents/loa-802_3-vertical-27Mar2002.pdf.

9 Vertical Networks, *Press Release: Vertical Drops Linksys Suit*, at 1 (Dec. 8, 2003).

District of California, where the AltiGen suit had previously been filed. The *AltiGen* case was later settled, but the *Dell* suit is still pending, and more recently N-Data instituted a second patent suit against Dell in Marshall, Texas. Shortly after the first of these suits was filed, Dell tendered a $1,000 check to N-Data to confirm its acceptance of National's 1994 licensing offer. However, N-Data refused to accept Dell's proffered payment and persisted in its efforts to obtain substantial damages for alleged patent infringement.

III. Legal Analysis

A. This Case Involves a Unitary Course of Conduct Linking the Actions of National, Vertical, and N-Data

This case involves a single course of conduct that began with National's original licensing assurance to the IEEE in 1994 and continues to this day. Although the NWay patents were subsequently assigned on two occasions, first to Vertical and then to N-Data, the actions of all three of the successive patent holders should be viewed together for purposes of the Commission's antitrust analysis.

1. Each Assignee of the NWay Patents Is Bound by the Conduct of Its Preceding Assignors

For more than 100 years, it has been well established that "the assignee of a patent right takes it subject to the legal consequences of the previous acts of the patentee."[10] Those previous acts include licensing commitments. "It had long passed into the text-books that . . . an assignee acquired title subject to prior licenses of which the assignee must inform himself as best he can, and at his own risk."[11] Whether a prior license is express or implied, a subsequent assignee is still bound by the acts of the assignor.[12] These principles flow naturally from the general rule that "[a]n assignee obtains only the right, title and interest of his assignor at the time of his assignment, no more."[13]

Vertical and N-Data did not start with a clean slate when they acquired rights to the NWay patents. Under settled patent law, those patents were already encumbered by the licensing commitment made by the initial assignor, National. As assignees, the rights of Vertical and N-Data to exploit the patents could be no greater than the rights that National itself would have possessed. Vertical and N-Data stood in the shoes of National. It follows, therefore, that if it

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10 *Worley v. Tobacco Co.*, 104 U.S. 340, 344 (1881).

11 *Keystone Type Foundry v. Fastpress Co.*, 272 F. 242, 245 (2d Cir. 1921).

12 *See, e.g., Singer Co. N.V. v. Singer Co. B.V.*, 262 B.R. 257, 265 (Bankr. S.D.N.Y. 2001); *L.L. Brown Paper Co. v. Hydroiloid, Inc.*, 118 F.2d 674, 677 (2d Cir. 1941).

13 *See, e.g., Medtronic AVE Inc. v. Advanced Cardiovascular Sys.*, 247 F.3d 44, 60 (3d Cir. 2001) (citations omitted).

would constitute exclusionary conduct for National to breach its licensing commitment to IEEE and begin holding up the industry for monopolistic royalties, it would be equally exclusionary for Vertical or N-Data to embark upon such a scheme.

The Supreme Court in *Walker Process Equipment Inc. v. Food Machinery & Chemical Corp.*[14] acknowledged this very point. After concluding that enforcement of a patent obtained through fraud on the Patent and Trademark Office could support liability under the Sherman Act,[15] the Court pointed out that an assignee of a patent procured by fraud who "maintains and enforces the patent with knowledge of the patent's infirmity" would be no less subject to antitrust claims than the original holder of the patent.[16] The same concept is reflected in the Commission's handling of the *Chevron-Unocal* acquisition. When ownership of the Unocal patents was transferred to Chevron during the pendency of the Commission's Section 5 proceeding, the Commission promptly negotiated a consent order aimed at preventing any post-acquisition exploitation of the patents by the assignee, Chevron.[17]

2. The Relevant Course of Conduct in This Case Involves Far More Than a Mere Attempt by N-Data to Enforce Its Patent Rights

The relevant course of conduct here begins with National's licensing assurance to the IEEE. But for National's original promise that NWay technology could be used in IEEE standards in return for payment of a nominal royalty, neither Vertical nor N-Data would ever have been in a position to exert control over the Fast Ethernet standards. The IEEE explicitly relied on National's promise of *de minimis* royalties in selecting NWay as the auto-negotiation technology for Fast Ethernet, discarding alternative options proposed by AMD and others. The Fast Ethernet standards were then adopted by IEEE and quickly emerged as the dominant LAN networking standard.

The next significant action in the overall course of conduct involves National's transfer of the NWay patents to Vertical. Because Vertical was given a copy of National's 1994 letter to the IEEE and acknowledged that "several of the patents may be 'encumbered' by whatever actions [National] may have taken in the past with respect to the IEEE standards,"[18] there is no doubt that Vertical acquired the patents with full knowledge of National's prior licensing assurance. Upon acquiring the NWay patents, Vertical took no action for several years. Instead, it waited and watched as manufacturers of Fast Ethernet devices became steadily more locked in

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14 382 U.S. 172 (1965).

15 *Id.* at 177-78.

16 *Id.* at 177 n.5.

17 *See* Decision and Order, *In the Matter of Chevron Corp. and Unocal Corp.*, No. C-4144, at § II (F.T.C. July 27, 2005).

18 Compl., *Negotiated Data Solutions*, No. 051 0094, ¶ 24.

to use of NWay and the installed base of NWay-compliant Ethernet ports and switches expanded rapidly.

Not until 2002, four years after acquiring the patents, did Vertical begin to execute its plan to exploit the Fast Ethernet standards. Vertical sent a letter to the IEEE purporting to "revoke" National's licensing commitment. Promptly thereafter, Vertical commenced enforcement efforts, threatening a wide range of Ethernet device manufacturers with massive liability for alleged past and continuing infringement of the NWay patents. Although Vertical appears to have initially concentrated its enforcement efforts on smaller telecom and datacom companies, it quickly expanded the scope of its demands to include a wide range of networking equipment manufacturers. Vertical's initial communications with Dell suggest that it believed virtually all equipment compliant with the IEEE 802.3 standard infringed the NWay patents. This interpretation would cover a vast array of devices, including all hubs, routers, switches, personal computers, and other equipment incorporating Ethernet ports.

This course of conduct continued after Vertical's assignment of the NWay patents to N-Data. Like Vertical, N-Data refused to accept royalties tendered in accordance with the terms of National's original licensing offer. Instead, N-Data's standard royalty demand was ten cents per Ethernet port on any allegedly infringing device, a sum that would have subjected Dell and countless other entities to a perpetual royalty stream of many millions of dollars per year. These demands, needless to say, vastly exceeded the competitive price established by National's *ex ante* commitment to the IEEE.

B. Under Established Antitrust Law and Past Commission Precedent, the Conduct of Vertical and N-Data Should Be Viewed as Exclusionary

The Commission is well aware of the antitrust risk that an "open" standard developed for the benefit of all can be subverted through exclusionary conduct into a source of private monopoly power. Two recent enforcement actions, *Rambus* and *Unocal*, have challenged unfair practices in standard setting leading to the exercise of intellectual property rights over an open standard. In each case, the Commission's complaint alleged that deception, rather than competition on the merits, was responsible for the actual or threatened acquisition of monopoly power.

Deception is one species of exclusionary conduct, but by no means the only one. "[T]he means of illicit exclusion, like the means of legitimate competition, are myriad."[19] Conduct is exclusionary if it is inconsistent with "competition's basic goals – lower prices, better products and more efficient production methods."[20] Put another way, "[i]f a firm has been 'attempting to

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19 *United States v. Microsoft Corp.*, 253 F.3d 34, 58 (D.C. Cir. 2001).

20 *Town of Concord v. Boston Edison Co.*, 915 F.2d 17, 22 (1st Cir. 1990).

exclude rivals on some basis other than efficiency,' it is fair to characterize its behavior as predatory."[21]

Instead of a lengthy campaign of deception, Vertical and N-Data took the more expedient approach of (i) acquiring intellectual property rights that are essential to practice a popular industry standard, (ii) intentionally reneging on an express *ex ante* licensing commitment made for the purpose of inducing reliance by the standard-setting organization, and (iii) seeking to hold up industries reliant on the standard by demanding monopoly rents and threatening infringement suits. The actions of Vertical and N-Data subverted the Fast Ethernet standard just as surely as if National's original licensing promise had been a flat-out lie. This purely opportunistic conduct is equally damaging as that challenged by the Commission in *Rambus* and *Unocal*. The entire framework of collective standard setting would be placed at serious risk if firms were permitted to renege on binding licensing commitments in order to gain monopoly power, or if third-party assignees were somehow permitted to escape the binding licensing commitments made by preceding patent holders.

1. The Actions of Vertical and N-Data Fit the Definition of Exclusionary Conduct

Section 2 condemns the monopolist's "willful acquisition or maintenance of monopoly power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident."[22] Conduct amounting to "willful acquisition or maintenance of monopoly power" has in turn often been described as "predatory" or "exclusionary."[23] Characterizing conduct as exclusionary usually entails a careful review to identify and distinguish between procompetitive and anticompetitive aspects of particular actions.

This is often difficult,[24] and many proposals have been aired to provide a satisfactory analytical basis for distinguishing harmful exclusionary conduct from aggressive competition. One definition originally formulated by Professors Areeda and Turner has received wide usage

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21 *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 605 (1985) (quoting ROBERT BORK, THE ANTITRUST PARADOX 138 (Basic Books, Inc. 1978)).

22 *United States v. Grinnell Corp.*, 384 U.S. 563, 570-71 (1966).

23 *See, e.g., Aspen Skiing*, 472 U.S. at 605.

24 Judge Easterbrook's formulation neatly captures the issue: "Aggressive, competitive conduct by any firm, even one with market power, is beneficial to consumers. Courts should prize and encourage it. Aggressive, exclusionary conduct is deleterious to consumers, and courts should condemn it. The big problem lies in this: competitive and exclusionary conduct look alike." Frank H. Easterbrook, *When Is It Worthwhile to Use the Courts to Search for Exclusionary Conduct?*, 2003 COLUM. BUS. L. REV. 345, 346 (2003).

in judicial decisions: "'Exclusionary' conduct is conduct, other than competition on the merits or restraints reasonably 'necessary' to competition on the merits, that reasonably appears capable of making a significant contribution to creating or maintaining monopoly power."[25] Other tests focus on the effect of the conduct in excluding equally efficient competitors,[26] raising rivals' costs,[27] or the sacrifice of short-term profits by the actor.[28] In virtually all cases, however, the principal line of demarcation is between conduct that enhances the actor's own efficiency, as measured in reduced prices or increased output, and conduct that serves only to impose costs on competitors.[29]

Under virtually any standard, the conduct in this case is clearly exclusionary. When the IEEE adopted NWay auto-negotiation as part of the Fast Ethernet standard, it had no reason to contemplate that manufacturers or users of compliant devices would ever be faced with crippling royalty demands. On the contrary, the IEEE had every reason to believe, based on National's express assurances, that such a scenario would never occur. The openness of the standards created a market in which interfirm competition was vibrant and innovative new products were introduced to capitalize on the Fast Ethernet standard. Vertical and N-Data contributed nothing to the development of the Fast Ethernet standards or to the subsequent success of the standards in allowing the creation of fast and reliable communications among wired networking devices. The actions of Vertical and N-Data in acquiring the NWay patents and reneging on National's prior licensing commitments to the IEEE operated solely to transfer wealth to Vertical and N-Data, with no offsetting procompetitive benefit.

The first clear manifestation of Vertical's and N-Data's plan to exercise control over the Fast Ethernet standards occurred in 2002. Vertical sent a letter to the IEEE purporting to "revoke" National's original licensing commitment some eight years after it was given. Although Vertical claimed in letters to Dell that it somehow "negotiated" the terms of its revocation letter with the IEEE, there is no evidence suggesting this to be true.[30] It is hardly

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25 3 PHILLIP E. AREEDA & DONALD F. TURNER, ANTITRUST LAW ¶ 626g(3), at 83 (1978).

26 RICHARD A. POSNER, ANTITRUST LAW 196 (Univ. of Chicago Press 2d ed. 2001).

27 *See* Thomas G. Krattenmaker and Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 YALE L. J. 209, 214 (1986).

28 *See* Brief for the United States and the Fed. Trade Comm'n as *Amici Curiae* Supporting Petitioner, at *15-25, *Verizon Commc'ns Inc. v. Law Offices of Curtis Trinko, LLP*, 540 U.S. 398 (2004) (No. 02-682) (available on Westlaw at 2003 WL 21269559).

29 *See* Einer Elhauge, *Defining Better Monopolization Standards*, 56 STAN. L. REV. 253, 256 (2003).

30 IEEE personnel have confirmed that there is no record of IEEE's Patent Committee acquiescing to Vertical's purported revocation of National's earlier licensing

[Footnote continued on next page]

plausible, in any event, that the IEEE would abet a plan to reverse a long-standing license commitment covering technologies central to the organization's Ethernet standards.[31]

Vertical's conduct prior to sending its letter to the IEEE was part and parcel of its exclusionary scheme. Vertical acquired the NWay patents from National in 1998 with full knowledge of National's licensing assurance. For four years, however, Vertical remained silent and gave no indication that it would seek to renege on the promise made to the IEEE. Instead, Vertical waited and watched as the Fast Ethernet standards became ever more fixed and indispensable in the worldwide networking industry. It is estimated that the number of Ethernet LAN connections, most of which incorporate NWay auto-negotiation, doubled between 1998 and 2002.[32] By waiting to spring its patent trap, Vertical maximized its leverage in extracting royalties based on the NWay patents.

As described above, the IEEE subgroup responsible for developing an auto-negotiation protocol was deadlocked over competing proposals until National made its licensing commitment. National followed up its original proffer with a written assurance that the nominal royalties would apply generally to "prospective licensing of National's intellectual property rights in its NWay technology."[33] IEEE's express reliance on National's offer makes the subsequent actions of Vertical and N-Data fundamentally different from a patent holder that is merely seeking to enforce its rights to prevent infringement. Where a standards organization has been induced to adopt patented technology based on specific assurances from the patent holder,

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[Footnote continued from previous page]

commitment. The fact that IEEE's website has posted Vertical's letter does not mean, as Chairman Majoras's dissent suggests, that Vertical's letter has somehow superseded National's earlier commitment. On the contrary, the posting of Vertical's letter was simply a ministerial act.

31 *See, e.g.*, Daniel G. Swanson, *Evaluating Market Power in Technology Markets When Standards Are Selected in Which Private Parties Own Intellectual Property Rights* (hereinafter, "*Evaluating Market Power*"), Testimony Before the Joint Hearings of the U.S. Department of Justice and the Federal Trade Commission regarding Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy, at 10 (April 18, 2002), *available at* http://www.ftc.gov/opp/intellect/020418danielswanson.pdf ("An SSO has no legitimate reason to foster the creation of or facilitate the exercise of *ex post* market power on the part of a licensor holding intellectual property rights in a standard adopted by the organization.").

32 *See* Fujitsu, *Gigabit Ethernet on the Desktop and Beyond*, at 3 (Sept. 9, 2003), *at* http://www.fujitsu.com/downloads/MICRO/fma/pdf/gec2003.pdf.

33 *See* Decision and Order, *Negotiated Data Solutions*, No. 051-0094, at Attachment A to Appendix C (F.T.C. Jan. 23, 2008) (National's 1994 Letter to the IEEE).

the open and knowing breach of such promises to gain market power is surely exclusionary conduct.

Vertical's purported "revocation" of National's licensing assurance directly contravened the common understanding among participants in the Fast Ethernet standard-setting process that the commitment was irrevocable. In her dissenting statement, Chairman Majoras noted that IEEE rules in effect at the time National made its assurance did not explicitly require that patent assurances be irrevocable.[34] While this may be true, it is also beyond dispute that the IEEE and its members reasonably understood National's commitment to be both unconditional and irrevocable.[35] Indeed, the IEEE Patent Committee amended the organization's bylaws in early 2002 to clarify what IEEE representatives uniformly agree was well understood prior to that time – namely, that temporary or conditional license assurances were not acceptable. If National's assurance letter had included any language suggesting that National reserved the right to amend or later withdraw its commitment, the letter plainly would have been rejected by the IEEE's Review Committee or Patent Committee.

The conduct by Vertical and N-Data constitutes a textbook example of the type of "cheap exclusion" that is appropriately the subject of governmental antitrust enforcement efforts.[36] The cost to Vertical and N-Data of unilaterally abandoning the prior licensing assurance covering Fast Ethernet was minimal, and there are no plausible efficiency justifications that can be raised in defense of the conduct. Acquiring patents in order to knowingly breach a specific licensing commitment made to a standards organization "cannot be explained in terms of the defendant's effort to increase output or improve product quality, innovation, or service."[37] Particularly in the context of an established open standard, such as Fast Ethernet, this type of cheap exclusionary

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34 Dissenting Statement of Chairman Majoras, *Negotiated Data Solutions*, at 2.

35 As a matter of common sense, *ex ante* license commitments made to standard-setting organizations must be assumed to be irrevocable, because any other rule would create an unacceptable risk of gamesmanship and *ex post* hold up after a standard gains acceptance. *See, e.g.*, Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889, 1912 (2002) ("[an SSO] member that has agreed to license its IP rights covering a standard" on specified terms "has presumably committed to an ongoing license, not a temporary one."); David J. Teece & Edward F. Sherry, *Standards Setting and Antitrust*, 87 MINN. L. REV. 1913, 1958 (2003) (A "commit[ment] to a royalty rate prior to the standard's adoption would, presumably, be binding on the patent holder, in the sense that the patent holder could not increase the rate, though it could always agree to accept a lower royalty.").

36 *See* Susan A. Creighton, *et al.*, *Cheap Exclusion*, 72 ANTITRUST L.J. 975, 977 (2005) (hereinafter, "*Cheap Exclusion*").

37 *Id.*

behavior is at once both easy to accomplish and capable of inflicting substantial harm to consumers.[38]

In sum, the conduct at issue in this case is the economic equivalent of the deception, guile, and other anticompetitive practices that have been the predicate for past standard-setting cases. "Because such behavior is inefficient even if it does not produce market power after the fact, it can have no claim to legitimacy under an antitrust regime."[39] Where opportunistic conduct does confer or threatens to confer monopoly power on a single party, the Commission should not hesitate to find liability under Section 2 of the Sherman Act.

2. This Case Has Significant Parallels to the Commission's Actions in *Rambus* and *Unocal*

As in *Rambus* and *Unocal*, IEEE participants reasonably believed that adoption of the Fast Ethernet standards would not confer a market advantage on any particular party. The IEEE's reliance on National's NWay licensing commitment is analogous to the Commission's allegations that JEDEC properly relied on Rambus's misleading silence and that the California Air Resources Board ("CARB") relied on Unocal's representation that its technology was "non-proprietary." Consistent with the facts in *Rambus* and *Unocal*, the NWay auto-negotiation protocol has become widely used throughout the industry and technological alternatives are no longer practicable options. By taking actions contrary to prior commitments and asserting proprietary rights over the use of the Fast Ethernet standard, Vertical and N-Data threatened to cause precisely the same anticompetitive effects that the Commission sought to prevent in *Rambus* and *Unocal*. Where the fact pattern here differs from the *Rambus* and *Unocal* cases, those differences work to reduce the complexity of the case and present a stronger profile for enforcement under Section 2 of the Sherman Act.

In *Rambus*, for example, the Commission alleged that JEDEC reasonably inferred from Rambus's silence that its technology was not implicated by the memory standards under consideration by JEDEC.[40] That understanding was of critical importance because JEDEC was committed to "promoting unfettered competition" and "maintained a commitment to avoid, where possible, the incorporation of patented technologies into its published standards . . . ."[41] As alleged in the *Rambus* complaint, this belief was reasonable in light of JEDEC policies

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38 Similarly, the Commission concluded that Rambus had engaged in exclusionary conduct because "without reducing prices, forgoing sales, or even spending substantial funds beyond what it otherwise would have spent, Rambus's conduct may have imposed substantial costs on rivals and contributed significantly to the creation of monopoly power." *Rambus*, No. 9302, 2006 FTC LEXIS 60, at *69 (Aug. 2, 2006).

39 Creighton, *et al.*, *Cheap Exclusion*, at 987.

40 Compl., *Rambus*, No. 9302, ¶ 71 (F.T.C. June 18, 2002).

41 *Id.* ¶ 20.

establishing broad requirements to disclose relevant intellectual property, including patent applications.[42] However, Rambus argued that it had violated no specific JEDEC rule in failing to disclose its patent applications and that it had no particular duty to inform other members of its intellectual property rights. These issues became a source of tremendous complexity in the *Rambus* litigation.

By comparison, the *N-Data* case is far simpler. Neither the terms of the IEEE's patent policy nor the duties placed on IEEE members are at issue in this case. Whatever those requirements may be, National chose to speak during the standard-setting process and made an express representation concerning its patent rights.[43] Similarly, there is no question here concerning National's intent to grant a license for a nominal fee on a nondiscriminatory basis. National's letter, as well as the recollections of participants in the process, make clear that there was a common understanding concerning the terms under which a license would be granted, including the fact that the offer to license was irrevocable.

Because this case does not involve deception in developing the standard itself, it also does not implicate the complicated legal and factual issues associated with proving actionable deception. Here, the exclusionary conduct consists of a straightforward reneging on an express promise that was used to induce the IEEE to adopt the NWay technology as part of the Fast Ethernet standards, coupled with a lengthy delay in attempting to enforce patent rights. Compared to *Rambus* and *Unocal*, issues regarding intent are far less central to assessing the exclusionary conduct of Vertical and N-Data.

An additional commonality that links this case to the enforcement actions in *Rambus* and *Unocal* is that the challenged conduct in each instance is of a type that would give rise to an equitable defense to patent enforcement. Under the patent laws, misleading conduct that induces reliance can support a defense of "equitable estoppel" in circumstances where permitting enforcement of the patent would materially prejudice the infringer.[44] The closely related doctrine of "implied license" is an equitable defense that requires patentees to fulfill prior commitments that have the effect of inducing reliance on patented technologies. As the Federal

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42 *Id.* ¶ 24.

43 Express representations are material in virtually all cases. *See In the Matter of Novartis Corp.*, Docket No. 9279, 1999 FTC LEXIS 63, at *25-26 (May 27, 1999); *In the Matter of Griffin Systems Inc.*, Docket No. 9249, 1993 FTC LEXIS 167, at *31 (June 30, 1993) (express claims material for purposes of false advertising claim); *In the Matter of Schering Corp.*, Docket No. 9232, 1991 FTC LEXIS 427, at *139 (Sept. 16, 1991) (same); *In the Matter of Kraft, Inc.*, 114 F.T.C. 40, 129 (April 3, 1989) ("[a]ll express claims are presumptively material").

44 *See, e.g., A.C. Aukerman Co. v. R.L. Chaides Constr. Co.*, 960 F.2d 1020, 1028 (Fed. Cir. 1992) (en banc); *Stambler v. Diebold*, No. 85 CV 3014, 1988 U.S. Dist. LEXIS 10132, *19 (E.D.N.Y. 1988); *Potter Instrument Co. v. Storage Tech. Corp.*, No. 79-579-A, 1980 U.S. Dist. LEXIS 14348, at *17-*18 (E.D. Va. 1980).

Circuit has noted, the "primary difference" in the implied license and equitable estoppel doctrines is that "implied license looks for an affirmative grant of consent or permission to make, use, or sell," while "[e]quitable estoppel . . . focuses on 'misleading' conduct suggesting that the patentee will not enforce patent rights."[45] Pursuant to this distinction, *Rambus* and *Unocal* are analogous to the equitable estoppel line of cases,[46] whereas *N-Data* more closely parallels circumstances giving rise to an implied license.[47]

The facts in this case are quite similar to those at issue in *Wang Laboratories v. Mitsubishi Electronics America, Inc.*[48] Wang openly campaigned for its single in-line memory module ("SIMM") technology to be adopted as a standard by a standards-setting body, JEDEC.[49] And the company publicly announced that it had no plans to seek or enforce intellectual property rights in the standard.[50] After JEDEC adopted Wang's technology as a standard, production of JEDEC-compliant SIMMs "became a multi-billion dollar market."[51] However, not until years after the standard was adopted did Wang sue Mitsubishi for infringement.[52] Notably, the Federal Circuit's opinion does not suggest that Wang intended to mislead JEDEC or anyone else at the time it advocated its SIMM technology as a standard.

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45 *Wang Labs. v. Mitsubishi Elecs. Am., Inc.*, 103 F.3d 1571, 1581 (Fed. Cir. 1997).

46 In each case, the Commission alleged that misleading conduct by the respondent caused detrimental reliance by the standards body and material prejudice such that the appropriate remedy was to enjoin enforcement of the relevant patent rights. Complaint Counsel in *Rambus* referenced equitable estoppel case law as being "similar . . . in terms of the theory of liability and the remedy sought." Compl. Counsel Resp. to Respondent's Post-Trial Br., *Rambus*, No. 9302, at 3 (F.T.C. Oct. 1, 2003). Similarly, in *Unocal* Complaint Counsel noted that "patent doctrines [of equitable estoppel, implied license, and patent misuse] can provide support for legal relief under antitrust principles in standard-setting cases." Compl. Counsel Post-Trial Br., *Unocal*, No. 9305, at 304-09 (F.T.C. Mar. 9, 2005).

47 *See* Royall, *The Role of Antitrust*, at 46 (discussing reliance on patent law defenses to support affirmative antitrust claims in *Rambus*, *Unocal*, and *Walker Process*).

48 103 F.3d 1571, 1581 (Fed. Cir. 1997).

49 *Id.* at 1575.

50 *Id.*

51 *Id.* at 1579.

52 *Id.* at 1575-76.

In resolving the *Wang* case, the Federal Circuit concluded that Wang's conduct created an implied license for use of the SIMM technology. As a consequence, the court found that Mitsubishi possessed "an irrevocable, royalty-free license" to Wang's patent.[53]

In many instances, of course, the facts giving rise to equitable estoppel or an implied license in the patent context will not also support an antitrust cause of action because the misconduct confers no market power on the patent holder. The critical element in this case, as in *Rambus* and *Unocal*, is that the "inequitable" conduct that supports an estoppel or implied license remedy occurs in the standard-setting context, where a given technology's selection for inclusion in a standard can confer monopoly power.[54]

3. Conduct Similar to That of Vertical and N-Data Has Been Found to Be Exclusionary in Other Antitrust Cases

In the context of standard-setting, the Commission is not required to show deception or a violation of the standards organization's rules in order to find conduct exclusionary. The relevant question is whether a party has acted intentionally to subvert an open and procompetitive standard in a manner likely to cause anticompetitive harm. The antitrust concern is that the capturing party not only may "end up with exclusive control over the market standard, converting a group standard-setting process into a *de facto* one, but the capturing party can use the group standard to achieve a dominant position it could not have attained in an open standards competition."[55] On two occasions, the Supreme Court has confirmed that conduct intended to subvert an open standard, even if non-deceptive and not at odds with the standards organization's rules, can be exclusionary.

In *American Society of Mechanical Engineers, Inc. v. Hydrolevel Corp.*,[56] the Supreme Court affirmed a civil antitrust judgment entered against ASME for violations of Section 1 of the Sherman Act. The plaintiff in *Hydrolevel* alleged that an ASME committee official, who was employed by a competitor of Hydrolevel, had issued an interpretation of an ASME standard in effect declaring Hydrolevel's product to be unsafe.[57] Although the plaintiffs did not establish that a literal violation of ASME's rules had occurred, the Supreme Court upheld liability,

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53 *Id.* at 1582.

54 *See* Creighton, *et al.*, *Cheap Exclusion,* at 989 (observing that the private standard-setting organizations in *Allied Tube* and *Hydrolevel* "had the power to confer market power by choosing one party's processes or excluding another's").

55 Herbert Hovenkamp *et al.*, 1 IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW § 35.5 (2004).

56 456 U.S. 556 (1982).

57 *Id.* at 571-73.

specifically noting the risks of anticompetitive harm that could arise from misuse of the power of a standards organization to further the anticompetitive ends of one member.[58]

Anticompetitive manipulation of a standard-setting organization was also found to support antitrust liability in *Indian Head, Inc. v. Allied Tube & Conduit Corp.*[59] The defendant in *Allied Tube* was a producer of steel electrical conduit who participated in the National Fire Protection Association, a standard-setting body responsible for approving safety standards for conduits and other products. The plaintiff sought to amend NFPA standards so that its own brand of polyvinylchloride ("PVC") conduit could be used by builders, which would enable the plaintiff's PVC conduit to compete with the defendant's steel conduit. In response, the defendant and other steel conduit makers recruited new NFPA members solely for the purpose of voting against the amendments to the NFPA rules that would approve the use of PVC conduit. This conduct was not deceptive – indeed, the defendant openly recruited other members to find and register new members in advance of the NFPA's vote on the PVC amendment. However, both the Second Circuit and the Supreme Court upheld the jury's finding that the defendant "did 'subvert' the consensus standardmaking process of the [NFPA]," thereby violating the Sherman Act.[60]

In these cases, the Supreme Court established that for antitrust purposes the validity of actions affecting standards developed by standard-setting organizations depends on whether the "hope of procompetitive benefits" arising from the standard has been subverted.[61] Intentional conduct that undermines the procompetitive purposes of standards and circumvents the procedures and expectations of a standards organization in a manner likely to cause anticompetitive harm can be an antitrust violation, regardless whether it technically violates an organization's specific rules or uses means other than deception and guile.

Here, there is no question but that Vertical and N-Data intentionally acted to capture the value of the established Fast Ethernet standards in contravention of the IEEE's goals and policies. The method used by Vertical and N-Data to attain this anticompetitive objective – intentionally breaching a licensing assurance that was reasonably relied upon by the IEEE in adopting the standard – has no procompetitive justification and plainly subverts the procompetitive benefits expected to flow from the standard.

The conduct of Vertical and N-Data also amounts to a refusal to deal – specifically, a refusal to respect commercial licensing terms that were previously agreed to by National and relied upon by IEEE and the many firms that have implemented the organization's Fast Ethernet

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58 *Id.* at 572.

59 *Allied Tube & Conduit Corp. v. Indian Head, Inc.*, 486 U.S. 494 (1988).

60 *Id.* at 498.

61 *Id.*

standards. In *Aspen Skiing Co. v. Aspen Highlands Skiing Co.*,[62] the Supreme Court affirmed a judgment of monopolization based on a refusal to deal in circumstances that have strong parallels to the conduct of Vertical and N-Data. The defendant ski resort had for many years participated in offering an "all Aspen" ski ticket that was valid at the defendant's three mountains and one other resort operated by the plaintiff, Highlands. However, the defendant subsequently terminated the joint ticketing arrangement and refused multiple offers to renew cooperation. No procompetitive justification was offered for the termination of the pre-existing course of conduct. On the contrary, it appeared that the defendant had acted against its short-term economic interests in refusing to offer an all-resort ski ticket. Under these circumstances, the Court found that the conduct had harmed competition and therefore upheld a verdict of liability.

Like the defendant in *Aspen Skiing*, Vertical and N-Data abruptly altered a pre-existing course of dealing established by National's licensing assurance to the IEEE. For many years after the adoption of the Fast Ethernet standard, National and its successor Vertical made no attempt to collect any royalties for use of the NWay technology at all, not even the nominal royalties referenced in National's letter. This course of conduct served to further reinforce the understanding that excessive royalties would not be required to practice the auto-negotiation feature of Fast Ethernet. Yet Vertical and N-Data abruptly reversed this established course of dealing by purporting to revoke National's licensing commitment. This situation also mirrors *Aspen Skiing* insofar as there is no plausible procompetitive justification that can be offered for the conduct. The only reason for the change in course by Vertical and N-Data was that it allowed them to exert monopoly power over the Fast Ethernet standards.[63]

In testimony before the Antitrust Modernization Commission, former DOJ chief economist Carl Shapiro specifically identified standard setting as an area in which decisions to

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62 472 U.S. 585 (1978).

63 The Supreme Court's commentary on *Aspen Skiing* in *Verizon Commc'ns, Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398 (2004), does not alter this analysis. The *Trinko* majority distinguished *Aspen Skiing* on the ground that the defendant in *Trinko* did not engage in a voluntary prior course of dealing with the plaintiff – rather, it was compelled by federal law to enter the relevant contract with the plaintiff in the first instance. *Id.* at 409-10. The statutory compulsion that motivated the original contract undermined the argument that the defendant had ended a profitable and voluntary course of dealing in favor of its anticompetitive ends. In contrast, National's initial promise to the IEEE and Vertical's silent confirmation of National's commitment from 1994 to 2002 was entirely voluntary. The fact that this course of conduct was voluntary underscores Vertical's anticompetitive intent in breaking this commitment. *See Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 316-17 (3d Cir. 2007) (*Trinko* does not preclude a monopolization claim based on allegations that the patentee deceived a standard-setting body where the patentee's conduct was entirely voluntary and, unlike the defendant in *Trinko*, not governed by a compulsory regulatory framework).

end a pre-established course of dealing can support antitrust liability.[64] Professor Shapiro noted that "it is natural and reasonable to ask *what has changed* if a dominant firm sharply alters the terms on which it will deal in a way that is unfavorable for its customer/rivals . . . ."[65] Particularly with respect to standards, "a firm might obtain a dominant position based in part on certain 'open' policies that induce reliance by complementary firms, and then later exploit that position by offering less favorable interconnection terms or by refusing to interconnect with them altogether."[66] Professor Shapiro characterizes this conduct as opportunism, and concludes that "[w]hen the effects of opportunism are market-wide, antitrust concerns arise."[67] The Commission itself has acknowledged the same, in an *amicus* filing to the U.S. Supreme Court.[68]

This case presents exactly this type of opportunistic scenario. The "open" promise made by National with respect to NWay technology was essential to its incorporation into the Fast Ethernet standards and induced reliance by the IEEE. After Fast Ethernet became a dominant industry standard, Vertical and N-Data sought to drastically alter the rules of game.

Alternatively, the conduct of Vertical and N-Data can be viewed as an intentional breach of a binding commitment made by National regarding the licensing of NWay technology. Such conduct can also support antitrust liability when it occurs as part of a scheme to acquire monopoly power. For example, in at least two cases courts have found that the breach of a promise made to the FTC in connection with a merger consent order can support a finding of exclusionary conduct when the breach contributes to the acquisition of monopoly power. In *Hewlett-Packard Co. v. Boston Scientific Corp.*,[69] the plaintiff alleged that, in order to secure Commission approval of a proposed transaction, the defendant made express and binding commitments in a consent order to take certain actions to facilitate post-merger entry and competition. However, after the merger was completed the defendant failed to live up to these commitments. By doing so, the defendant acquired monopoly power that it would not have

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64 *See* Carl Shapiro, *Exclusionary Conduct,* Testimony Before the Antitrust Modernization Commission, at 15-17 (Sept. 29, 2005), *available at* http://faculty.haas.berkeley.edu/shapiro/exclusion.pdf.

65 *Id.* at 15 (emphasis in original).

66 *Id.*

67 *Id.* at 16.

68 *See* Brief for the United States and the Fed. Trade Comm'n as Amici Curiae Supporting Petitioner, at *14 n.4, *Verizon Commc'ns Inc. v. Law Offices of Curtis Trinko, LLP*, 540 U.S. 398 (2004) (No. 02-682) (available on Westlaw at 2003 WL 21269559) ("[T]he private standard-setting process may afford opportunities for opportunistic behavior that may harm competition.").

69 77 F. Supp. 2d 189 (D. Mass. 1999).

possessed had it adhered to the terms of the consent order. The court held that such allegations, if proven, would support a claim under Section 2 of the Sherman Act. In another case – *Biovail Corp. International v. Hoechst Aktiengesellschaft*[70] – the court reached the same conclusion when confronted with a similar fact pattern.

In both *Boston Scientific* and *Biovail*, the defendants made specific *ex ante* commitments to the FTC intended to eliminate the monopoly power that would otherwise be created by the underlying acquisitions. This is closely analogous to National's *ex ante* commitment to license NWay technology for a nominal amount in connection with the Fast Ethernet standards. The defendants in *Boston Scientific* and *Biovail* subsequently breached their commitments in order to achieve monopoly power, conduct that was that was deemed exclusionary and held to be unlawful under the Sherman Act. The conduct of Vertical and N-Data in revoking National's prior licensing assurances to the IEEE should likewise be held to violate the Sherman Act.

There are additional cases in which *ex post* actions that upset reasonable *ex ante* expectations have been characterized as exclusionary for Section 2 purposes. For instance, in *Eastman Kodak Co. v. Image Technical Services, Inc.*,[71] the Supreme Court held that under certain circumstances Kodak's change in its parts and service policies after customers had already purchased its copiers could be characterized as exclusionary conduct.[72] In that case, the evidence suggested that Kodak implemented a policy whereby only Kodak-licensed service agents could purchase Kodak replacement parts, which effectively eliminated the ability of consumers to purchase copier service from non-Kodak agents. This *ex post* policy change, which consumers could not have reasonably foreseen prior to their purchases of Kodak copiers, allowed the defendant to monopolize the market for copier repair services because consumers of these services were "locked in" by their investments. In other words, the Court held that Kodak's opportunistic about-face after consumers had made significant and irreversible investments in its copiers could be a basis for a finding that Kodak engaged in exclusionary conduct under Section 2.[73]

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70 49 F. Supp. 2d 750 (D.N.J. 1999).

71 504 U.S. 451 (1992).

72 *Id.* at 490-91.

73 Lower court cases following *Kodak* offer further support for the notion that a firm's unforeseeable attempts to change established contract terms can serve as a basis for a Section 2 claim where the other parties to the agreement are locked in. *See, e.g., Subsolutions, Inc. v. Doctor's Assocs.*, 62 F. Supp. 2d 616, 626 (D. Conn. 1999) (plaintiff-franchisees properly alleged tying claim where plaintiffs were locked in to defendant-franchisor's franchise agreement because of high switching costs); *Collins v. Int'l Dairy Queen, Inc.*, 939 F. Supp. 875, 883 (M.D. Ga. 1996) (defendant-franchisor's motion for summary judgment on plaintiff-franchisees' tying claim denied where

[Footnote continued on next page]

C. N-Data Has Acquired Monopoly Power in the Market for Auto-Negotiation Technology Used in Ethernet Products

Since the Fast Ethernet standards were adopted in 1995, the networking industry has produced billions of dollars of Ethernet equipment incorporating NWay technology. NWay auto-negotiation, meanwhile, has become an integral part of Ethernet ports, hubs, and switches utilized in virtually every LAN in the world. Whereas NWay faced stiff competition from other technologies during the Fast Ethernet standardization process, marketplace competition for NWay has been non-existent from the time the standards were adopted to the present. The only factor that precluded the holders of the NWay patents from exercising monopoly power was National's binding commitment to IEEE, which served to encumber the NWay patents even after they were assigned first to Vertical and later to N-Data. The NWay patents themselves, therefore, did not confer monopoly power. It was only through their indefensible scheme to renege on National's commitment that Vertical and N-Data acquired the *sine qua non* of monopoly power: the ability to charge prices exceeding the competitive level.

1. The Relevant Market Is Auto-Negotiation Technology Used Worldwide in Ethernet Products

Technology markets are defined to comprise those technologies that are "close enough substitutes significantly to constrain the exercise of market power with respect to the intellectual property that is licensed."[74] Following the approach taken in both *Rambus* and *Unocal*, here the relevant product market should be defined to include the NWay auto-negotiation technology used in IEEE 802.3-compliant Ethernet devices. As explained previously, NWay auto-negotiation is an integral part of networks that utilize Ethernet equipment operating at varying speeds (10 Mbps, 100 Mbps, and 1,000 Mbps). This technology enables individual devices in a LAN to automatically identify and configure themselves to achieve maximum data transmission speeds, and allows network administrators to incrementally upgrade LANs with higher-speed equipment while minimizing disruption to existing network services. As a result, for well over a decade NWay auto-negotiation has been an essential feature in virtually all equipment employed within Ethernet-based networks. Once the Fast Ethernet standards became entrenched in the mid-to-late 1990s, there were simply no practical alternative technologies, processes, or methods that could have conceivably served as a functional substitute for NWay auto-negotiation. Therefore, in the relevant market at issue here NWay is the only commercially viable technology.

[Footnote continued from previous page]

plaintiffs presented evidence that defendant failed to carry out certain terms of franchise agreement in furtherance of allegedly illegal tying scheme).

74 U.S. Dep't of Justice and Fed. Trade Comm'n, *Antitrust Guidelines for the Licensing of Intellectual Property* at § 3.2.2 (April 6, 1995).

2. N-Data Has Acquired Monopoly Power in the Relevant Technology Market

Monopoly power is "the power to control prices or exclude competition" within a properly defined relevant market.[75] The Supreme Court has long recognized that "the material consideration in determining whether a monopoly exists is not that prices are raised and that competition actually is excluded but that power exists to raise prices or to exclude competition when it is desired to do so."[76] Improper acquisition of monopoly power completes the offense of monopolization, even if the power has not been exercised to its full potential.[77]

Monopoly power may be demonstrated through either direct or indirect evidence. Evidence that a firm has actually charged a supracompetitive price or excluded competitors is typically deemed to constitute direct proof of monopoly power.[78] On the other hand, evidence that a firm possesses "a dominant share of a relevant market that is protected by entry barriers" may suffice as indirect proof of monopoly power.[79] Both types of evidence are present here.

One telling indicia of monopoly power in this case is that Vertical and N-Data have successfully imposed royalty rates for NWay technology significantly exceeding the competitive rate set by National during the IEEE standard-setting process. This case mirrors *Unocal* in this regard. In *Unocal*, Complaint Counsel argued that the competitive royalty rates for Unocal's patents were the rates that prevailed when there were other alternatives available (*i.e.*, before CARB incorporated Unocal's technology into its regulations). As alleged by Complaint Counsel:

> The direct evidence of monopoly power can be measured by comparing the actual royalty rates to a competitive benchmark. The proper competitive benchmark is the royalty-free representation that Unocal made to CARB. *Since Unocal is seeking royalties significantly above that level,*

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75 *United States v. E.I. du Pont de Nemours and Co.*, 351 U.S. 377, 391 (1956).

76 *American Tobacco Co. v. United States*, 328 U.S. 781, 811 (1946).

77 *Berkey Photo v. Eastman Kodak Co.*, 603 F.2d 263, 275 (2d Cir. 1979) ("Unlawfully acquired power remains anathema even when kept dormant.").

78 *See, e.g., Re/Max Int'l, Inc. v. Realty One, Inc.*, 173 F.3d 995, 1018 (6th Cir. 1999) ("An antitrust plaintiff is not required to rely on indirect evidence of a defendant's monopoly power . . . when there is direct evidence that the defendant has actually set prices or excluded competition."); *FTC v. Libbey, Inc.*, 211 F. Supp. 2d 34, 49 (D.D.C. 2002) (showing of actual detrimental market effects can eliminate the need for further inquiry into market power).

79 *Microsoft Corp. v. United States*, 253 F.3d 34, 51 (D.C. Cir. 2001); *see also Tops Mkts., Inc. v. Quality Mkts., Inc.*, 142 F.3d 90, 98 (2d Cir. 1998).

> *and has received or is likely to receive these royalties, Unocal has monopoly power. Supra-competitive royalty prices are direct evidence of Unocal's monopoly power.*[80]

Similar evidence is available in this case. National's action in committing to a $1,000 license fee when NWay faced viable competition to satisfy the auto-negotiation needs of the Fast Ethernet standards provides compelling evidence of the *ex ante* competitive price for the NWay technology.[81]

In 2004, N-Data explicitly rejected Dell's proffer of the $1,000 one-time royalty specified in National's letter to the IEEE. N-Data demanded that Dell accept a license at a rate of ten cents per auto-negotiation port, amounting to an annual license fee in the tens of millions of dollars. Moreover, in defending this demand N-Data expressly asserted that Dell and other network equipment vendors had no choice but to employ the NWay patents, as they were embedded within the dominant industry standard and compliance with that standard was (and still is) a commercial necessity. Considering these facts, N-Data would be hard pressed to deny that it possessed monopoly power.

Additional direct evidence confirms that Vertical and N-Data used their monopoly power to extract supracompetitive royalties from other network industry players. In addition to suing Dell, Vertical and N-Data filed patent infringement suits against Linksys (which was later purchased by Cisco) and AltiGen Communications over their use of the NWay auto-negotiation technology.[82] Both the *AltiGen* and *Linksys* suits were later settled, and while the precise terms

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80 Complaint Counsel's Proposed Findings of Fact, Conclusions of Law, and Order, *Unocal*, No. 9305, ¶ 2874, (F.T.C. Mar. 9, 2005) (emphasis added).

81 Chairman Majoras made exactly this point in a 2005 speech on standard-setting issues: "[B]efore lock in – or *ex ante* – technologies compete to be the standard, and no patent holder can demand more than a competitive royalty rate. After lock in – or *ex post* – the owner of the chosen technology may have the power to charge users supra-competitive royalty rates – rates that may ultimately be passed on to consumers in the form of higher prices." Chairman Deborah Platt Majoras, *Recognizing the Procompetitive Potential of Royalty Discussions in Standard Setting*, at 3 (Sept. 23, 2005), *available at* http://www.ftc.gov/speeches/majoras/050923stanford.pdf.

82 In the *Unocal* case, the Commission stated that "[m]arket power and competitive harm might be established through the course of dealing among Unocal and third parties, as reflected by Unocal's licensing activities and the responses of third parties to Unocal's threats and suits." *Unocal*, No. 9305, 2004 FTC LEXIS 115, at *127 (July 7, 2004). The facts here indicate that the threats made by Vertical and N-Data were not hollow, and were taken very seriously by the affected companies.

of those settlements are not known to Dell, it appears that Vertical was able to settle the *Linksys* suit with Cisco at a substantial premium over the $1,000 competitive price.[83]

3. Vertical and N-Data Acquired Monopoly Power Through Their Exclusionary Course of Conduct

Although standardization made NWay the only auto-negotiation option practically available to Ethernet equipment manufacturers and users, that standardization came with a specific price – National's agreement to forfeit the monopoly power that the Fast Ethernet standards might have conferred upon the holder of the NWay patents. In light of that commitment, National possessed neither the power to control price nor the ability to exclude competition. On the contrary, it was bound to license all comers for a token royalty amount. This commitment was inherited by Vertical and N-Data, as assignees of the NWay patents, meaning that they too lacked monopoly power – that is, until they began engaging in exclusionary conduct designed to circumvent National's commitments to IEEE. In other words, it was Vertical's and N-Data's course of conduct, not the NWay patents themselves, that led to the acquisition and exercise of monopoly power in this case.

This interpretation of the facts is well supported by antitrust case law. Again, it is settled law that the hallmark of monopoly power is "the power to control prices or exclude competition."[84] Yet a firm that has a high (even 100 percent) market share does not necessarily possess monopoly power if it is unable to control price or exclude competition. Market shares are irrelevant and can even be misleading where more direct evidence of a firm's inability to charge supracompetitive prices or exclude competitors is available.[85] Direct evidence concerning the ability to raise price is particularly salient. As noted by Judge Easterbrook, "[w]hen there are better ways to estimate market power, the court should use them."[86]

There are many cases in which courts have found that a firm lacked market or monopoly power despite the fact that the firm in question possessed a high share. In *United States v.*

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83 In the course of settlement discussions with Dell, counsel for Vertical indicated that Cisco's then-applicable royalty rate for NWay was approximately $5.4 million per year.

84 *du Pont*, 351 U.S. at 391.

85 *See Hunt-Wesson Foods, Inc. v. Ragu Foods, Inc.*, 627 F.2d 919, 924 (9th Cir. 1980) ("Blind reliance upon market share, divorced from commercial reality, could give a misleading picture of a firm's actual ability to control prices or exclude competition.").

86 *Ball Mem'l Hosp. v. Mutual Hosp. Ins.*, 784 F.2d 1325, 1336 (7th Cir. 1986); *see also Re/Max Int'l*, 173 F.3d at 1018 ("An antitrust plaintiff is not required to rely on indirect evidence of a defendant's monopoly power . . . when there is direct evidence that the defendant has actually set prices or excluded competition.").

General Dynamics Corp.,[87] for instance, the Supreme Court held that statistics demonstrating the defendant's high market share did not alone prove market power considering that the defendant's pricing discretion was constrained by long-term contractual commitments that specified the prices the defendant was to charge for its output. Following *General Dynamics,* a number of lower courts have recognized that a firm with contractual commitments preventing it from raising price above competitive levels does not possess monopoly power.[88]

Similarly, courts have held that even a firm which faces no actual or threatened competition may lack monopoly power if regulatory strictures prevent the firm from charging supracompetitive prices. For example, in *Almeda Mall, Inc. v. Houston Lighting and Power Co.*,[89] a public utility was found not to have monopoly power despite its control over substantially all of the relevant market.[90] Because regulations prevented the utility from having "the direct power to control prices or exclude competition," the firm's "predominant share of the relevant market" was insufficient for the court to "infer the traditional monopoly power associated with an entity outside the regulated field."[91] Conversely, if a dominant firm, by avoiding or circumventing applicable regulations, regains its ability to control prices, this may support a finding of monopoly power.[92]

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87 415 U.S. 486 (1974).

88 *See, e.g., Nat'l Reporting Co. v. Alderson Reporting Co.,* 763 F.2d 1020, 1024-1025 (8th Cir. 1986) (the fact that a firm possessed an exclusive contract granting it 100 percent of the market was insufficient to support a finding of monopoly power if the firm could not raise prices without causing its exclusive contract to be put out for bidding once again); *Ticketmaster Corp. v. Tickets.com, Inc.*, No. CV99-7654-HLH, 2003 U.S. Dist. LEXIS 6484, at *12 (C.D. Cal. Mar. 6, 2003) (summary judgment was appropriate because defendant lacked monopoly power, due, in part, to the fact that its prices were fixed by long-term contracts), *aff'd*, 2005 U.S. App. LEXIS 6227 (9th Cir. Apr. 11, 2005); *Alabama Ambulance Serv. v. City of Phenix City*, 71 F. Supp. 2d 1188, 1195-96 (M.D. Ala. 1999) (defendant lacked monopoly power where defendant's exclusive contract for city-wide 911 services prevented it from unilaterally raising prices during the term of the contract); *Kirk-Mayer, Inc. v. Pac. Ord, Inc.*, 626 F. Supp. 1168, 1170-1171 (C.D. Cal. 1986) (the fact that a firm did not have the ability to control price as a result of contractual commitments contributed to a finding that the firm lacked monopoly power).

89 615 F.2d 343 (5th Cir. 1980).

90 *Id.* at 354.

91 *Id.*

92 *See Cost Mgmt. Servs. v. Washington Natural Gas Co.,* 99 F.3d 937, 950-951 (9th Cir. 1996).

One lesson to be drawn from these cases is that "monopoly is not a natural consequence of the standard setting process."[93] Even though NWay faces no competition in the relevant market for auto-negotiation technology (put differently, it has a 100 percent share), this alone does not mean that National or the subsequent assignees of the NWay patents possessed monopoly power. Through its licensing commitments, National voluntarily ceded its ability to exploit any market power attributable to the patents. Indeed, the entire purpose of *ex ante* negotiations over licensing in a standards-setting context is to moderate or eliminate the ability of a patent owner to convert the market power of the standard into private monopoly power.[94] Accordingly, when Vertical and N-Data acquired the NWay patents from National by assignment, they possessed no monopoly power.

A second lesson from these cases is that, where firms violate regulations or contractual commitments that would otherwise restrain their control over price, they may be found to have acquired monopoly power. In 2002, Vertical and N-Data disavowed National's prior licensing assurances and refused to accept royalties tendered in accordance such assurances. Thereafter, manufacturers of Ethernet equipment found themselves to be victims of opportunism occurring because of an *ex post* hold-up problem Only after engaging in this course of conduct did Vertical, and later N-Data, begin to acquire and exercise monopoly power.

IV. Conclusion

For the forgoing reasons, Dell urges the Commission to supplement the *N-Data* consent order with an additional claim predicated upon Section 2 of the Sherman Act. Doing so would be of benefit to private standard-setting organizations and their participants, for it would establish a meaningful precedent to guide courts in private litigation. Adding a Section 2 claim in this case would also be valuable from the standpoint of clarifying that the core principles underlying *Rambus* and *Unocal* have applicability to somewhat varied fact situations. Firms seeking to subvert collaborative standard-setting activities for their own anticompetitive ends are capable of employing a variety of exclusionary means, and where such conduct serves to create monopoly power, the Commission should not hesitate to act under Section 2. By failing to condemn N-Data's conduct under Section 2, the Commission is sending a potentially dangerous signal, one that could embolden other firms to capture monopoly power by abandoning *ex ante* licensing commitments. The recurrence of such behavior could be hugely disruptive within the standard-setting community and the many markets that revolve around open industry standards. The FTC's silence on Section 2 issues in this consent order, at a very minimum, creates

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93 *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 317 (3d Cir. 2007).

94 *See, e.g.*, Swanson, *Evaluating Market Power*, at 6 ("One possible solution to the problem of *ex post* market power is for prospective licensees to bargain in advance of selection, when the market is at its most competitive – as proponents of alternative technologies are actively vying with each other for advantage – and to close the deal at or before the time when the standard is finally chosen."); Majoras, *Recognizing the Procompetitive Potential of Royalty Discussions in Standard Setting*, at 4-6 (listing ways in which standards organizations attempt to prevent *ex post* hold up).

uncertainty and doubt concerning the extent to which antitrust will protect against opportunistic conduct in this setting. The Commission can and should dispel such uncertainty by articulating a Section 2-based theory in this case.