E. Microsoft's conduct has caused, and will continue to cause, substantial and far-reaching consumer harm

404. Microsoft's predatory and anticompetitive course of conduct to blunt the browser threat, to impede other middleware platforms, and to extend its control over standards has caused, and will continue to cause, substantial and far-reaching harm to consumers.

1. Microsoft's maintenance of its operating system monopoly has deprived, and will continue to deprive, consumers of the benefits of greater competition in operating systems.

405. As detailed above, Microsoft's conduct eliminated the possibility that browsers could lead to a paradigm shift that would erode the applications barrier to entry and dissipate Microsoft's monopoly power. Microsoft also hindered other middleware threats, including Java and NSP. Microsoft's maintenance of its operating system monopoly has thus harmed consumers by denying them the prospect of the substantial consumer benefits that the success of these threats might bring.

a. Microsoft has deprived consumers of the possible development of greater choice in operating systems

405.1. The fuller development of cross-platform applications, whether running on browsers, the Java runtime environment, or other middleware, could have increased competition and innovation in operating systems and resulted in substantial consumer benefits.

i. Steven McGeady testified: "If Netscape managed to get into a position where they were a credible threat to Microsoft. . . . that would not only directly bring benefit to the marketplace, but it would goad Microsoft in increased competition" and provide more opportunities for other vendors to bring applications to market more quickly. Consumers would benefit by more choice and by a faster rate of innovation. McGeady, 11/9/98pm, at 62:19 - 63:16.

ii. Caldera concluded, based on a Harvard Business School case study:

"Rivalry within the Desktop OS industry is brutal to the point of illegality. The existence of Microsoft in the Desktop market has, to this time, prevented any other competitors from having any hope of long-term profitability." Therefore: "The Desktop OS industry appears to be a very good industry to be in, except for the brutal competition within the industry. Because this competition has become extremely monopolistic, entry of other viable players is highly unlikely. This will result in very strong profits for the dominant player, but quickly reduces customer satisfaction and technological innovation." GX 342, at 6.

iii. Dr. Warren-Boulton testified that Microsoft's conduct reduces the set of cross-platform applications and so "makes development of new operating systems, and extensions of the operating systems, and innovation in operating systems, and in the variety of operating systems less profitable" and so less likely. Warren-Boulton, 12/1/98am, at 60:12 - 61:4.

iv. Professor Fisher confirmed that Microsoft's thwarting of the browser threat and maintenance of its operating system has deprived consumers the benefit of competition: "In the future, the competition in operating systems that might have been fostered by Netscape or Netscape and Java together--that threat has receded and, to that extent, consumers will not benefit from competition." Fisher, 1/13/99am, at 62:25 - 63:4.

405.2. Consumers would enjoy greater choice in operating systems if greater competition and innovation had occurred.

i. Gateway's James Von Holle testified that "if a viable alternative emerged" to Windows, Gateway "would evaluate" it because Gateway likes "to make sure that" its "customers are offered a . . . choice of products that become popular in the market place." Von Holle Dep., 1/13/99, at 299:15 - 300:1.

ii. Hewlett Packard's Dave Wright wrote, in conclusion to a letter protesting Microsoft's "Windows Experience" restrictions: "If we had a choice of another supplier, based on your actions in this area, I assure you [you] would not be our supplier of choice." GX 309.

b. Microsoft has deprived consumers of lower prices that might have resulted from greater choice in operating systems

405.3. The diminished probability that Microsoft will lose its monopoly power

has deprived consumers of the benefits of lower prices that would result from the elimination of Microsoft's power over price.

i. Professor Fisher testified that "there is a substantial probability that Microsoft's anti-competitive actions will permit Microsoft to retain its power over price in operating systems and will inhibit development of Microsoft-independent innovations. Both would harm consumer welfare." Fisher Dir., ¶ 235. Because Microsoft has thwarted the browser threat and other threats to its operating system monopoly, "Microsoft's freedom to charge high prices for the operating system will not be dissipated." Fisher, 1/12/99am, at 29:6-11.

ii. Dr. Warren-Boulton testified that the development of cross-platform technologies "can be expected to reduce the price that end users pay for operating systems" by lowering the applications barrier to entry and widening the range of operating systems that users could choose without losing access to a variety of applications. Warren-Boulton Dir. ¶ 198.

iii. Further, he testified that if competition emerges "between the Windows operating system and other operating systems as substitutes, if that competition takes place and flourishes as in other markets, we would expect prices to fall and costs to consumers to go down." Warren-Boulton, 12/1/98pm, at 50:20 - 51:8.

c. Microsoft has deprived consumers of benefits from innovation in markets related to operating systems

405.4. The Microsoft's maintenance of its operating system monopoly has deprived consumers of innovations in hardware and other complements to cross-platform applications.

i. As Microsoft's Ben Slivka stated in his deposition, a "nightmare scenario is that the web grows into a rich application platform in an operating-system neutral way, and then a company like Siemens or Matsushita comes out with a $500 'WebMachine' that attaches to a TV". Slivka Dep., 1/13/99pm, at 712:6-11 (commenting on GX 1016).

ii. A February 1997 Microsoft memo makes clear that protecting Windows would affect the success of the hardware and software for network computers (NCs), which are not Windows-based: "Windows is facing the

biggest competitive threat since its inception. If the NC is successful, it could mean a catastrophic downside in Windows revenue . . . which would also have substantial negative impact on our server business, given NC's require a specific server." DX 1490, at MS7 007476.

d. Microsoft has deprived consumers of benefits from other potential paradigm shifts that Microsoft's conduct deters

405.5. Microsoft's conduct deters new developments that could provide consumers the benefits of competition in the future.

i. Barksdale testified that "consumers are directly affected by Microsoft's practices. By trying to destroy innovative companies like Netscape, Microsoft has sent a message to the industry -- if Microsoft perceives that your success has the potential to undermine Windows in any way, Microsoft will do everything in its power to destroy you. The end result is reduced innovation, and thus, fewer choices for consumers." Barksdale Dir. ¶ 36.

ii. Professor Fisher testified that Microsoft "will take very, very aggressive action against you if what you're doing is producing innovations that might lead to something that threatens their operating system monopoly. . . . It rather discourages, I should think, people from thinking of ways to provide -- to innovate in ways that would threaten the operating system monopoly. The lessons are out there. . . . As I said in January, we're going to live in a Microsoft world. Innovation is going to go in the direction that Microsoft thinks is good for it." Fisher, 6/2/99am, at 25:12-25; see also Fisher, 1/12/99pm, at 22:10-18 (similar).

e. Microsoft's obtaining of a monopoly over browsers would result in further harm to consumers

405.6. Microsoft's monopolization of the browser market, dangerously threatened by Microsoft's effort to blunt the browser threat, would result in additional injury to consumers.

i. Vesey testified that browser competition "benefits Boeing in that it forces both vendors to be mindful of standards organizations and hopefully providing support for well-documented, publicly documented standard technologies." Vesey Dep., 1/13/99, at 286:3 - 287:2.

ii. Professor Fisher testified that "if Microsoft is permitted to use its existing

monopoly power over PC operating systems to monopolize the market for Internet browsers (and, thereby, to put itself in the position to control and ultimately exact a monopoly toll for efficient access to the Internet), the economic costs to consumers and the economy will again be substantial." Fisher Dir. ¶ 15.

2. The tactics Microsoft has employed in its anticompetitive and predatory course of conduct harmed consumers

406. The tactics Microsoft used to blunt the threats to its operating system monopoly, in particular its campaign to gain browser share, themselves harmed consumers.

406.1. First, Microsoft's efforts to blunt the browser threat reduced customers' choice among browsers.

i. Microsoft's anticompetitive and predatory conduct substantially reduced the distribution of Netscape's browser. See supra VII.A.

ii. Professor Fisher explained: "There is evidence in the record that OEMs would, other things being equal, often prefer the choice of browsers. Now, it may be true that it's easier for the OEMs if they don't have to think about it. And it may also be true that it would be easier for consumers if they didn't have to think about it. And if Henry Ford had had a monopoly, we'd all be driving black cars. The customer could have any car he wants so long as it's black. And that might have been easier for customers. . . . If Microsoft forced upon the world one browser, that would make it really simple. That's not what competition is about. . . . Microsoft has influenced the choice so that they end up in one place. . . And we're going to live in a Microsoft world, and it may be a nice world, but it's not a competitive world, and it's not a world that's ultimately consumer-driven." Fisher, 1/7/99am, at 27:12 - 28:3.

iii. Professor Fisher further explained that being deprived of choice harms consumers: "What's happened here is consumers have been deprived of an opportunity to choose. And where they are not literally deprived of the ability, it's been made less likely that they will make certain choices. Their choices have been conditioned in certain ways. And deprivation of choice, directly or indirectly, is a harm to consumers." Fisher 1/12/99pm, at 10:5-10; see also Fisher, 1/13/99am, at 62:6-9 (although most harm is in the future, Microsoft's present limitation of consumer choice -- in the form of limited choices and informed choices -- has harmed consumers).

iv. Dr. Warren-Boulton concluded that "the impairment of rivals caused by Microsoft's agreements matters; Microsoft's constriction of distribution channels has significantly impaired the ability of Netscape and other non-Microsoft browsers to effectively offer consumers a choice between their browser and Microsoft's." Warren-Boulton Dir. ¶ 13.

406.2. Second, Microsoft's actions to maintain its operating system monopoly have harmed competition and innovation in browsers.

i. Barksdale testified that Microsoft's predatory pricing inhibited browser innovation. Because Netscape could not maintain its browser revenues, it canceled plans to introduce more advanced features of the product. Barksdale, 10/21/98pm, at 55:3-20. By making it "noneconomic," Microsoft has discouraged anyone who might have innovated in the browser area. Although browsers have "improved in many ways," Barksdale testified that they have certainly not improved "as much as they could have." Barksdale, 10/21/98pm, at 59:2-16.

ii. Marc Andreessen testified about the direction in which browsers at one point in time were headed. The "evolutionary track that browsers were on for at least a period of time was towards becoming more and more general-purpose platforms." Developers had asked for browsers to expose more APIs, so that it would be "easier to build a much broader range of applications." Andreessen Dep. (played 12/1/98am), at 64:5-14.

iii. This new direction, as Andreessen further testified, has not been taken because of Microsoft's anticompetitive actions: "But as the pricing pressure on browsers became clear and as, for example, it became clear that we were not going to have access to a P.C. OEM channel, to the extent that it became clear that Microsoft was engaging in a broad range of sales and marketing and development tactics designed to discourage or make very difficult development of software applications on or for platforms other than Windows, it became clear to us in the '96-'97 timeframe that it was not an economically feasible proposition to continue that development path. We would never generate a return." Andreessen Dep. (played 12/1/98am), at 64:1 - 65:11.

406.3. Third, other elements of Microsoft's anticompetitive and predatory scheme to impede browsers and other middleware technologies injured consumers.

406.3.1. The various ways in which Microsoft tied its browser to Windows, including making it nonremovable, caused substantial consumer harm.

406.3.1.1. Microsoft harmed consumers by requiring OEMs to make software decisions that did not reflect consumers' demand.

i Microsoft raised support and testing costs borne by OEMs, and ultimately by consumers, by requiring OEMs to preinstall Internet Explorer even if they preinstalled Navigator. See supra Part V.B.4.a.(1); ¶¶ 167.2-3.

ii. Microsoft increased clutter on OEMs' desktops by requiring OEMs to preinstall Internet Explorer even if they preinstalled Navigator. See supra Part V.B.4.a.(3); ¶ 167.4.

iii. Consumers have been offered less diverse browser options by OEMs because Microsoft requires OEMs to preinstall Internet Explorer, thereby discouraging them from also preinstalling Navigator. See supra Part V.B.4.b; ; ¶ 168.

406.3.1.2. Microsoft harmed consumers by hard-coding Internet Explorer with Windows 98.

i. Microsoft decided to frustrate the user's choice of default browser in Windows 98 by forcing the use of Internet Explorer in certain situations. See supra Part V.B.4.c.(2); ¶ 170.4.

ii. Microsoft's hard-coding of Internet Explorer to Windows 98 raises the costs to organizations of standardizing their desktops on a non-Microsoft browser. See supra Part V.B.4.c.(2); ¶ 170.5. As Weadock testified, "Therefore, the organization's browser decision is influenced by factors other than the merits of the product." Weadock Dir. ¶ 43. See supra Part V.B.4.c.(2); ¶ 170.5.

iii. Microsoft's hard-coding of Internet Explorer to Windows 98 has forced some corporate customers who do not want Internet Explorer to install instead an older and less feature-

rich version of Windows without a welded browser. See supra Part V.B.4.c.(2); ¶ 170.6.2.

iv. Microsoft's commingling of the code that supplies browsing and operating system functionality can create conflicts with some applications and create increased security risks. See supra Part V.B.4.d.(2); ¶ 173.

406.3.1.3. Microsoft harmed consumers by commingling the code that supplies browsing and operating system functionality, thereby reducing system performance for consumers who do not want to browse the web with Internet Explorer.

i. Microsoft harmed consumers who do not want to browse the Web with Internet Explorer by requiring them to accept substantial amounts of unwanted code, which takes up memory resources and disk space. See supra Part V.B.4.c.(1); ¶ 170.1.

ii. Requiring customers to take unwanted code can create stability problems, increase end-user confusion, and raise support costs. See supra Part V.B.4.(c)(1); ¶ 170.3.

iii. As Maritz acknowledged, "in certain circumstances, applications in general, not just Netscape's browser, can run slower on Windows 98 versus Windows 95 in memory-constrained situations." Maritz, 1/27/99pm, 4:7-23.

406.3.2. Microsoft's screen restrictions, imposed for the purpose and with the effect of impeding the browser threat, also caused significant inefficiencies and harmed consumers.

i. Microsoft's screen restrictions forced OEMs to scrap welcome screens and other features that, as Microsoft at times acknowledged, made computers less confusing and easier to use. See supra Part V.C.1.b.(1); ¶ 178.1.

ii. By preventing OEMs from implementing their own welcome screens and other features to assist consumers, Microsoft raised the support costs OEMs bore. See supra Part V.C.1.b.(1); ¶ 178.1.

iii. Microsoft increased clutter on OEMs' desktops, and thereby increased consumer confusion, by requiring OEMs to include the Internet Explorer icon even if they also included the Netscape Navigator icon. See supra Part V.C.1.b.(2); ¶ 179.1; Part V.B.4.a.(1); ¶ 167.4.

iv. By requiring OEMs to include the Internet Explorer icon, Microsoft increased the support costs to consumers of standardizing on a non-Microsoft borwser. See supra Part V.C.1.b.(2); ¶ 180; Part V.B.4.d.(1); ¶ 170.5.

406.3.3. Microsoft's efforts fragment Java harmed consumers.

i. Microsoft harmed consumers by successfully pressuring third parties, including Intel, not to develop Java technologies that would have enhanced the performance of applications that run on Windows. See supra Part VI.A.3.c.(1); ¶ 333.

406.3.4. Microsoft's elimination of platform-level NSP deprived consumers of the benefits of those technologies.

i. Microsoft harmed consumers by forcing Intel to abandon platform-level NSP and other software initiatives, depriving consumers of innovative hardware and software. See supra Part VI.B.4; ¶ 353.

3. Microsoft's incentive to distort innovation to protect its operating system monopoly will continue to harm consumers

407. Microsoft has caused particularly acute consumer harm by using its monopoly power to innovate in ways designed to protect its operating system monopoly and to impede efforts by others to innovate in different ways.

a. Microsoft's maintenance of its operating system monopoly preserves its control over innovation, to the detriment of consumers

408. Microsoft's maintenance of its monopoly power preserves its continued control, to the detriment of consumers, of the pace and direction of innovation.

408.1. Control over innovation by one firm rather than by market forces is presumptively harmful to consumers.

i. Professor Fisher testified that Microsoft's continued monopoly power over operating systems means that, "in this area, it won't be a consumer-driven society; it will be a Microsoft-driven society. Microsoft will determine what it charges for different products, and for certain of those products there won't be a choice. Microsoft will determine what innovations are successful and what innovations are not successful, and consumers won't get the choice. I used last week the analogy of Henry Ford and the black car. Another way of describing this is Microsoft's advertising slogan 'Where do you want to go today?' Where you want to go today is going to be where Microsoft is willing to take you or where you choose to go, given the way Microsoft has restricted your choice. And you are certainly going to have to use the means of transportation Microsoft provides. Those may be nice means of transportation. You may, in fact, want to go to these places, but that's not consistent with the kind of . . . consumer-driven market choices . . . that a competitive policy relies on." Fisher, 1/12/99am, at 30:21 - 31:4.

ii. Professor Fisher testified: "The economics of antitrust policy is based upon the proposition that competition ends up, in one way or another, always being good for consumers. That proposition is the central proposition of microeconomics." Fisher, 6/2/99am, 20:14-19.

iii. Professor Fisher testified: "Q: It is proved that competition will lead to an efficient allocation of resources, and that will benefit consumers? Professor Fisher: Yes. Q: Will competition for consumer sets like OEMs, that are not themselves ultimate consumers, advance that efficient allocation of resources? Professor Fisher: Yes, it will." Fisher, 6/2/99am, 24:13-20.

iv. Professor Fisher testified: "The general presumption is that it ought to be competition on the merits that decides what kind of innovation is good." Fisher, 6/2/99am, 25:5 - 26:3.

408.2. Demonstrating the reason for this presumption, and consistent with its possession of monopoly power, Microsoft has at times failed to provide innovations that would have met and expanded consumer demand.

408.2.1. New hardware and software advances for personal computers are dependent upon Windows support and subject to Microsoft's schedule.

i. Microsoft's Carl Stork bluntly explained in May 1995 that, if a firm wants to enable a new function not supported by the Windows operating system, the only "winning path" is to convince Microsoft to support and resource the effort. If the proposal does not fit with Microsoft's priorities, the firm must simply "accept the outcome that the time isn't right for us." Stork recognized that Intel did not "want to have to rely on us to meet our commitments. They have a list of commitments we have missed." GX 921, at MS98 0168653, 0168651.

ii. Microsoft Senior Vice President Brad Silverberg agreed with Stork: "certainly we have been remiss in not advancing the hw [hardware] platform faster." Intel was "understandably impatient with our pace." GX 921, at MS98 0168652.

iii. Microsoft Vice-President David Cole then wrote: "These guys are tired of waiting for Windows releases to make advances in hardware. They feel the need to write system extensions to do this. We don't want em to." GX 921, at MS98 0168652.

iv. According to a contemporaneous email by Netscape's Marc Andreessen, reporting on a meeting with Intel's McGeady, Intel recognized that the success of Netscape was good for the industry because if Intel only has "Microsoft as a single channel to innovate on the PC platform, then Microsoft controls the rate of innovation and slows things down to suit Microsoft's interests." DX 1619, at 1.

408.2.2. This dependence on Microsoft's willingness to implement new technologies injures consumers.

i. Steven McGeady of Intel testified about the frustration and harm to end users resulting from Microsoft's control over the pace of innovation: "The hardware vendors . . . both at the time and now, continue to be frustrated . . . because they had more ideas about new ways and interesting ways to do things that would have benefit for the end user than they were able to get pushed up through the operating system layers." McGeady, 11/9/98pm, at 47:4-10; see

generally McGeady, 11/9/98pm, at 45:13 - 47:20 (citing examples).

ii. McGeady also testified: "The more competitive and diverse a software environment -- application development environment is, the more innovation occurs and the more different options are presented to consumers. Correspondingly, as the software environment has become more of a monoculture around Microsoft, the rate of innovation appears to be slowing, and the number of different and varied options presented to the consumer is diminishing." McGeady, 11/9/98pm, at 61:24 - 62:7.

iii. Microsoft employees admitted that Microsoft had "completely missed the boat on developing a compelling state of the art media subsystem for Windows95." GX 563. In addition, Microsoft's Eric Engstrom testified that Windows support for game software had stagnated for 10 years. Engstrom, 2/23/99pm, at 39:10-14.

b. Microsoft distorted innovation in order to protect its operating system monopoly, thereby harming consumers

409. Microsoft's control over innovation harms consumers not only because Microsoft rather than the market determines what innovations consumers receive, but also because Microsoft has incentives to innovate in ways that protect its operating system monopoly rather than respond to consumer demand.

409.1. First, Microsoft innovated, or failed to innovate, in ways designed to protect its operating system monopoly, even though consumers would have been better off had Microsoft undertaken other obvious (in most cases carefully studied) alternatives.

409.1.1. Microsoft delayed releasing its own innovations in its effort to weld its browser and operating system.

i. When it became obvious within Microsoft that Internet Explorer 4.0 was behind schedule, Kempin made clear to Allchin that he wanted to ship to Microsoft's OEM customers an upgraded Windows product "with all the new hardware support" without waiting for the forthcoming Internet Explorer 4.0 to be

incorporated. GX 159.

ii. In a March 1997 email, Roberts argued in favor of holding Memphis (which became Windows 98) until Internet Explorer 4.0 was ready, even though doing so would mean delaying the new hardware support. He concluded that shipping Memphis without Internet Explorer 4.0 would "cause users to step back and evaluate the Netscape alternative" and so impair Microsoft's goal of "IE penetration." GX 355, at MS7 003000.

iii. Microsoft's customers, including Gateway, told Microsoft that the delay in releasing Windows 98 due to the browser "integration" was hurting innovation. Von Holle of Gateway wrote that Gateway needed, in order to persuade Microsoft to release Memphis without the browser, to send the message that Microsoft is "slowing the pace of new product introduction in the industry." He wrote: "They have a responsibility to the industry because of their dominant market share in the core operating system." GX 357,at GW 026522 (sealed); Von Holle Dep., 1/13/99, at 303:9-304:15 (testifying about GX 357).

iv. Microsoft ultimely withheld Windows 98 from the market, with its new hardware support, until the Internet Explorer 4.0 browser was "integrated" into Windows 98. See supra Part V.B.2.e; ¶¶ 144-145.

409.1.2. Microsoft's welding of its browser to its operating system prevented or delayed consumers from taking advantage of innovative technologies in Windows.

i. In his interviews with computer managers at large corporations, Glenn Weadock found that many companies such as Boeing, "having standardized on Windows 95 for a large portion of their operating system needs, have sought, at some cost, to remove Internet Explorer from their PCs by either deleting the means of access to Internet Explorer or standardizing on the original version of Windows 95, which did not come with Internet Explorer at all." Weadock Dir. ¶ 1. But standardizing on the original version of Windows 95 to avoid Internet Explorer has its own costs: "However, in that case, the organization would either forego or incur additional costs of trying to reassemble various technological advances . . . provided by later versions of Windows 95." Weadock Dir. ¶ 40.

ii. Scott Vesey of Boeing testified that Boeing would continue for now to deploy Windows 95, in order to standardize on Netscape Navigator, but that in the long term, Boeing would not have a choice of browsers if it wanted to take advantage of new hardware support in Windows 98. Vesey Dep., 1/13/99, at 277:4 - 281:12.

iii. As recently as 1998, a survey by Compaq of U.S. companies found that "About 80% of companies wipe or reformat the hard drives of new desktops . . . . The operating system re-installed most often are OSR2 and the retail version of Windows 95. Large businesses lean more toward the retail version of Windows 95," which does not include a browser. GX 1242, at 7.

409.2. Second, Microsoft deterred or eliminated innovations by third parties (such as Intel) that could have developed into a threat to its operating system monopoly, even when those innovations would have benefitted Microsoft and consumers by increasing demand for Windows.

409.2.1. Microsoft induced other firms not to support cross-platform Java, in order to protect its operating system monopoly.

i. See supra Part VI.A.

409.2.2. Microsoft forced Intel to abandon platform-level NSP in order to protect its operating system monopoly.

i. See supra Part VI.B.

409.3. Third, Microsoft used its monopoly power and other anticompetitive devices to ensure that third parties innovated in ways that secured Microsoft's monopoly position and did not assist potential rivals.

409.3.1. Microsoft's coercive "First Wave" agreements condition access to beta releases of Microsoft's operating system on employing Microsoft-dictated standards.

i. For example, Symantec's First Wave agreement requires each of Symantec's applications to set Internet Explorer 4.0 as the default browser, to use HTMLHelp to implement its help system, and to use Microsoft's JVM as the default JVM, all as conditions of receiving early beta releases of Windows. GX 2071, at ¶ B.3 (sealed). See also e.g., GX 2463 (sealed) (same).

409.3.2. Microsoft told Intel not to innovate in ways that favored cross-platform Java.

i. Microsoft discouraged Intel from helping Sun write Java multimedia APIs, "esp. ones that run well (ie, native implementations) on Windows." GX 235.

ii. Microsoft made efforts to prevent Intel from providing its Java implementation, which was optimized for the Windows/Intel platform, to Netscape. GX 566.

c. Microsoft's continued incentive to protect its operating system monopoly can be expected to result in further strategic innovation that does not serve the interests of consumers

410. Microsoft's demonstrated willingness, and continued incentive, to preserve its operating system monopoly can be expected to result in the continued distortion and strategic use of innovation in the future.

410.1. By gaining a reputation as a predator, Microsoft has signaled that it will encourage only innovations that do not threaten its monopoly position in operating systems. It thus will continue to deter innovations (such as those in browsers) that firms might fear Microsoft would perceive as threats.

i. Professor Fisher testified: "Microsoft's anti-competitive actions are aimed at hindering the success of non-IE browsers, but they are likely to send a message to all software developers: Microsoft will impede any innovation that threatens Microsoft's monopoly in operating systems. This will lessen developers' incentives to develop products that provide alternatives to the Windows platform." Fisher Dir. ¶ 237.

ii. Professor Fisher also testified that, "if Microsoft is successful in its anti-competitive actions, that success will serve as a disincentive to other firms to innovate in areas that Microsoft may stake out as its own property. If software developers believe that Microsoft will engage in anti-competitive acts to impede any innovation that threatens its monopoly, they will have substantially reduced incentives to innovate in competition with Microsoft. As a result, the range of software products from which consumers can choose will be limited, ultimately further reducing consumer welfare." Fisher Dir. ¶ 24.

iii. See also supra Part VII.D.

410.2. Microsoft can be expected to continue to use its power over operating systems, and its increasingly strong position in browsers, to innovate and affect innovation in ways designed to preserve its operating system monopoly.

410.2.1. Microsoft's control over standards will allow it to deter threats that require interoperability with either browsers and operating systems, to the detriment of consumers.

i. See supra Part VII.D.3; ¶ 403.

410.2.2. Microsoft retains the incentive and ability to innovate strategically in other ways that protect Microsoft's interests yet are not in the best interests of consumers.

i. Professor Fisher testified: "One of the principal effects on consumers from Microsoft's actions, if unchecked, relates to what I said last week. Microsoft has shown that it will decide the ways in which innovation takes place in this industry, and that any innovation which threatens Microsoft's platform monopoly will be squashed. We will live, as it were, in a Microsoft world in which choices are the choices that Microsoft makes. I don't think that's good for consumers, but those effects have only just begun." Fisher, 1/12/99am, at 30:4-10.

Respectfully submitted,

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August 10, 1999

CERTIFICATE OF SERVICE

I hereby certify that two copies of the foregoing PLAINTIFFS'S JOINT PROPOSED FINDINGS OF FACT, redacted public version, were served by hand addressed to the following counsel for Defendant Microsoft Corporation on August 10, 1999:

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APPENDIX

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Allchin, James*	Senior Vice President, Personal and Business Systems Group, Microsoft Corporation
Andreessen, Marc	Executive Vice President, Products and Marketing, Netscape Communications Corporation
Barck, Russell	Business Developer, Intel Corporation
Barksdale, James*	Former President and CEO, Netscape Communications Corporation
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Belfiore, Joe	Group Program Manager for Windows User Interface Design, Microsoft Corporation
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Bergland, Wayne	Vice President, US Field Sales for The Santa Cruz Operation
Blackwell, Keith	President, Bristol Technology Incorporated
Bloom, Gary	General Manager of the Product Division for IBM Corporation
Bosworth, Scott	Engineering Manager for Websphere Applications Server and Studio Tools, IBM Corporation
Brownrigg, Richard	Chief Engineer, Internet Initiatives, Gateway 2000
Case, Steve	Chairman and CEO, America Online Incorporated

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Clare, David	Director, Independent Software Vendor Recruitment, Novell Corporation
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Colburn, David*	Senior Vice President, Business Affairs, America Online Incorporated
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Dunn, Celeste	Former Vice President, Consumer Division for Compaq Corporation
Engstrom, Eric*	General Manager, Windows Client and Collaboration Division, Multimedia, Microsoft Corporation
Eubanks, Gordan*	CEO, Oblix Incorporated; former CEO, Symantec Corporation
Farber, David*	Alfred Fitler Moore Professor of Telecommunication Systems at the Moore School of Engineering of the University of Pennsylvania

Name	Title
Felten, Edward*	Assistant Professor of Computer Science, Princeton University
Fisher, Frank*	Professor of Economics, Massachusetts Institute of Technology and Director, National Bureau of Economic Research
Fithian, Leslie	Director, Product's Law Group, Apple Computer, Incorporated
Frasca, James	Chief Technical Officer, Lucent Technologies
Gates, Bill	President and CEO, Microsoft Corporation
Gildor, Daniel	Senior Consultant, AdKnowledge
Gosling, James	Chief Scientist of Java Software Division, Vice President and Sun Fellow, Sun Microsystems Incorporated
Hardwick, Donald	OEM Group Manager, Microsoft Corporation
Harris, William*	CEO, Intuit Incorporated
Harvey, Randall	Director of Solutions Marketing, Novell Corporation
Homer, Michael	Former Executive Vice President of Sales and Marketing, Netscape Communications Corporation
Howard, Jeffrey	OS/2 Brand Manager, IBM Corporation
Jacobsen, Bruce	Chief Operating Officer and President, RealNetworks Incorporated, and a former Microsoft employee
Jones, Chris	Product Unit Manager of the Internet Explorer Team, Microsoft Corporation
Joy, Bill	Vice President of Research, Sun Microsystems Incorporated

Name	Title
Kanicki, Joseph	Senior Manager in Worldwide Procurement, Dell Computer Corporation
Kannegaard, Jon	Vice President of Java Platform Products, Sun Microsystems Incorporated
Kempin, Joachim*	Senior Vice President of OEM Sales Group, Microsoft Corporation
Kies, Jon	Senior Product Manager for Packard Bell, NEC Incorporated
Kozell, Jerry	Senior Software Engineer, IBM Corporation
Limp, David	Vice President of Marketing, Network Computer Incorporated
Maritz, Paul*	Group Vice President, Platforms and Applications, Microsoft Corporation
McClain, Gayle	Account Manager in the OEM Division, Microsoft Corporation
McGeady, Steven*	Vice President in the Content Group, Intel Corporation
McKinney, Webb	General Manager of the Home Products Division, Hewlett Packard Corporation
Mehdi, Yusuf	Director of Marketing, Internet and Applications Client Groups, Microsoft Corporation
Miller, Craig	Vice President of the Operating Systems Group, Novell Corporation
Muglia, Robert*	Senior Vice President of Application and Tools Group, Microsoft Corporation
Myhrvold, Cameron*	Vice President of the Internet Customer Unit, Strategic Relationships, Microsoft Corporation

Name	Title
Norris, Garry*	Former Program Director of Software Strategy and Strategic Relations for the IBM PC Company
O'Neal, Dana	Second-Line Software Development Manager in the Network Computer Division, IBM Corporation
Partovi, Hadi	Group Program Manager for the Internet Explorer Project, Microsoft Corporation
Phillips, Chris	Business Development Manager, Microsoft Corporation
Poole, William*	Senior Director of Windows Business Development, Microsoft Corporation
Popov, Michael	Vice President and COO of Staff Operations, Sun Microsystems Incorporated
Ransom, Mal	Senior Vice President of Marketing, Packard Bell NEC Incorporated
Rasmussen, Ronald	Vice President of the Volume Systems Group, The Santa Cruz Operation
Reardon, Thomas	Program Manager in the Interactive Media Group, Microsoft Corporation
Romano, John	Operating Manager for the Asia Pacific Region, Home Products Division of Hewlett Packard
Rose, John*	Former Senior Vice President and General Manager, Enterprise Computing Group, Compaq Computer Corporation
Rosen, Daniel*	General Manager of New Technology, Microsoft Corporation
Rys, A. Stephen	Vice President of Business and Product Development, Ameritech Corporation

Name	Title
Salem, Enrique	Vice President of the Security and Assistance Business Unit, Symantec Corporation
Sanders, Sean	Product Line Manager for the NetWare 4 and NetWare 3 Product Lines, Novell Corporation
Sasaki, Curtis	Group Marketing Manager for Consumer and Embedded Technologies, Sun Microsystems Incorporated
Schaff, Timothy	Senior Director of the Interactive Media Group, Apple Computer Corporation
Schell, Richard	Former Senior Vice President of Server Technology, Netscape Communications Corporation
Schiller, Phillip	Vice President of Worldwide Product Marketing, Apple Computer Corporation
Schmalensee, Richard*	Gordon Y. Billard Professor of Economics and Dean of the Massachusetts Institute of Technology Sloan School of Management
Schmidt, Eric	Chairman of the Board and Chief Executive Officer, Novell Corporation
Schuler, Barry	President of the Interactive Services Group, America Online Incorporated
Schwartz, Eric	Director of Strategy and Alliances with BellSouth.net, BellSouth Corporation
Shriram, Ram	Former Vice President of OEM and Web Sales, Netscape Communications Corporation
Silverberg, Brad	Currently on leave, formerly Senior Vice President of the Applications and Internet Client Group, Microsoft Corporation
Sinofsky, Stephen	General Manager of the Office Group, Microsoft Corporation

Name	Title
Slivka, Benjamin	General Manager in the Windows Team, Microsoft Corporation
Solnik, Ray	Vice President of Business and Strategy for the Internet Companies, SBC
Soyring, John*	Director of Network Computing Software Services, IBM Corporation
Spang, Bernard	Business Relationship Manager, IBM Corporation
Sparks, Bryan	President and CEO, Caldera Corporation
Stork, Carl	General Manager of Hardware Evangelism and Business Development, Microsoft Corporation
Sullivan, Robert	Director of Content Technology, Intel Corporation
Svendson, William	Market Analyst, Market Decisions Corporation
Tevanian, Avadis*	Senior Vice President of Software Engineering, Apple Computer Corporation
Veghte, Bill	General Manager, Windows 9x, Microsoft Corporation
Vesey, Scott	Windows Web Browser Product Manager, The Boeing Company
VonHolle, James	Director of Software and Internet Services, Gateway 2000
Von Rump, Stephen	Vice President of Enterprise Services, MCI Corporation
Wadsworth, Steve	Vice President of Buena Vista Internet Group, Walt Disney Company
Warren-Boulton, Frederick*	Principal with MiCRA (Microeconomic Consulting and Research Associates Incorporated)
Weadock, Glenn*	President, Independent Software Incorporated

Name	Title
Whittier, Ronald	General Manager of the Content Group, Intel Corporation
Williams, Joseph	OEM Account Manager, Microsoft Corporation
Wolf, Richard	Group Program Manager for NetDocs Group, Microsoft Corporation
Wright, David	Business Development Director, Novell Corporation