

told them that “if you let your customers deploy Netscape Navigator, you will lose [sic] leadership on the desktop.”

## **F. Excluding Navigator from Important Distribution Channels**

143. Decision-makers at Microsoft worried that simply developing its own attractive browser product, pricing it at zero, and promoting it vigorously would not divert enough browser usage from Navigator to neutralize it as a platform. They believed that a comparable browser product offered at no charge would still not be compelling enough to consumers to detract substantially from Navigator’s existing share of browser usage. This belief was due, at least in part, to the fact that Navigator already enjoyed a very large installed base and had become nearly synonymous with the Web in the public’s consciousness. If Microsoft was going to raise Internet Explorer’s share of browser usage and lower Navigator’s share, executives at Microsoft believed they needed to constrict Netscape’s access to the distribution channels that led most efficiently to browser usage.

### **1. The Importance of the OEM and IAP Channels**

144. Very soon after it recognized the need to gain browser usage share at Navigator’s expense, Microsoft identified pre-installation by OEMs and bundling with the proprietary client software of IAPs as the two distribution channels that lead most efficiently to browser usage. Two main reasons explain why these channels are so efficient. First, users must acquire a computer and connect to the Internet before they can browse the Web. Thus, the OEM and IAP channels lead directly to virtually every user of browsing software. Second, both OEMs and IAPs are able to place browsing software at the immediate disposal of a user without any effort on the part of the user. If an OEM pre-installs a browser onto its PCs and places an icon for that browser on the default screen, or

“desktop,” of the operating system, purchasers of those PCs will be confronted with the icon as soon as the operating system finishes loading into random access memory (“RAM”). If an IAP bundles a browser with its own proprietary software, its subscribers will, by default, use the browser whenever they connect to the Web. In its internal decision-making, Microsoft has placed considerable reliance on studies showing that consumers tend strongly to use whatever browsing software is placed most readily at their disposal, and that once they have acquired, found, and used one browser product, most are reluctant — and indeed have little reason — to expend the effort to switch to another. Microsoft has also relied on studies showing that a very large majority of those who browse the Web obtain their browsing software with either their PCs or their IAP subscriptions.

145. Indeed, no other distribution channel for browsing software even approaches the efficiency of OEM pre-installation and IAP bundling. The primary reason is that the other channels require users to expend effort before they can start browsing. The traditional retail channel, for example, requires the consumer to make contact with a retailer, and retailers generally do not distribute products without charging a price for them. Naturally, once Microsoft and Netscape began offering browsing software for free, consumers for the most part lost all incentive to pay for it.

146. The relatively few users who already have a browser but would prefer another can avoid the retail channel by using the Internet to download new browsing software electronically, but they must wait for the software to transmit to their PCs. This process takes a moderate degree of sophistication and substantial amount of time, and as the average bandwidth of PC connections has grown, so has the average size of browser products. The longer it takes for the software to download, the more likely it is that the user’s connection to the Internet will be interrupted. As a vanguard of the

“Internet Age,” Navigator generated a tremendous amount of excitement in its early days among technical sophisticates, who were willing to devote time and effort to downloading the software. Today, however, the average Web user is more of a neophyte, and is far more likely to be intimidated by the process of downloading. It is not surprising, then, that downloaded browsers now make up only a small and decreasing percentage of the new browsers (as opposed to upgrades) that consumers obtain and use.

147. The consumer who receives a CD-ROM containing a free browser in the mail or as a magazine insert is at least spared the time and effort it would take to obtain browsing software from a retail vendor or to download it from the Web. But, just as the consumer who obtains a browser at retail or off the Web, the consumer who receives the software unsolicited at home must first install it on a PC system in order to use it, and merely installing a browser product takes time and can be confusing for novice users. Plus, a large percentage of the unsolicited disks distributed through “carpet bombing” reach individuals who do not have PCs, who already have pre-installed browsing software, or who have no interest in browsing the Web. In practice, less than two percent of CD-ROM disks disseminated in mass-distribution campaigns are used in the way the distributor intended. As a result, this form of distribution is rarely profitable, and then only when undertaken by on-line subscription services for whom a sale translates into a stream of revenues lasting into the future. The fact that an OLS may find it worthwhile to “carpet bomb” consumers with free disks obviously only helps the vendor of browsing software whose product the OLS has chosen to bundle with its proprietary software. So, while there are other means of distributing browsers, the fact remains that to a firm

interested in browser usage, there simply are no channels that compare in efficiency to OEM pre-installation and IAP bundling.

148. Knowing that OEMs and IAPs represented the most efficient distribution channels of browsing software, Microsoft sought to ensure that, to as great an extent as possible, OEMs and IAPs bundled and promoted Internet Explorer to the exclusion of Navigator.

## **2. Excluding Navigator from the OEM Channel**

### **a. Binding Internet Explorer to Windows**

#### **i. The Status of Web Browsers as Separate Products**

149. Consumers determine their software requirements by identifying the functionalities they desire. While consumers routinely evaluate software products on the basis of the functionalities the products deliver, they generally lack sufficient information to make judgements based on the designs and implementations of those products. Accordingly, consumers generally choose which software products to license, install, and use on the basis of the products' functionalities, not their designs and implementations.

150. While the meaning of the term "Web browser" is not precise in all respects, there is a consensus in the software industry as to the functionalities that a Web browser offers a user. Specifically, a Web browser provides the ability for the end user to select, retrieve, and perceive resources on the Web. There is also a consensus in the software industry that these functionalities are distinct from the set of functionalities provided by an operating system.

151. Many consumers desire to separate their choice of a Web browser from their choice of an operating system. Some consumers, particularly corporate consumers, demand browsers and

operating systems separately because they prefer to standardize on the same browser across different operating systems. For such consumers, standardizing on the browser of their choice results in increased productivity and lower training and support costs, and permits the establishment of consistent security and privacy policies governing Web access.

152. Moreover, many consumers who need an operating system, including a substantial percentage of corporate consumers, do not want a browser at all. For example, if a consumer has no desire to browse the Web, he may not want a browser taking up memory on his hard disk and slowing his system's performance. Also, for businesses desiring to inhibit employees' access to the Internet while minimizing system support costs, the most efficient solution is often using PC systems without browsers.

153. Because of the separate demand for browsers and operating systems, firms have found it efficient to supply the products separately. A number of operating system vendors offer consumers the choice of licensing their operating systems without a browser. Others bundle a browser with their operating system products but allow OEMs, value-added resellers, and consumers either to not install it or, if the browser has been pre-installed, to uninstall it. While Microsoft no longer affords this flexibility (it is the only operating system vendor that does not), it has always marketed and distributed Internet Explorer separately from Windows in several channels. These include retail sales, service kits for ISVs, free downloads over the Internet, and bundling with other products produced both by Microsoft and by third-party ISVs. In order to compete with Navigator for browser share, as well as to satisfy corporate consumers who want their diverse PC platforms to present a common browser interface to employees,

Microsoft has also created stand-alone versions of Internet Explorer that run on operating systems other than 32-bit Windows, including the Mac OS and Windows 3.x.

154. In conclusion, the preferences of consumers and the responsive behavior of software firms demonstrate that Web browsers and operating systems are separate products.

## **ii. Microsoft's Actions**

155. In contrast to other operating system vendors, Microsoft both refused to license its operating system without a browser and imposed restrictions — at first contractual and later technical — on OEMs' and end users' ability to remove its browser from its operating system. As its internal contemporaneous documents and licensing practices reveal, Microsoft decided to bind Internet Explorer to Windows in order to prevent Navigator from weakening the applications barrier to entry, rather than for any pro-competitive purpose.

156. Before it decided to blunt the threat that Navigator posed to the applications barrier to entry, Microsoft did not plan to make it difficult or impossible for OEMs or consumers to obtain Windows without obtaining Internet Explorer. In fact, the company's internal correspondence and external communications indicate that, as late as the fall of 1994, Microsoft was planning to include low-level Internet "plumbing," such as a TCP/IP stack, but not a browser, with Windows 95.

157. Microsoft subsequently decided to develop a browser to run on Windows 95. As late as June 1995, however, Microsoft had not decided to bundle that browser with the operating system. The plan at that point, rather, was to ship the browser in a separate "frosting" package, for which Microsoft intended to charge. By April or May of that year, however, Microsoft's top executives had identified Netscape's browser as a potential threat to the applications barrier to entry. Throughout the

spring, more and more key executives came to the conclusion that Microsoft's best prospect of quashing that threat lay in maximizing the usage share of Microsoft's browser at Navigator's expense. The executives believed that the most effective way of carrying out this strategy was to ensure that every copy of Windows 95 carried with it a copy of Microsoft's browser, then code-named "O'Hare." For example, two days after the June 21, 1995 meeting between Microsoft and Netscape executives, Microsoft's John Ludwig sent an E-mail to Paul Maritz and the other senior executives involved in Microsoft's browser effort. "[O]bviously netscape does see us as a client competitor," Ludwig wrote. "[W]e have to work extra hard to get ohare on the oem disks."

158. Microsoft did manage to bundle Internet Explorer 1.0 with the first version of Windows 95 licensed to OEMs in July 1995. It also included a term in its OEM licenses that prohibited the OEMs from modifying or deleting any part of Windows 95, including Internet Explorer, prior to shipment. The OEMs accepted this restriction despite their interest in meeting consumer demand for PC operating systems without Internet Explorer. After all, Microsoft made the restriction a non-negotiable term in its Windows 95 license, and the OEMs felt they had no commercially viable alternative to pre-installing Windows 95 on their PCs. Apart from a few months in the fall of 1997, when Microsoft provided OEMs with Internet Explorer 4.0 on a separate disk from Windows 95 and permitted them to ship the latter without the former, Microsoft has never allowed OEMs to ship Windows 95 to consumers without Internet Explorer. This policy has guaranteed the presence of Internet Explorer on every new Windows PC system.

159. Microsoft knew that the inability to remove Internet Explorer made OEMs less disposed to pre-install Navigator onto Windows 95. OEMs bear essentially all of the consumer

support costs for the Windows PC systems they sell. These include the cost of handling consumer complaints and questions generated by Microsoft's software. Pre-installing more than one product in a given category, such as word processors or browsers, onto its PC systems can significantly increase an OEM's support costs, for the redundancy can lead to confusion among novice users. In addition, pre-installing a second product in a given software category can increase an OEM's product testing costs. Finally, many OEMs see pre-installing a second application in a given software category as a questionable use of the scarce and valuable space on a PC's hard drive.

160. Microsoft's executives believed that the incentives that its contractual restrictions placed on OEMs would not be sufficient in themselves to reverse the direction of Navigator's usage share. Consequently, in late 1995 or early 1996, Microsoft set out to bind Internet Explorer more tightly to Windows 95 as a technical matter. The intent was to make it more difficult for anyone, including systems administrators and users, to remove Internet Explorer from Windows 95 and to simultaneously complicate the experience of using Navigator with Windows 95. As Brad Chase wrote to his superiors near the end of 1995, "We will bind the shell to the Internet Explorer, so that running any other browser is a jolting experience."

161. Microsoft bound Internet Explorer to Windows 95 by placing code specific to Web browsing in the same files as code that provided operating system functions. Starting with the release of Internet Explorer 3.0 and "OEM Service Release 2.0" ("OSR 2") of Windows 95 in August 1996, Microsoft offered only a version of Windows 95 in which browsing-specific code shared files with code upon which non-browsing features of the operating system relied.



162. The software code necessary to supply the functionality of a modern application or operating system can be extremely long and complex. To make that complexity manageable, developers usually write long programs as a series of individual “routines,” each ranging from a few dozen to a few hundred lines of code, that can be used to perform specific functions. Large programs are created by “knitting” together many such routines in layers, where the lower layers are used to provide fundamental functionality relied upon by higher, more focused layers. Some preliminary aspects of this “knitting” are performed by the software developer. The user who launches a program, however, is ultimately responsible for causing routines to be loaded into memory and executed together to produce the program’s overall functionality.

163. Routines can be packaged together into files in almost any way the designer chooses. Routines need not reside in the same file to function together in a seamless fashion. Also, a developer can move routines into new or different files from one version of a program to another without changing the functionalities of those routines or the ability to combine them to provide integrated functionality.

164. Starting with Windows 95 OSR 2, Microsoft placed many of the routines that are used by Internet Explorer, including browsing-specific routines, into the same files that support the 32-bit Windows APIs. Microsoft’s primary motivation for this action was to ensure that the deletion of any file containing browsing-specific routines would also delete vital operating system routines and thus cripple Windows 95. Although some of the code that provided Web browsing could still be removed, without disabling the operating system, by entering individual files and selectively deleting routines used only for Web browsing, licensees of Microsoft software were, and are, contractually prohibited from reverse engineering, decompiling, or disassembling any software files. Even if this were not so, it is

prohibitively difficult for anyone who does not have access to the original, human-readable source code to change the placement of routines into files, or otherwise to alter the internal configuration of software files, while still preserving the software's overall functionality.

165. Although users were not able to remove all of the routines that provided Web browsing from OSR 2 and successive versions of Windows 95, Microsoft still provided them with the ability to uninstall Internet Explorer by using the "Add/Remove" panel, which was accessible from the Windows 95 desktop. The Add/Remove function did not delete all of the files that contain browsing specific code, nor did it remove browsing-specific code that is used by other programs. The Add/Remove function did, however, remove the functionalities that were provided to the user by Internet Explorer, including the means of launching the Web browser. Accordingly, from the user's perspective, uninstalling Internet Explorer in this way was equivalent to removing the Internet Explorer program from Windows 95.

166. In late 1996, senior executives within Microsoft, led by James Allchin, began to argue that Microsoft was not binding Internet Explorer tightly enough to Windows and as such was missing an opportunity to maximize the usage of Internet Explorer at Navigator's expense. Allchin first made his case to Paul Maritz in late December 1996. He wrote:

I don't understand how IE is going to win. The current path is simply to copy everything that Netscape does packaging and product wise. Let's [suppose] IE is as good as Navigator/Communicator. Who wins? The one with 80% market share. Maybe being free helps us, but once people are used to a product it is hard to change them. Consider Office. We are more expensive today and we're still winning. My conclusion is that we must leverage Windows more. Treating IE as just an add-on to Windows which is cross-platform [means] losing our biggest advantage — Windows marketshare. We should dedicate a cross group team to come up with ways to

leverage Windows technically more. . . . We should think about an integrated solution — that is our strength.

Allchin followed up with another message to Maritz on January 2, 1997:

You see browser share as job 1. . . . I do not feel we are going to win on our current path. We are not leveraging Windows from a marketing perspective and we are trying to copy Netscape and make IE into a platform. We do not use our strength — which is that we have an installed base of Windows and we have a strong OEM shipment channel for Windows. Pitting browser against browser is hard since Netscape has 80% marketshare and we have <20%. . . . I am convinced we have to use Windows — this is the one thing they don't have. . . . We have to be competitive with features, but we need something more — Windows integration.

If you agree that Windows is a huge asset, then it follows quickly that we are not investing sufficiently in finding ways to tie IE and Windows together. This must come from you. . . . Memphis [Microsoft's code-name for Windows 98] must be a simple upgrade, but most importantly it must be killer on OEM shipments so that Netscape never gets a chance on these systems.

167. Maritz responded to Allchin's second message by agreeing "that we have to make Windows integration our basic strategy" and that this justified delaying the release of Windows 98 until Internet Explorer 4.0 was ready to be included with that product. Maritz recognized that the delay would disappoint OEMs for two reasons. First, while OEMs were eager to sell new hardware technologies to Windows users, they could not do this until Microsoft released Windows 98, which included software support for the new technologies. Second, OEMs wanted Windows 98 to be released in time to drive sales of PC systems during the back-to-school and holiday selling seasons. Nevertheless, Maritz agreed with Allchin's point that synchronizing the release of Windows 98 with Internet Explorer was "the only thing that makes sense even if OEMs suffer."

168. Once Maritz had decided that Allchin was right, he needed to instruct the relevant Microsoft employees to delay the release of Windows 98 long enough so that it could be shipped with

Internet Explorer 4.0 tightly bound to it. When one executive asked on January 7, 1997 for confirmation that “memphis is going to hold for IE4, even if it puts memphis out of the xmas oem window,” Maritz responded affirmatively and explained,

The major reason for this is . . . to combat Nscp, we have to [] position the browser as “going away” and do deeper integration on Windows. The stronger way to communicate this is to have a ‘new release’ of Windows and make a big deal out of it. . . IE integration will be [the] most compelling feature of Memphis.

Thus, Microsoft delayed the debut of numerous features, including support for new hardware devices, that Microsoft believed consumers would find beneficial, simply in order to protect the applications barrier to entry.

169. Allchin and Maritz gained support for their initiative within Microsoft in the early spring of 1997, when a series of market studies confirmed that binding Internet Explorer tightly to Windows was the way to get consumers to use Internet Explorer instead of Navigator. Reporting on one study in late February, Microsoft’s Christian Wildfeuer wrote:

The stunning insight is this: To make [users] switch away from Netscape, we need to make them upgrade to Memphis. . . . It seems clear to me that it will be very hard to increase browser market share on the merits of IE 4 alone. It will be more important to leverage the OS asset to make people use IE instead of Navigator.

Microsoft’s survey expert, Kumar Mehta, agreed. In March he shared with a colleague his “feeling, based on all the IE research we have done, [that] it is a mistake to release memphis without bundling IE with it.”

170. Microsoft’s technical personnel implemented Allchin’s “Windows integration” strategy in two ways. First, they did not provide users with the ability to uninstall Internet Explorer from Windows 98. The omission of a browser removal function was particularly conspicuous given that

Windows 98 did give users the ability to uninstall numerous features other than Internet Explorer — features that Microsoft also held out as being integrated into Windows 98. Microsoft took this action despite specific requests from Gateway that Microsoft provide a way to uninstall Internet Explorer 4.0 from Windows 98.

171. The second way in which Microsoft’s engineers implemented Allchin’s strategy was to make Windows 98 override the user’s choice of default browser in certain circumstances. As shipped to users, Windows 98 has Internet Explorer configured as the default browser. While Windows 98 does provide the user with the ability to choose a different default browser, it does not treat this choice as the “default browser” within the ordinary meaning of the term. Specifically, when a user chooses a browser other than Internet Explorer as the default, Windows 98 nevertheless requires the user to employ Internet Explorer in numerous situations that, from the user’s perspective, are entirely unexpected. As a consequence, users who choose a browser other than Internet Explorer as their default face considerable uncertainty and confusion in the ordinary course of using Windows 98.

172. Microsoft’s refusal to respect the user’s choice of default browser fulfilled Brad Chase’s 1995 promise to make the use of any browser other than Internet Explorer on Windows “a jolting experience.” By increasing the likelihood that using Navigator on Windows 98 would have unpleasant consequences for users, Microsoft further diminished the inclination of OEMs to pre-install Navigator onto Windows. The decision to override the user’s selection of non-Microsoft software as the default browser also directly disinclined Windows 98 consumers to use Navigator as their default browser, and it harmed those Windows 98 consumers who nevertheless used Navigator. In particular,

Microsoft exposed those using Navigator on Windows 98 to security and privacy risks that are specific to Internet Explorer and to ActiveX controls..

173. Microsoft's actions have inflicted collateral harm on consumers who have no interest in using a Web browser at all. If these consumers want the non-browsing features available only in Windows 98, they must content themselves with an operating system that runs more slowly than if Microsoft had not interspersed browsing-specific routines throughout various files containing routines relied upon by the operating system. More generally, Microsoft has forced Windows 98 users uninterested in browsing to carry software that, while providing them with no benefits, brings with it all the costs associated with carrying additional software on a system. These include performance degradation, increased risk of incompatibilities, and the introduction of bugs. Corporate consumers who need the hardware support and other non-browsing features not available in earlier versions of Windows, but who do not want Web browsing at all, are further burdened in that they are denied a simple and effective means of preventing employees from attempting to browse the Web.

174. Microsoft has harmed even those consumers who desire to use Internet Explorer, and no other browser, with Windows 98. To the extent that browsing-specific routines have been commingled with operating system routines to a greater degree than is necessary to provide any consumer benefit, Microsoft has unjustifiably jeopardized the stability and security of the operating system. Specifically, it has increased the likelihood that a browser crash will cause the entire system to crash and made it easier for malicious viruses that penetrate the system via Internet Explorer to infect non-browsing parts of the system.

### iii. Lack of Justification

175. No technical reason can explain Microsoft's refusal to license Windows 95 without Internet Explorer 1.0 and 2.0. The version of Internet Explorer (1.0) that Microsoft included with the original OEM version of Windows 95 was a separable, executable program file supplied on a separate disk. Web browsing thus could be installed or removed without affecting the rest of Windows 95's functionality in any way. The same was true of Internet Explorer 2.0. Microsoft, moreover, created an easy way to remove Internet Explorer 1.0 and 2.0 from Windows 95 after they had been installed, via the "Add/Remove" panel. This demonstrates the absence of any technical reason for Microsoft's refusal to supply Windows 95 without Internet Explorer 1.0 and 2.0.

176. Similarly, there is no technical justification for Microsoft's refusal to license Windows 95 to OEMs with Internet Explorer 3.0 or 4.0 uninstalled, or for its refusal to permit OEMs to uninstall Internet Explorer 3.0 or 4.0. Microsoft's decision to provide users with an "uninstall" procedure for Internet Explorer 3.0 and 4.0 and its decision to promote Internet Explorer on the basis of that feature demonstrate that there was no technical or quality-related reason for refusing to permit OEMs to use this same feature. Microsoft would not have permitted users to uninstall Internet Explorer, nor would consumers have demanded such an option, if the process would have fragmented or degraded the other functionality of the operating system.

177. As with Windows 95, there is no technical justification for Microsoft's refusal to meet consumer demand for a browserless version of Windows 98. Microsoft could easily supply a version of Windows 98 that does not provide the ability to browse the Web, and to which users could add the browser of their choice. Indicative of this is the fact that it remains possible to remove Web browsing

functionality from Windows 98 without adversely affecting non-Web browsing features of Windows 98 or the functionality of applications running on the operating system. In fact, the revised version of Professor Felten's prototype removal program produces precisely this result when run on a computer with Windows 98 installed.

178. In his direct testimony, Felten provides a full technical description of what his prototype removal program does. This description includes a list of the twenty-one methods of initiating Web browsing in Windows 98 that were known to Felten when he developed his program. When the revised version of Felten's program is run on a computer with Windows 98 and no other software installed, Web browsing is not initiated in response to any of these methods.

179. James Allchin tried to show at trial, by way of a videotaped demonstration, that the functionality of Internet Explorer could still be enabled, even after the prototype removal program had been run, by manually adding a new entry to the Windows Registry database. During Felten's rebuttal testimony, one of Microsoft's attorneys directed Felten to perform a second demonstration intended to show that the functionality of Internet Explorer could still be enabled, even after the prototype removal program had been run, by hitting the "control" and "N" keys simultaneously after running the Windows Update feature. Neither of these methods of initiating Web browsing was among the twenty-one documented methods known to Felten when he developed his program. Furthermore, the latter demonstration was hardly a reliable test of Felten's program, because the Encompass shell browser and other applications had been installed on the Windows 98 PC system used in the demonstration. At most, the two demonstrations indicate that Felten did not know all of the methods of initiating Web browsing in Windows 98 when he developed his program, and that he did not include steps in his



program to prevent the invocation of Internet Explorer's functionality in response to methods of which he was unaware. Microsoft has special knowledge of its own products, and it alone chooses which functionalities in its products are to be documented and which are to be left undocumented. Felten was aware of this fact, and he himself noted that his own documentation of initiation methods was not exhaustive.

180. Allchin also attempted to show that Felten's program causes performance degradations in Windows 98, as well as malfunctions in certain Windows 98 applications and the Windows Update feature of Windows 98. Those demonstrations, however, were performed on a PC on which several third-party software programs had been installed in addition to Windows 98, and which had been connected to the Internet via a dial-up connection. Felten's program was not intended to be definitive and had not been verified under preconditions other than those for which it was designed. Thus, there was no reason to expect that his program would operate flawlessly during Allchin's demonstrations, and nothing can be inferred from any failure to do so.

181. In fact, the revised version of Felten's program does not degrade the performance or stability of Windows 98 in any way. To the contrary, according to several standard programs used by Microsoft to measure system performance, the removal of Internet Explorer by the prototype program slightly improves the overall speed of Windows 98.

182. Given Microsoft's special knowledge of its own products, the company is readily able to produce an improved implementation of the concept illustrated by Felten's prototype removal program. In particular, Microsoft can easily identify browsing-specific code that could be removed

from shared files, thereby reducing the operating system's memory and hard disk requirements and obtaining performance improvements even beyond those achieved by Felten.

183. Microsoft contends that Felten's prototype removal program does not remove Internet Explorer's Web browsing functionalities, but rather "hides" those functionalities from the perspective of the user. In support of that contention, Microsoft points out that Felten's program removes only a small fraction of the code in Windows 98, so that the hard drive still contains almost all of the code that had been executed in the course of providing Internet Explorer's Web browsing functionalities. Some of that code is left on the hard drive because it also supports Windows 98's operating system functionalities. Microsoft did not offer any analytical basis, however, for distinguishing this sharing of code from the code sharing that exists between all Windows applications and the operating system functionalities in Windows 98.

184. While Microsoft's observation suggests that Felten's program does not greatly reduce Windows 98's "footprint" on the hard disk, that point is irrelevant to the question of whether Felten's program removes Internet Explorer's functionalities from Windows 98. This is because the functionalities of a software product are not provided by the mere presence of code on a computer's hard drive. For software code to provide any functionalities at all the code must be loaded into the computer's dynamic memory and executed. To uninstall a software program or to remove a set of functionalities from a software program, it is not necessary to delete all of the software code that is executed in the course of providing those functionalities. It is sufficient to delete and/or modify enough of the program so as to prevent the code in question from being executed.

185. This deletion and modification is precisely what Felten's program does to Windows 98. After Felten's program has been run, the software code that formerly had been executed in the course of providing Web browsing functionalities is no longer executed. Web browsing functionalities are not merely "hidden" from the user. To the contrary, Felten's program deletes and modifies enough of Windows 98 so as to prevent the necessary code from being executed altogether. Since code that is not to be executed does not need to be loaded into memory, Felten's program is able to reduce the memory allocated to Windows 98 by approximately twenty percent.

186. As an abstract and general proposition, many — if not most — consumers can be said to benefit from Microsoft's provision of Web browsing functionality with its Windows operating system at no additional charge. No consumer benefit can be ascribed, however, to Microsoft's refusal to offer a version of Windows 95 or Windows 98 without Internet Explorer, or to Microsoft's refusal to provide a method for uninstalling Internet Explorer from Windows 98. In particular, Microsoft's decision to force users to take the browser in order to get the non-Web browsing features of Windows 98, including support for new Internet protocols and data formats is, as Allchin put it, simply a choice about "distribution."

187. As Felten's program demonstrated, it is feasible for Microsoft to supply a version of Windows 98 that does not provide the ability to browse the Web, to which users could add a browser of their choice. Microsoft could then readily offer "integrated" Internet Explorer Web browsing functionality as well, either as an option that could be selected by the end user or the OEM during the Windows 98 setup procedure, or as a "service pack upgrade."

188. Unlike a “pocket part” supplement to a book, a software upgrade need not consist only of new material. A service pack upgrade may install a combination of new software files and/or replacements for existing software files. The use of such service packs to distribute new functionality is a standard feature of Windows applications generally. Microsoft could offer “integrated” Internet Explorer Web browsing functionality as a service pack upgrade that would locate the relevant software and replace it with the current Windows 98 software. In this way, any consumer who wished to do so could easily acquire all of the functionality, features, and performance of the current version of Windows 98 by obtaining the browserless operating system package and the service pack upgrade and then installing them together.

189. Microsoft contends that a service pack must necessarily be deemed part of the operating system when it replaces and adds a large number of core operating system files in the process of upgrading the operating system to a higher level of functionality. This contention is false. Both Microsoft Word, an application program, and Norton Utilities, a suite of utility and application programs, replace and add files to Windows without thereby becoming part of the operating system.

190. Microsoft’s actual use of a service pack upgrade to offer integrated Internet Explorer Web browsing functionality (Internet Explorer 4.0) separately from the Windows 95 operating system illustrates the feasibility of this approach. In fact, it produces results remarkably similar to those that could be achieved by offering integrated Internet Explorer Web browsing functionality as a separate service pack upgrade to a browserless Windows 98 operating system. When installed together by the end user, the combined software provides nearly all of the features that Microsoft attributes to the “integrated” design of Windows 98. Of the missing features, all but WebTV for Windows can be

obtained by thereafter installing a separately obtained copy of Internet Explorer 5.0. Microsoft has presented no evidence that the WebTV functionality could not easily be included in the stand-alone version of Internet Explorer 5.0.

191. Therefore, Microsoft could offer consumers all the benefits of the current Windows 98 package by distributing the products separately and allowing OEMs or consumers themselves to combine the products if they wished. In fact, operating system vendors other than Microsoft currently succeed in offering “integrated” features similar to those that Microsoft advertises in Windows 98 while still permitting the removal of the browser from the operating system. If consumers genuinely prefer a version of Windows bundled with Internet Explorer, they do not have to be forced to take it; they can choose it in the market.

192. Windows 98 offers some benefits unrelated to browsing that a consumer cannot obtain by combining Internet Explorer with Windows 95. For example, Windows 98 includes support for new hardware technologies and data formats that consumers may desire. While nevertheless preferring to do without Web browsing, Microsoft has forced Windows users who do not want Internet Explorer to nevertheless license, install, and use Internet Explorer to obtain the unrelated benefits. Although some consumers might be inclined to go without Windows 98's new non-browsing features in order to avoid Internet Explorer, OEMs are unlikely to facilitate that choice, because they want consumers to use an operating system that supports the new hardware technologies they seek to sell.

193. Microsoft's argument that binding the browser to the operating system is reasonably necessary to preserve the “integrity” of the Windows platform is likewise specious. First, concern with the integrity of the platform cannot explain Microsoft's original decision to bind Internet Explorer to

Windows 95, because Internet Explorer 1.0 and 2.0 did not contain APIs. Second, concern with the integrity of the platform cannot explain Microsoft's refusal to offer OEMs the option of uninstalling Internet Explorer from Windows 95 and Windows 98 because APIs, like all other shared files, are left on the system when Internet Explorer is uninstalled. Third, Microsoft's contention that offering OEMs the choice of whether or not to install certain browser-related APIs would fragment the Windows platform is unpersuasive because OEMs operate in a competitive market and thus have ample incentive to include APIs (including non-Microsoft APIs) required by the applications that their customers demand. Fourth, even if there were some potential benefit associated with the forced licensing of a single set of APIs to all OEMs, such justification could not apply in this case, because Microsoft itself precipitates fragmentation of its platform by continually updating various portions of the Windows installed base with new APIs. ISVs have adapted to this reality by redistributing needed APIs with their applications in order to ensure that the necessary APIs are present when the programs are launched. To the same end, Microsoft makes the APIs it ships with Internet Explorer available to third-party developers for distribution with their own products. Moreover, Microsoft itself bundles APIs — including those distributed with Internet Explorer — with a number of the applications that it distributes separately from Windows.

194. Microsoft also contends that by providing “best of breed” implementations of various functionalities, a vendor of a popular operating system can benefit consumers and improve the efficiency of the software market generally, because the resulting standardization allows ISVs to concentrate their efforts on developing complementary technologies for the industry leaders. Microsoft's refusal to offer a version of Windows 98 in which its Web browser is either absent or removable, however, had no

such purpose. Rather, it had the purpose and effect of quashing innovation that exhibited the potential to facilitate the emergence of competition in the market for Intel-compatible PC operating systems.

195. Furthermore, there is only equivocal support for the proposition that Microsoft will ultimately prove to be the source of a “best of breed” Web browser. In fact, there is considerable evidence to the contrary. Both Microsoft and the plaintiffs have used product evaluations to support their claims about the relationship between innovations in Web browser technology and consumer choices regarding the use of Web browsers. These product evaluations generally compare Internet Explorer with Navigator by identifying the beneficial and detrimental features of each. Because the evaluations disagree as to which features are most important, there is no consensus as to which is the best browser overall. When read together, the evaluations also do not identify any existing Web browser as being “best of breed” in the sense of being at least as good as all others in all significant respects. Moreover, there is nothing in the evaluations, nor anywhere else in the evidence, to suggest that further innovation efforts by vendors other than Microsoft in the field of Web browser technology are no longer necessary or desirable. To the contrary, many of the product reviews suggest further innovations in both Microsoft and non-Microsoft Web browsers that would benefit consumers.

196. Despite differences in emphasis, the product evaluations do generally concur as to which browser features are beneficial, which browser features are detrimental, and why. Thus, the evaluations provide extensive detailed information about consumer preferences that can be used to predict likely directions in the evolution of Web browser technology.

197. First, the evaluations suggest that, although most Web publishers charge nothing for access to their sites, consumers recognize that there are search and communication costs associated

with Web transactions. Accordingly, consumers prefer, and benefit from, innovations in Web browser technology that reduce these costs. Second, consumers recognize that the Web contains a vast and growing range of digital information resources, many of which contain viruses that are capable of causing devastating and irreversible harm to their security and privacy interests. Accordingly, consumers prefer, and benefit from, innovations in Web browser technology that help them identify and avoid harmful Web resources. Third, consumers recognize that they frequently lack adequate information to enable them to assess accurately the costs, risks, and benefits of performing a particular Web transaction. Accordingly, consumers prefer, and benefit from, innovations in Web browser technology that help them assess these costs, risks, and benefits prior to performing the transaction.

198. The reduction of search and communication costs, the identification and avoidance of harmful Web resources, and the provision of more accurate information as to the costs, risks, and benefits of performing Web transactions are just three of the many possible areas of innovation in the field of Web browser technology. Far from demonstrating that Internet Explorer is currently a “best of breed” Web browser, the evidence reveals Microsoft’s awareness of the need for continuous improvement of its products. For example, Microsoft frequently releases “patches” to address security and privacy vulnerabilities in Internet Explorer as they are discovered. In sum, there is no indication that Microsoft is destined to provide a “best of breed” Web browser that makes continuing, competitively driven innovations unproductive.

#### **iv. The Market for Web Browsing Functionality**



199. Since the World Wide Web was introduced to the public in 1991, the resources available on the Web have multiplied at a near-exponential rate. The Internet is becoming a true mass medium. Every day Web resources are published, combined, modified, moved, and deleted. Millions of individuals and organizations have published Web sites, and Web site addresses are pervasive in advertising, promotion, and corporate identification.

200. The economics of the Internet, along with the flexible structure of Web pages, have made the Web the leading trajectory for the ongoing convergence of mass communications media. Many television and radio stations make some or all of their transmissions available on the Web in the form of static multimedia files or streaming media. Many newspapers, magazines, books, journals, public documents, and software programs are also published on the Web. Multimedia files on the Web have emerged as viable substitutes for many pre-recorded audio and video entertainment products. Web-based E-mail, discussion lists, news groups, “chat rooms,” paging, instant messaging, and telephony are all in common use. In addition to subsuming all other digital media, the Web also offers popular interactive and collaborative modes of communication that are not available through other media.

201. The use of Web browsers to conduct Web transactions has grown at pace with the growth of the Web, reflecting the immense value that subsists in the digital information resources that have become available on the Web. Consumer demand for software functionality that facilitates Web transactions, and the response by browser vendors to that demand, creates a market for Web browsing functionality. Although Web browsers are now generally not licensed at a positive price, all Web

transactions impose significant costs on consumers, and all browser vendors, including Microsoft, have significant economic interests in maximizing usage of the browsing functionality they control.

**b. Preventing OEMs from Removing the Ready Means of Accessing Internet Explorer and from Promoting Navigator in the Boot Sequence**

202. Since the release of Internet Explorer 1.0 in July 1995, Microsoft has distributed every version of Windows with Internet Explorer included. Consequently, no OEM has ever (with the exception of a few months in late 1997) been able to license a copy of Windows 95 or Windows 98 that has not come with Internet Explorer. Refusing to offer OEMs a browserless (and appropriately discounted) version of Windows forces OEMs to take (and pay for) Internet Explorer, but it does not prevent a determined OEM from nevertheless offering its consumers a different Web browser. Even Microsoft's additional refusal to allow OEMs to uninstall (without completely removing) Internet Explorer from Windows does not completely foreclose a resourceful OEM from offering consumers another browser. For example, an OEM with sufficient technical expertise (which all the larger OEMs certainly possess) could offer its customers a choice of browsers while still minimizing user confusion if the OEM were left free to configure its systems to present this choice the first time a user turned on a new PC system. If the user chose Navigator, the system would automatically remove the most prominent means of accessing Internet Explorer from Windows (without actually uninstalling, *i.e.*, removing all means of accessing, Internet Explorer) before the desktop screen appeared for the first time.

203. If OEMs removed the most visible means of invoking Internet Explorer, and pre-installed Navigator with facile methods of access, Microsoft's purpose in forcing OEMs to take Internet

Explorer — capturing browser usage share from Netscape — would be subverted. The same would be true if OEMs simply configured their machines to promote Navigator before Windows had a chance to promote Internet Explorer. Decision-makers at Microsoft believed that as Internet Explorer caught up with Navigator in quality, OEMs would ultimately conclude that the costs of pre-installing and promoting Navigator, and removing easy access to Internet Explorer, outweighed the benefits. Still, those decision-makers did not believe that Microsoft could afford to wait for the several large OEMs that represented virtually all Windows PCs shipped to come to this desired conclusion on their own. Therefore, in order to bring the behavior of OEMs into line with its strategic goals quickly, Microsoft threatened to terminate the Windows license of any OEM that removed Microsoft's chosen icons and program entries from the Windows desktop or the "Start" menu. It threatened similar punishment for OEMs who added programs that promoted third-party software to the Windows "boot" sequence. These inhibitions soured Microsoft's relations with OEMs and stymied innovation that might have made Windows PC systems more satisfying to users. Microsoft would not have paid this price had it not been convinced that its actions were necessary to ostracize Navigator from the vital OEM distribution channel.

204. Although Microsoft's original Windows 95 licenses withheld from OEMs permission to implement any modifications to the Windows product not expressly authorized by Microsoft's "OEM Pre-Installation Kit," or "OPK," it had always been Microsoft's practice to grant certain OEMs requesting it some latitude to make modifications not specified in the OPK. But when OEMs began, in the summer of 1995, to request permission to remove the Internet Explorer icon from the Windows desktop prior to shipping their PCs, Microsoft consistently and steadfastly refused. As Compaq

learned in the first half of 1996, Microsoft was prepared to enforce this prohibition against even its closest OEM allies.

205. In August 1995, Compaq entered into a “Promotion and Distribution Agreement” with AOL whereby Compaq agreed to “position AOL Services above all other Online Services within the user interface of its Products.” An addendum to the agreement provided that Compaq would place an AOL icon — and no OLS icons not controlled by AOL — on the desktop of its PCs. Pursuant to its obligations, Compaq began in late 1995 or early 1996 to ship its Presario PCs with the MSN icon removed and the AOL icon added to the Windows desktop. At the same time, Compaq removed the Internet Explorer icon from the desktop of its Presarios and replaced it with a single icon representing both the Spry ISP and the browser product that Spry bundled, *i.e.*, Navigator. Compaq added this icon in part because it recognized Navigator to be the most popular browser product with its consumers; it removed the Internet Explorer icon because it did not want its PCs desktops to confuse novice users with a clutter of Internet-related icons.

206. When Microsoft learned of Compaq’s plans for the Presario, it informed Compaq that it considered the removal of the MSN and Internet Explorer icons to be a violation of the OPK process by which Compaq had previously agreed to abide. For its part, AOL informed Compaq that it viewed the addition of an icon for Spry as a violation of their 1995 agreement. AOL did not object to the presence of a Navigator icon; what concerned AOL was the fact that clicking on this icon brought the user to the Spry ISP. Despite the protests from Microsoft and AOL, Compaq refused to reconfigure the Presario desktop. Finally, after months of unsuccessful importunity, Microsoft sent Compaq a letter on May 31, 1996, stating its intention to terminate Compaq’s license for Windows 95 if Compaq did

not restore the MSN and Internet Explorer icons to their original positions. Compaq's executives opined that their firm could not continue in business for long without a license for Windows, so in June Compaq restored the MSN and IE icons to the Presario desktop.

207. Microsoft did not further condition its withdrawal of the termination notice on the removal of the AOL and Navigator icons; AOL, however, did protest both the continued presence of a Spry icon and the reappearance of the MSN icon. After AOL sent Compaq a formal notice of its intent to terminate the Promotion and Distribution Agreement in September 1996, Compaq removed the Spry/Navigator icon. For reasons discussed below, Compaq did not then replace the Spry/Navigator icon with an icon solely for Navigator.

208. In its confrontation with Compaq, Microsoft demonstrated that it was prepared to go to the brink of losing all Windows sales through its highest-volume OEM partner in order to enforce its prohibition against removing Microsoft's Internet-related icons from the Windows desktop.

209. If the only prohibition had been against removing Microsoft icons and program entries, OEMs partial to Navigator still would have been able to recruit users to Navigator by configuring their PCs to promote it before the Windows desktop first presented itself. This is true because the average user, having chosen a browser product, is indisposed to undergo the trouble of switching to a different one. With the release of Windows 95, some of the high-volume OEMs began to customize the Windows boot sequence so that, the first time users turned on their new PCs, certain OEM-designed tutorials and registration programs, as well as "splash" screens that simply displayed the OEM's brand, would run before the users were presented with the Windows desktop.

210. Promoting non-Microsoft software and services was not the only, or even the primary, purpose of the OEM introductory programs. The primary purpose, rather, was to make the experience of setting up and learning to use a new PC system easier and less confusing for users, especially novices. By doing so, the OEMs believed, they would increase the value of their systems and minimize both product returns and costly support calls. Since just three calls from a consumer can erase the entire profit that an OEM earned selling a PC system to that consumer, OEMs have an acute interest in making their systems self-explanatory and simple to use. A secondary purpose motivating OEMs to insert programs into the boot sequence was to differentiate their products from those of their competitors. Finally, OEMs perceived an opportunity to collect bounties from IAPs and ISVs in exchange for the promotion of their services and software in the boot sequence. Thus, among the programs that many OEMs inserted into the boot sequence were Internet sign-up procedures that encouraged users to choose from a list of IAPs assembled by the OEM. In many cases, a consumer signing up for an IAP through an OEM program would automatically become a user of whichever browser that IAP bundled with its proprietary software. In other cases, the IAP would present the user with a choice of browsers in the course of collecting from the user the information necessary to start a subscription.

211. In addition to tutorials, sign-up programs, and splash screens, a few large OEMs developed programs that ran automatically at the conclusion of a new PC system's first boot sequence. These programs replaced the Windows desktop either with a user interface designed by the OEM or with Navigator's user interface. The OEMs that implemented automatically loading alternative user

interfaces did so out of the belief that many users, particularly novice ones, would find the alternate interfaces less complicated and confusing than the Windows desktop.

212. When Gates became aware of what the OEMs were doing, he expressed concern to Kempin, the Microsoft executive in charge of OEM sales. On January 6, 1996, Gates wrote to Kempin: “Winning Internet browser share is a very very important goal for us. Apparently a lot of OEMs are bundling non-Microsoft browsers and coming up with offerings together with Internet Service providers that get displayed on their machines in a FAR more prominent way than MSN or our Internet browser.” Less than three weeks later, Kempin delivered his semi-annual report on OEM sales to his superiors. In the report, he identified “Control over start-up screens, MSN and IE placement” as one interest that Microsoft had neglected over the previous six months. The ongoing imbroglio with Compaq was prominent in Kempin’s thinking, but he also recognized that establishing control over the boot process was necessary to ensure preferential positioning for MSN and Internet Explorer.

213. In an effort to thwart the practice of OEM customization, Microsoft began, in the spring of 1996, to force OEMs to accept a series of restrictions on their ability to reconfigure the Windows 95 desktop and boot sequence. There were five such restrictions, which were manifested either as amendments to existing Windows 95 licenses or as terms in new Windows 98 licenses. First, Microsoft formalized the prohibition against removing any icons, folders, or “Start” menu entries that Microsoft itself had placed on the Windows desktop. Second, Microsoft prohibited OEMs from modifying the initial Windows boot sequence. Third, Microsoft prohibited OEMs from installing programs, including alternatives to the Windows desktop user interface, which would launch

automatically upon completion of the initial Windows boot sequence. Fourth, Microsoft prohibited OEMs from adding icons or folders to the Windows desktop that were not similar in size and shape to icons supplied by Microsoft. Finally, when Microsoft later released the Active Desktop as part of Internet Explorer 4.0, it added the restriction that OEMs were not to use that feature to display third-party brands.

214. The several OEMs that in the aggregate represented over ninety percent of Intel-compatible PC sales believed that the new restrictions would make their PC systems more difficult and more confusing to use, and thus less acceptable to consumers. They also anticipated that the restrictions would increase product returns and support costs and generally lower the value of their machines. Those OEMs that had already spent millions of dollars developing and implementing tutorial and registration programs and/or automatically-loading graphical interfaces in the Windows boot sequence lamented that their investment would, as a result of Microsoft's policy, be largely wasted. Gateway, Hewlett-Packard, and IBM communicated their opposition forcefully and urged Microsoft to lift the restrictions. Emblematic of the reaction among large OEMs was a letter that the manager of research and development at Hewlett-Packard sent to Microsoft in March 1997. He wrote:

Microsoft's mandated removal of all OEM boot-sequence and auto-start programs for OEM licensed systems has resulted in significant and costly problems for the HP-Pavilion line of retail PC's.

Our data (as of 3/10/97) shows a 10% increase in W[indows]95 calls as a % of our total customer support calls . . . .

Our registration rate has also dropped from the mid-80% range to the low 60% range.

There is also subjective data from several channel partners that our system return rate has increased from the lowest of any OEM (even lower than Apple) to a level comparable to the other Microsoft OEM PC vendors. This is a major concern in that we are taking a step backward in meeting customer satisfaction needs.



These three pieces of data confirm that we have been damaged by the edicts that [] Microsoft issued last fall. . . .

From the consumer perspective, we are hurting our industry and our customers. PC's can be frightening and quirky pieces of technology into which they invest a large sum of their money. It is vitally important that the PC suppliers dramatically improve the consumer buying experience, out of box experience as well as the longer term product usability and reliability. The channel feedback as well as our own data shows that we are going in the wrong direction. This causes consumer dissatisfaction in complex telephone support process, needless in-home repair visits and ultimately in product returns. Many times the cause is user misunderstanding of a product that presents too much complexity to the common user. . . .

Our Customers hold HP accountable for their dissatisfaction with our products. We bear [] the cost of returns of our products. We are responsible for the cost of technical support of our customers, including the 33% of calls we get related to the lack of quality or confusion generated by your product. And finally we are responsible for our success or failure in the retail PC market.

We must have more ability to decide how our system is presented to our end users.

If we had a choice of another supplier, based on your actions in this area, I assure you [that you] would not be our supplier of choice.

I strongly urge you to have your executives review these decisions and to change this unacceptable policy.

215. Even in the face of such strident opposition from its OEM customers, Microsoft refused to relent on the bulk of its restrictions. It did, however, grant Hewlett-Packard and other OEMs discounts off the royalty price of Windows as compensation for the work required to bring their respective alternative user interfaces into compliance with Microsoft's requirements. Despite the high costs that Microsoft's demands imposed on them, the OEMs obeyed the restrictions because they perceived no alternative to licensing Windows for pre-installation on their PCs. Still, the restrictions lowered the value that OEMs attached to Windows by the amount of the costs that the restrictions imposed on them. Furthermore, Microsoft's intransigence damaged the goodwill between it and several of the highest-volume OEMs.

216. Microsoft was willing to sacrifice some goodwill and some of the value that OEMs attached to Windows in order to exclude Netscape from the crucial OEM distribution channel. Microsoft's restrictions succeeded in raising the costs to OEMs of pre-installing and promoting Navigator. These increased costs, in turn, were in some cases significant enough to deter OEMs from pre-installing Navigator altogether. In other cases, as is discussed in the next section, OEMs decided not to pre-install Navigator after Microsoft brought still more pressure to bear.

217. Microsoft's license agreements have never prohibited OEMs from pre-installing programs, including Navigator, on their PCs and placing icons and entries for those programs on the Windows desktop and in the "Start" menu. The icons and entries that Microsoft itself places on the desktop and in the "Start" menu have always left room for OEMs to insert more icons and program entries of their own choosing. In fact, Microsoft leaves enough space for an OEM to add more than forty icons to the Windows desktop. Still, the availability of space for added icons did not make including a Navigator icon inexpensive for OEMs. Given the unavoidable presence of the Internet Explorer and MSN icons, adding a Navigator icon would increase the amount of Internet-related clutter on the desktop. This would lead to confusion among novice users, which would in turn increase the incidence of support calls and product returns. Microsoft made this very point clear to OEMs in its attempts to persuade them not to pre-install Navigator on their PCs. Furthermore, OEMs recognized that including multiple Navigator icons in an attempt to draw users' attention away from Internet Explorer would only increase the amount of clutter on the desktop, thus adding to user confusion. Although the Windows 98 OEM license does not forbid the OEM to set Navigator as the default browsing software, doing so would fail to forestall user confusion since, as the Court found in the

previous section, Windows 98 launches Internet Explorer in certain situations even if Navigator is set as the default.

218. The restrictions on modifying the Windows boot sequence, including the prohibition against automatically loading alternate user interfaces, deprived OEMs of the principal devices by which to lure users to Navigator over the high-profile presence of Internet Explorer in the Windows user interface. An OEM remained free to place an icon on the desktop that a user could click to invoke an alternate user interface. Plus, once invoked, the interface could be configured to load automatically the next time the PC was turned on. This mode of presentation proved to be much less effective than the one Microsoft foreclosed, however, for studies showed that users tended not to trouble with selecting an alternate user interface; they were content to use the interface that loaded automatically the first time they turned on their PCs. Furthermore, while Microsoft's restrictions never extended to the interval between the time when the PC was turned on and the time when Windows began loading from the hard drive into RAM, developing anything more complicated than a simple splash screen to run in that period would have involved, at a minimum, the writing of a DOS utility and, at the maximum, the pre-installation of a second operating system. Such measures were simply not worth the cost. Finally, although the Windows 98 license does not prohibit an OEM from including on the keyboard of its PCs a button that takes users directly to an OEM-maintained site containing promotion for Navigator, such a configuration is extremely costly for an OEM to implement, and it represents a less effective form of promotion than automatically advertising Navigator in the initial boot process.

219. In the spring of 1998, Microsoft began gradually to moderate certain of the restrictions described above. The first sign of relaxation came when Microsoft permitted some fifty OEMs to

include ISPs of their choice in Microsoft's Internet Connection Wizard. Then, in late May and early June 1998, Microsoft informed seven of the highest-volume OEMs that it was granting them the privilege of inserting their own registration and Internet sign-up programs into the initial Windows 98 boot sequence. If the user selected an IAP using the OEM program, Microsoft's Internet Connection Wizard would not run in the boot sequence. Microsoft subsequently extended these same privileges to several other OEMs, upon their request.

220. It is important to note that Microsoft's tractability emerged only after the restrictions had been in place for over a year, and only after Microsoft had managed to secure favorable promotion for Internet Explorer through the most important IAPs. Furthermore, while Microsoft permitted the OEMs to include in their registration and sign-up programs promotions for their own products (including OEM-branded shell browsers built upon Internet Explorer) and for ISPs (but only if and when those ISPs were selected by consumers in the sign-up process), Microsoft continued to prohibit promotions for any other non-Microsoft products, including Navigator. In a single exception, Microsoft granted Gateway's request that it be permitted to give consumers who used Gateway's sign-up process and selected Gateway.net as their ISP an opportunity to choose Navigator as their browser. Microsoft granted this permission orally, and it did not extend similar privileges to any other OEMs.

221. Microsoft asserts that the restrictions it places on the ability of OEMs to modify the Windows desktop and boot sequence are merely intended to prevent OEMs from compromising the quality and consistency of Windows after the code leaves Microsoft's physical control, but before PC consumers first begin to experience the product. In truth, however, the OEM modifications that Microsoft prohibits would not compromise the quality or consistency of Windows any more than the

modifications that Microsoft currently permits. Furthermore, to the extent that certain OEM modifications did threaten to impair the quality and consistency of Windows, Microsoft's response has been more restrictive than necessary to abate the threat. Microsoft would not have imposed prohibitions that burdened OEMs and consumers with substantial costs, lowered the value of Windows, and harmed the company's relations with major OEMs had it not felt that the measures were necessary to maximize Internet Explorer's share of browser usage at Navigator's expense.

222. Microsoft asserts that it restricts the freedom of OEMs to remove icons, folders, or "Start" menu entries that Microsoft places on the Windows desktop in order to ensure that consumers will enjoy ready access to the features that Microsoft's advertising has led them to expect. The Windows trademark would be blemished, Microsoft argues, if consumers could not easily find the features that impelled them to purchase a Windows-equipped PC. At the same time that it has put forward this justification, however, Microsoft has permitted OEMs to de-activate Microsoft's Active Desktop and its associated "channels" prior to shipment. More significant is the fact that Microsoft's license agreements require OEMs to bear product support costs. So if a consumer has difficulty locating a feature that he wants to use, he will call a customer service representative employed by the OEM that manufactured his PC. Since only a few calls erase the profit earned from selling a PC system, OEMs are loathe to do anything that will lead to consumer questions and complaints. Therefore, if market research indicates that consumers want and expect to see a certain icon on the Windows desktop, OEMs will not remove it. Since OEMs share Microsoft's interest in ensuring that consumers can easily find the features they want on their Windows PC systems, Microsoft would not have prohibited OEMs from removing icons, folders, or "Start" menu entries if its only concern had

been consumer satisfaction. In fact, by forbidding OEMs to remove the most obvious means of invoking Internet Explorer, Microsoft diminished the value of Windows PC systems to those corporate customers, for example, who did not intend for their employees to browse the Web and did not want a browser taking up hardware resources. Incidentally, there is no merit in the hypothesis that OEMs might cause problems in the functioning of the rest of Windows by removing Internet Explorer's desktop icon and program entry, because Microsoft still allows users to do exactly that.

223. According to Microsoft, its restrictions on the ability of OEMs to insert programs into the initial Windows boot sequence are meant to ensure that all Windows users experience the product the way Microsoft intended it the first time they turn on their PC systems; after all, there would be little incentive to develop a high-quality operating-system product if OEMs were free to alter it for the worse before handing it over to consumers. This argument might be availing were it not for the fact that Microsoft currently allows several of the largest-volume OEMs to make major modifications to the initial Windows 98 boot sequence. Microsoft permits each of these OEMs to configure its own splash screens, tutorials, registration wizards, Internet sign-up wizards, and utilities so that they run automatically when the consumer first turns on a new PC system. Either Microsoft stopped caring about the consistency of the Windows experience in 1998, when it tempered its restrictions on modifications to the boot sequence, or preserving consistency was never Microsoft's true motivation for imposing those restrictions in the first place. With all the variety that Microsoft now tolerates in the boot sequence, including the promotion of OEM-branded browser shells, it is difficult to comprehend how allowing OEMs to promote Navigator in their tutorials and Internet sign-up programs would further compromise Microsoft's purported interest in consistency.

224. Although Microsoft has tolerated a variety of OEM modifications to the Windows boot sequence, it has never acquiesced to an alternate user interface that automatically obscures the Windows desktop after the PC system has finished booting for the first time. In demanding the removal of such automatically loading user interfaces, Microsoft has postulated that consumers who purchase Windows PCs expect to see the Windows desktop when their PC systems finish booting for the first time. If consumers instead see a different user interface, they will be confused and disappointed. What is more, Microsoft asserts, OEM shells have tended to be of lower quality than Windows. One OEM's version allegedly even disabled the ability of a Windows user to invoke functionality by clicking the right button of his mouse.

225. The alternate shells that OEMs have developed may or may not be of lower quality than Windows. One thing is clear, however: If an OEM develops a shell that users do not like as much as Windows, and if the OEM causes that shell to load as the default user interface the first time its PCs are turned on, consumer wrath will fall first upon the OEM, and demand for that OEM's PC systems will decline commensurately with the resulting user dissatisfaction. The market for Intel-compatible PCs is, by all accounts, a competitive one. Consequently, any OEM that tries to force an unwanted, low-quality shell on consumers will do so at its own peril. Had Microsoft's sole concern been consumer satisfaction, it would have relied more on the power of the market — and less on its own market power — to prevent OEMs from making modifications that lead to consumer disappointment.

226. At times, Microsoft has argued that the limitations it imposes on the ability of OEMs to modify Windows originate in a desire to prevent its platform from becoming fragmented, like UNIX. Microsoft believes that ISVs benefit from the fact that Windows presents the same platform for

applications development, irrespective of the underlying hardware. Certainly, Microsoft has a legitimate interest in ensuring that OEMs do not take Windows under license, alter its API set, and then ship the altered version. This fact does not add credibility to Microsoft's stated justification, though, for two reasons. First, Microsoft itself creates some degree of instability in its supposedly uniform platform by releasing updates to Internet Explorer more frequently than it releases new versions of Windows. As things stand, ISVs find it necessary to redistribute Microsoft's Internet-related APIs with their applications because of nonuniformity that Microsoft has created in its own installed base. More important, however, is the fact that none of the modifications that OEMs are known to have proposed making would have removed or altered any Windows APIs.

227. To the extent Microsoft is apprehensive that OEMs might, absent restrictions, change the set of APIs exposed by the software on their PCs, the concern is not that OEMs would modify the Windows API set. Rather, the worry is that OEMs would pre-install, on top of Windows, other software exposing additional APIs not controlled by Microsoft. In the case of alternate user interfaces, Microsoft is fearful that, if these programs loaded automatically the first time users turned on their PCs, the programs would attract so much usage that developers would be encouraged to take advantage of any APIs that the programs exposed. Indeed, one user interface in particular that OEMs could configure to load automatically and obscure the Windows desktop — Navigator — exposes a substantial number of APIs. Therefore, Microsoft's real concern has not been that OEM modifications would fragment the Windows platform to the detriment of developers and consumers. What has motivated Microsoft's prohibition against automatically loading shells is rather the fear — once again —



that OEMs would pre-install and give prominent placement to middleware that could weaken the applications barrier to entry.

228. Like most other software products, Windows 95 and Windows 98 are covered by copyright registrations. Since they are copyrighted, Microsoft distributes these products to OEMs pursuant to license agreements. By early 1998, Microsoft had made these licenses conditional on OEMs' compliance with the restrictions described above. Notwithstanding the formal inclusion of these restrictions in the license agreements, the removal of the Internet Explorer icon and the promotion of Navigator in the boot sequence would not have compromised Microsoft's creative expression or interfered with its ability to reap the legitimate value of its ingenuity and investment in developing Windows. More generally, the contemporaneous Microsoft documents reflect concern with the promotion of Navigator rather than the infringement of a copyright. Also notable is the fact that Microsoft did not adjust its OEM pricing guidelines when it lifted certain of the restrictions in the spring of 1998.

229. Finally, it is significant that, while all vendors of PC operating systems undoubtedly share Microsoft's stated interest in maximizing consumer satisfaction, the prohibitions that Microsoft imposes on OEMs are considerably more restrictive than those imposed by other operating system vendors. For example, Apple allows its retailers to remove applications that Apple has pre-installed and to reconfigure the Mac OS desktop. For its part, IBM allows its OEM licensees to override the entire OS/2 desktop in favor of a customized shell or to set an application to start automatically the first time the PC is turned on. The reason is that these firms do not share Microsoft's interest in protecting the applications barrier to entry.

**c. Pressuring OEMs to Promote Internet Explorer and to not Pre-Install or Promote Navigator**

230. Microsoft's restrictions on modifications to the boot sequence and the configuration of the Windows desktop ensured that every Windows user would be presented with ready means of accessing Internet Explorer. Although the restrictions also raised the costs attendant to pre-installing and promoting Navigator, senior executives at Microsoft were not confident that those higher costs alone would induce all of the major OEMs to focus their promotional efforts on Internet Explorer to the exclusion of Navigator. Therefore, Microsoft used incentives and threats in an effort to secure the cooperation of individual OEMs.

231. First, Microsoft rewarded with valuable consideration those large-volume OEMs that took steps to promote Internet Explorer. For example, Microsoft gave reductions in the royalty price of Windows to certain OEMs, including Gateway, that set Internet Explorer as the default browser on their PC systems. In 1997, Microsoft gave still further reductions to those OEMs that displayed Internet Explorer's logo and links to Microsoft's Internet Explorer update page on their own home pages. That same year, Microsoft agreed to give OEMs millions of dollars in co-marketing funds, as well as costly in-kind assistance, in exchange for their carrying out other promotional activities for Internet Explorer.

232. Microsoft went beyond giving OEMs incentives to promote Internet Explorer. The company's dealings with Compaq in 1996 and 1997 demonstrate that Microsoft was willing to exchange valuable consideration for an OEM's commitment to curtail its distribution and promotion of Navigator. In early 1996, at around the same time that Compaq was removing the MSN and Internet

Explorer icons and program entries from the Presario desktop, Compaq announced its intention to work with Netscape for its internal Internet needs and on Internet server initiatives. In response, Microsoft insisted that Compaq support Microsoft's Internet initiatives throughout its business. To make its displeasure felt, Microsoft initiated a series of cooperative ventures with some of Compaq's competitors, including DEC and Hewlett-Packard.

233. When Compaq eventually agreed to restore the MSN and Internet Explorer icons and program entries to the Presario desktop, it did so because its senior executives had decided that the firm needed to do what was necessary to restore its special relationship with Microsoft. On May 13, 1996, Compaq signed an addendum extending the firms' Frontline Partnership to the realm of network-related products. Pursuant to the addendum, Compaq agreed to ship Internet Explorer as the default browser product on all of its desktop and server systems, to adopt and promote Internet Explorer internally, and to focus the majority of Compaq's key network-oriented announcements and marketing activities on Microsoft's technologies and strategy. In September of the same year, Compaq agreed to offer Internet Explorer as the preferred browser product for its Internet products and to use two or more of Microsoft's hypertext markup language ("HTML") extensions in the home page for each of those products. Then in February 1997, Compaq committed itself to promote Internet Explorer exclusively for its PC products in exchange for Microsoft's agreement to pay Compaq a bounty for each user that signed up for Internet access using a Compaq PC. Despite the view of some within Compaq that the firm's goal should be "to feature the brand leader Netscape," Compaq elected not to resume the pre-installation of Navigator on its Presario PCs after it removed the joint Spry/Navigator icon. In fact, Compaq stopped pre-installing Navigator on all but very small percentage of its PCs.

234. In return for Compaq's capitulation and revival of its commitment to support Microsoft's Internet strategy, Microsoft has guaranteed Compaq that the prices it pays for Windows will continue to be significantly lower than the prices paid by other OEMs. Specifically, the operating system licenses signed by Compaq and Microsoft in March 1998 gave Compaq "[g]uaranteed better" pricing than any other OEM for Windows 95, Windows 98, and Windows NT Workstation (versions 4 and 5) until April 2000. Compaq's license fee for Windows is so low that other OEMs would still pay substantially more than Compaq even if they qualified for all of the royalty reductions listed in Microsoft's Market Development Agreements ("MDAs"). What is more, while Microsoft requires other OEMs to verify actual compliance with particular milestones in order to receive Windows 98 royalty reductions, Microsoft has secretly agreed to provide the full amount of those discounts to Compaq regardless of whether it actually satisfies the specified conditions. In addition to a guaranteed most-favorable price on Windows, Compaq has enjoyed free internal use of all Windows products for PCs since March 1998.

235. Microsoft's relations with Compaq beginning in late 1996 illustrate the blandishments that Microsoft is willing to extend to OEMs that ally with it to help it capture browser share. Microsoft's relations with Gateway and the IBM PC Company, by contrast, reveal the pressure that Microsoft is willing to apply to OEMs that show reluctance to cooperate on this front.

236. In February 1997 a Microsoft account representative told his counterpart at Gateway that Gateway's use of Navigator on its own corporate network was a serious issue at Microsoft. He added that Microsoft would not do any co-marketing and sales campaigns with Gateway if the firm appeared to be anything but pro-Microsoft. If Gateway would replace Navigator with Internet

Explorer, Microsoft would compensate Gateway for its investment in Netscape's product. If Gateway refused, Microsoft might be compelled to audit Gateway's internal use of Microsoft products.

Gateway was separately told by Microsoft representatives that its decision to ship Navigator with its PCs could affect its business relationship with Microsoft. Despite the pressure from Microsoft, Gateway refused to switch its internal use to Internet Explorer or to stop shipping Navigator with its PCs. Although Microsoft did not implement its more specific threats, Gateway has consistently paid higher prices for Windows than its competitors. Microsoft's actions not only corroborate the evidence of its interest in suppressing the usage of Navigator, they also demonstrate its ability to threaten recalcitrant customers without losing their business.

237. Similarly, in early 1997, Microsoft tried to convince the IBM PC Company to promote and distribute the upcoming release of its new browser, Internet Explorer 4.0. At a meeting with IBM executives in March 1997, Microsoft representatives threatened that, if IBM did not pre-load and promote Internet Explorer 4.0 to the exclusion of Navigator on its PCs, it would suffer "MDA repercussions." One of the Microsoft representatives in attendance, Bengt Ackerlind, stated that in return for IBM shipping its systems without any software that competed with Microsoft, IBM would receive "soft dollars," marketing assistance, improved access to the source code of Windows 95 and Microsoft's BackOffice product, and the ability to self-certify for Microsoft's Windows Hardware Quality Lab provisions. In a follow-up meeting three weeks later, Microsoft representatives again insisted that IBM distribute and promote Internet Explorer exclusively and again offered soft dollars, marketing assistance, and MDA reductions in return. Later that day, in a smaller meeting that Microsoft referred to as "secret discussions," Ackerlind stated Microsoft's desire that IBM promote

Internet Explorer 4.0 exclusively and warned that if IBM pre-installed Navigator on its PCs, “We have a problem.”

238. The IBM PC Company refused to promote Internet Explorer 4.0 exclusively, and it has continued to pre-install Navigator on its PCs. The difference in the ways that Compaq and IBM responded to Microsoft’s Internet-related overtures in 1996 and 1997 contributed to the stark contrast in the treatment the two firms have since received from Microsoft.

**d. Effect of Microsoft’s Actions in the OEM Channel**

239. Microsoft has largely succeeded in exiling Navigator from the crucial OEM distribution channel. Even though a few OEMs continue to offer Navigator on some of their PCs, Microsoft has caused the number of OEMs offering Navigator, and the number of PCs on which they offer it, to decline dramatically. Before 1996, Navigator enjoyed a substantial and growing presence on the desktop of new PCs. Over the next two years, however, Microsoft’s actions forced the number of copies of Navigator distributed through the OEM channel down to an exiguous fraction of what it had been. By January 1998, Kempin could report to his superiors at Microsoft that, of the sixty OEM sub-channels (15 major OEMs each offering corporate desktop, consumer/small business, notebook, and workstation PCs), Navigator was being shipped through only four. Furthermore, most of the PCs shipped with Navigator featured the product in a manner much less likely to lead to usage than if its icon appeared on the desktop. For example, Sony only featured Navigator in a folder rather than on the desktop, and Gateway only shipped Navigator on a separate CD-ROM rather than pre-installed on the hard drive. By the beginning of January 1999, Navigator was present on the desktop of only a tiny percentage of the PCs that OEMs were shipping.

240. To the extent Netscape is still able to distribute Navigator through the OEM channel, Microsoft has substantially increased the cost of that distribution. Although in January 1999 (in the midst of this trial), Compaq suddenly decided to resume the pre-installation of Navigator on its Presario PCs, Compaq's reversal came only after Netscape agreed to provide Compaq with approximately \$700,000 worth of free advertising.

241. In sum, Microsoft successfully secured for Internet Explorer — and foreclosed to Navigator — one of the two distribution channels that leads most efficiently to the usage of browsing software. Even to the extent that Navigator retains some access to the OEM channel, Microsoft has relegated it to markedly less efficient forms of distribution than the form vouchsafed for Internet Explorer, namely, prominent placement on the Windows desktop. Microsoft achieved this feat by using a complementary set of tactics. First, it forced OEMs to take Internet Explorer with Windows and forbade them to remove or obscure it — restrictions which both ensured the prominent presence of Internet Explorer on users' PC systems and increased the costs attendant to pre-installing and promoting Navigator. Second, Microsoft imposed additional technical restrictions to increase the cost of promoting Navigator even more. Third, Microsoft offered OEMs valuable consideration in exchange for commitments to promote Internet Explorer exclusively. Finally, Microsoft threatened to penalize individual OEMs that insisted on pre-installing and promoting Navigator. Although Microsoft's campaign to capture the OEM channel succeeded, it required a massive and multifarious investment by Microsoft; it also stifled innovation by OEMs that might have made Windows PC systems easier to use and more attractive to consumers. That Microsoft was willing to pay this price demonstrates that its

decision-makers believed that maximizing Internet Explorer's usage share at Navigator's expense was worth almost any cost.

### **3. Excluding Navigator from the IAP Channel**

242. By late 1995, Microsoft had identified bundling with the client software of IAPs as the other of the two most efficient channels for distributing browsing software. By that time, however, several of the most popular IAPs were shipping Navigator. Recognizing that it was starting from behind, Microsoft devised an aggressive strategy to capture the IAP channel from Netscape. In February 1996, Cameron Myhrvold, the Microsoft executive in charge of the firm's relations with ISPs, outlined the strategy in a memorandum to his colleagues and superiors within the company:

It's essential we increase the share of our browser. Network operators [(IAPs, plus the telephone and cable companies providing Internet access services)] are important distributors and we will license at no cost the Internet Explorer for distribution with their Internet access business to maximize the distribution/adoption of IE as browser of choice. We will attempt exclusive arrangements, fight for preferred status, but settle for parity with NetScape. Even offering IE for free will not win us every sale. In the U.S. we will offer IE broadly to net[work ]op[erator]s and IAPs including the many hundreds of smaller IAPs.

In the first step of this strategy, Microsoft enticed ISPs with small subscriber bases to distribute Internet Explorer and to make it their default browsing software by offering for free both a license to distribute Internet Explorer and a software kit that made it easy for ISPs with limited resources to adapt Internet Explorer for bundling with their services.

243. Those who planned and implemented Microsoft's IAP campaign believed that, if IAPs gave new subscribers a choice between Internet Explorer and Navigator, most of them would pick Navigator — both because Netscape's brand had become nearly synonymous with the Web in the



public consciousness and because Navigator had developed a much better reputation for quality than Internet Explorer. To compensate for Navigator's advantage, Microsoft reinforced its free distribution of Internet Explorer licenses and the access kits with three tactics designed to induce IAPs with large subscriber bases not only to distribute and promote Internet Explorer, but also to constrain severely their distribution and promotion of Navigator and to convert those of their subscribers already using Navigator to Internet Explorer.

244. Microsoft's first tactic was to develop and include with Windows an Internet sign-up program that made it simple for users to download access software from, and subscribe to, any IAP appearing on a list assembled by Microsoft. In exchange for their inclusion on this list, the leading IAPs agreed, at Microsoft's insistence, to distribute and promote Internet Explorer, to refrain from promoting non-Microsoft Web browsing software, and to ensure that they distributed non-Microsoft browsing software to only a limited percentage of their subscribers. Although the percentages varied by IAP, the most common figure was seventy-five percent.

245. In a similar tactic aimed at a more important IAP sub-channel, Microsoft created an "Online Services Folder" and placed an icon for that folder on the Windows desktop. In exchange for the pre-installation of their access software with Windows and for the inclusion of their icons in the Online Services Folder, the leading OLSs agreed, again at Microsoft's insistence, to distribute and promote Internet Explorer, to refrain from promoting non-Microsoft Web browsing software, and to distribute non-Microsoft browsing software to no more than fifteen percent of their subscribers.

246. Finally, Microsoft gave IAPs incentives to upgrade the millions of subscribers already using Navigator to proprietary access software that included Internet Explorer. To IAPs included in the

Windows Internet sign-up list, Microsoft offered the incentive of reductions in the referral fees it charged for inclusion in the list. To OLSs in the Online Services Folder, Microsoft offered cash bounties.

247. In sum, Microsoft made substantial sacrifices, including the forfeiture of significant revenue opportunities, in order to induce IAPs to do four things: to distribute access software that came with Internet Explorer; to promote Internet Explorer; to upgrade existing subscribers to Internet Explorer; and to restrict their distribution and promotion of non-Microsoft browsing software. The restrictions on the freedom of IAPs to distribute and promote Navigator were far broader than they needed to be in order to achieve any economic efficiency. This is especially true given the fact that Microsoft never expected Internet Explorer to generate any revenue. Ultimately, the inducements that Microsoft offered IAPs at substantial cost to itself, together with the restrictive conditions it imposed on IAPs, did the four things they were designed to accomplish: They caused Internet Explorer's usage share to surge; they caused Navigator's usage share to plummet; they raised Netscape's own costs; and they sealed off a major portion of the IAP channel from the prospect of recapture by Navigator. As an ancillary effect, Microsoft's campaign to seize the IAP channel significantly hampered the ability of consumers to make their choice of Web browser products based on the features of those products.

**a. The Internet Explorer Access Kit Agreements**

248. In September 1996, Microsoft announced the availability of the "Internet Explorer Access Kit," or "IEAK." By simply accessing the correct page on Microsoft's Web site and clicking on a box to indicate agreement with the license terms, any IAP could download the IEAK, which included a copy of Internet Explorer. With their technical knowledge, sophisticated equipment, and

high-bandwidth connections, IAPs found it very convenient to download Internet Explorer and the IEAK from Microsoft's Web site.

249. Using the IEAK, an IAP could create a distinctive identity for its service in as little as a few hours by customizing the title bar, icon, start and search pages, and "favorites" in Internet Explorer. The IEAK also made the installation process easy for IAPs. With the IEAK, IAPs could avoid piecemeal installation of various programs and instead create an automated, comprehensive installation package in which all settings and options were pre-configured. In addition to ease of customization and installation, the IEAK enabled each IAP to preset the default home page so that customers would be taken to the IAP's Web site whenever they logged onto the Internet. This was important to IAPs because setting the user's home page to the IAP's Web site gave the IAPs advertising and promotional opportunities. Netscape, by contrast, refused to allow its IAP licensees to move Navigator's home page from Netscape's NetCenter portal site.

250. Many IAPs would have paid for the right to distribute Internet Explorer. Indeed, Netscape was charging IAPs between fifteen and twenty dollars per copy of Navigator they distributed. Because of the features and convenience it offered, the IEAK significantly increased the price that IAPs would have been willing to pay. Nevertheless, Microsoft licensed the IEAK, including Internet Explorer, to IAPs at no charge. At the time Microsoft released the IEAK, Netscape did not offer IAPs an analogous tool. Although Netscape eventually followed Microsoft's lead by introducing a tool kit similar to the IEAK known as Mission Control, that kit was not made available to IAPs until June 1997 — a full nine months after the release of the IEAK. Whereas IAPs could obtain the IEAK for free, Netscape initially charged \$1,995 for each copy of Mission Control.

251. Approximately 2,500 IAPs executed an electronic copy of a license agreement for the IEAK. Included in that number were the eighty IAPs that together accounted for ninety-five percent of all Internet access subscribers in the United States. The IAPs that executed an IEAK license agreement agreed to make Internet Explorer their “preferred” browsing software. The term “preferred” was not defined in the license, and Microsoft did not investigate the extent to which Internet Explorer was in fact enjoying “preferred” status in the client software of its IEAK licensees. In fact, other than to provide information and respond to technical questions, Microsoft made no effort to maintain regular direct contact with the vast majority of the IAPs that had executed licenses.

252. Whether or not IEAK licensees actually gave Internet Explorer preferred status, Microsoft’s decision to license Internet Explorer and the IEAK to IAPs at no charge beguiled many small ISPs that otherwise would not have done so into distributing Internet Explorer to their subscribers. By giving up the opportunity to charge for Internet Explorer, and also by developing the IEAK at substantial cost and offering it at no charge, Microsoft thus increased the flow of Internet Explorer through the crucial IAP channel.

#### **b. The Referral Server Agreements**

253. In the late summer of 1996, at around the time that it announced the availability of the IEAK, Microsoft also introduced the Internet Connection Wizard (“ICW”) as a feature in Windows 95 OSR 2. If a user clicked on the ICW icon appearing on the Windows 95 desktop, the program would automatically dial into a computer maintained by Microsoft called the Windows Referral Server. The Referral Server would then transmit to the user’s computer a list of IAPs that provided connections to

the Internet in the user's geographic locale. Included in this list would be information about each IAP's service, including its prices. If the user then indicated a desire to sign up for one of the listed IAPs by clicking on the appropriate entry, the user would be connected to an IAP-maintained server that would automatically configure the user's PC to work properly with the IAP service.

254. For several reasons, IAPs viewed inclusion in the Windows 95 Referral Server as a valuable form of promotion. First, the ICW icon appeared prominently on the desktop of every PC running Windows 95 (from OSR 2 onwards), which, by the middle of 1996, accounted for the vast majority of all new PCs being shipped. Because Microsoft prohibited OEMs from removing any of the icons that it placed on the Windows desktop, IAPs knew that the ICW would confront all users of Windows 95 PCs the first time they turned on their systems. Second, inclusion in the Referral Server was a highly focused form of promotion, because the IAP list provided by the Referral Server presented itself to users who had already indicated some interest in signing up for Internet access. Third, the easy-to-use features of the ICW heightened the probability that a user who started using the program would complete the process of subscribing to an IAP. Finally, inclusion in the Referral Server was a relatively inexpensive means of distribution because, unlike "carpet bombing" with CD-ROMs, it did not require the production and dissemination of anything tangible.

255. Despite the value that IAPs attached to placement in the Windows 95 Referral Server, Microsoft elected to charge those that it granted placement a low bounty price that merely went to pay down the cost of maintaining the necessary server computers and leasing the network they ran on. Although it could have been exchanged for large bounties from IAPs, Microsoft decided to exchange placement in the Referral Server, along with other valuable consideration, for the agreement of the

selected IAPs to promote and distribute Internet Explorer preferentially over Navigator and to convert existing subscribers from Navigator to Internet Explorer.

256. Between July 1996 and September 1997, Microsoft entered into Referral Server agreements with fourteen IAPs. These were AOL, AT&T WorldNet, Brigadoon, Concentric, Digex, EarthLink, GTE, IDT, MCI, MindSpring, Netcom, Prodigy, Sprint, and Spry. Three of these companies did not take the technical steps necessary to appear in the Referral Server even though they had signed agreements with Microsoft. Brigadoon failed to take those steps because it filed for bankruptcy. For its part, Digex left the ISP business to focus exclusively on Web hosting. GTE, on the other hand, decided to enter promotion agreements directly with OEMs rather than abide by the conditions Microsoft attached to inclusion in the Referral Server. Although AOL eventually entered a listing into the Referral Server, it waited until November 1998, after the release of Windows 98. The remaining IAPs in the Windows 95 Referral Server represented ten of the top fifteen Internet access providers in the North America.

257. Pursuant to the terms of the agreements it signed with these ten IAPs, Microsoft provided each with a listing in the Windows 95 Referral Server and mentioned them in press releases and marketing activities relating to the ICW. Microsoft also licensed Internet Explorer to them at no charge, and assisted them in customizing Internet Explorer for use with their services. In exchange, the listed IAPs agreed to offer Internet Explorer as the “standard,” “default,” or “preferred” browsing software with their services. For example, Microsoft’s agreement with EarthLink required it to “[o]ffer the Microsoft Internet Explorer as the standard web browser for [EarthLink’s] ISP Service.”

258. The agreements also imposed several restrictions on the ability of the IAPs in the Referral Server to promote and distribute non-Microsoft browsing software. First, the agreements required the IAPs to limit their promotion of browser products other than Internet Explorer. For example, the agreements prohibited the IAPs from providing any links or other promotions for Netscape on their services' home pages. In fact, an IAP listed in the Referral Server was not permitted, either in its Referral Server entry or elsewhere, to express or imply to its subscribers that they could use a browser other than Internet Explorer with the IAP's service. Second, the agreements prohibited the ten IAPs from providing non-Microsoft browsing software to their customers unless a subscriber specifically requested it. Third, the agreements gave Microsoft the right to remove from the Referral Server any IAP, that in two consecutive calendar quarters, allowed non-Microsoft browsing software to climb above a specific percentage of all browsing software distributed by that IAP. Thus, even if the IAP ensured that all users subscribing to its service through the Internet Connection Wizard received only Internet Explorer with their subscriptions, Microsoft could nevertheless remove the ISP from the Referral Server if copies of Navigator made up more than the specified percentage of the browsing software that the IAP distributed through all sub-channels. Twenty-five percent was the figure specified in most of the agreements. For Netcom and Sprint, the figure was fifty percent, while for IDT it was fifteen.

259. In addition to conditioning placement in the Referral Server on an IAP's undertaking to limit its promotion and distribution of non-Microsoft browsing software, Microsoft through its Referral Server agreements exchanged valuable consideration for the commitment of the ten IAPs to convert existing subscribers from Navigator to Internet Explorer. Microsoft also compensated them for

employing Internet Explorer-specific technologies whose dissemination would encourage the developers of network-centric applications to focus on APIs controlled by Microsoft, as opposed to Netscape or Sun. For example, in exchange for Netcom's commitment to offer deals to its customers encouraging them to upgrade their software to the newest version that bundled Internet Explorer, Microsoft subtracted nine dollars from the referral fee. Microsoft also deposited one dollar into a co-marketing fund for each Netcom subscriber who actually upgraded to client software that bundled Internet Explorer.

260. Where the agreement with Microsoft required the IAP to abandon a distribution agreement already entered with Netscape, Microsoft compensated the IAP with additional consideration. For instance, in response to a representation from MCI that it had already committed to pay Netscape between five and ten million dollars for Web browsing software, Microsoft agreed to grant MCI a credit of five dollars toward a co-marketing fund (not to exceed five million dollars) for each copy of Internet Explorer that MCI distributed to an MCI Internet access customer who had not already received a copy. Finally, Microsoft offered yet further reductions in referral fees to the IAPs using Microsoft-controlled technologies likely to stimulate developers to focus their attention on Windows-specific software interfaces rather than the cross-platform ones provided by Netscape and Sun. For example, Microsoft offered to reduce EarthLink's per-copy referral fee by ten dollars in exchange for EarthLink's use of at least two ActiveX controls in the design of its home page and the use of Microsoft FrontPage server extensions on its Web hosting servers.

261. Microsoft could have covered the cost of developing and maintaining the ICW and the Windows Referral Server, and even made a profit, by charging higher referral fees than it did to the



avored IAPs. Instead, Microsoft bartered away so much of the referral fees it otherwise could have charged that the costs of running the Windows Referral Server have thus far exceeded the payments Microsoft has received from the favored IAPs. Microsoft readily made this sacrifice in order to induce the important IAPs to take actions that aided Microsoft's effort to exclude Navigator from the IAP channel.

262. Microsoft's motivation for the limits it placed on the distribution of non-Microsoft browsing software by IAPs in the Windows 95 Referral Server could not have been simply a desire to ensure that IAPs did not promote competing browsing software to subscribers acquired with Microsoft's help. The agreements gave Microsoft the right to dismiss an IAP that either told its subscribers they could choose Navigator or distributed too many copies of non-Microsoft browser products. This was true even if the IAP never mentioned Navigator in its Referral Server entry and distributed nothing but Internet Explorer to the new subscribers it garnered from the ICW. In light of that fact, the Windows 95 Referral Server agreements emerge as something very different from typical cross-marketing arrangements. Furthermore, while facilitating for consumers the process of connecting to the Internet may have been one motivation for developing the Internet Connection Wizard, that motivation cannot explain the exclusionary terms in the Referral Server agreements. After all, contractually limiting the distribution of non-Microsoft browsing software by IAPs did nothing to help consumers gain easy access to the Internet. The real motivation behind the exclusionary terms in the Referral Server agreements was Microsoft's conviction that even if IAPs were compelled to promote and distribute Internet Explorer, the majority of their subscribers would nevertheless elect to use Navigator if the IAPs made it readily available to them. Microsoft therefore paid a high price to induce

the most popular IAPs to encourage their customers to use Internet Explorer and discourage them from using Navigator.

263. Absent the conditions Microsoft placed on inclusion in the Referral Server, the IAPs would have had no reason to limit the percentage of subscribers that used one particular browser or another. As Cameron Myhrvold explained to colleagues within Microsoft in April 1997, “ISPs are agnostic on the browser. It is against their nature to favor a browser or even a platform. This has been damn hard for us to influence.” In fact, Myhrvold told the same colleagues that he “had a hard time guiding the ISPs to IE loyalty even when I make them sign explicit terms and conditions in a legal contract.”

264. Microsoft monitored the extent of compliance of IAPs in the Referral Server with the shipment restrictions contained in their agreements. It did this by periodically asking each of the ten IAPs to send Microsoft estimates of the number of copies of Internet Explorer — and non-Microsoft browsing software — they were shipping. When, from time to time, various IAPs in the Windows 95 Referral Server (specifically Netcom, Concentric, and EarthLink) fell below the shipment quotas specified in their agreements with Microsoft, executives at Microsoft reacted by contacting the derelict companies and urging them to meet their obligations. Concentric and Earthlink eventually (by May 1998, if not sooner) reduced their Navigator shipments enough to bring them below the required percentage. Microsoft never formally removed an IAP from the Referral Server. For a time after the release of Internet Explorer 4.0, however, no entry for Netcom appeared in the new version of Referral Server. This was at least in part due to Netcom’s failure to ensure that Internet Explorer accounted for fifty percent of the browsing software it shipped.

265. In addition to failing, for a time, to meet the required shipment quotas, Concentric and EarthLink occasionally promoted Navigator in ways that were arguably prohibited by the Referral Server agreements. Despite their delinquency, Microsoft never removed Concentric and EarthLink from the Referral Server. Of much less concern to Microsoft than the shipment and promotion of Navigator by IAPs having signed Referral Server agreements was the fact that Concentric and EarthLink, along with Netcom and three of the other IAPs in the Windows 95 Referral Server, also appeared in Netscape's referral server. This did not violate either the letter or the spirit of their agreements with Microsoft, for while the agreements prohibited the IAPs in the Windows 95 Referral Server from promoting Navigator, they did not purport to hinder Netscape in promoting those IAPs. At any rate, Microsoft did not have reason to be concerned with the appearance of its IAP partners in Netscape's referral server, whose main exposure was to existing Navigator users interested in switching their IAPs. A listing in Netscape's referral server did not help Netscape get its software on users' systems, and pursuant to their agreements with Microsoft, the six ISPs in both Microsoft's and Netscape's referral servers were actually placing Navigator on far fewer users' systems than they would have in the absence of their agreements with Microsoft.

266. In reaction to Microsoft's Referral Server agreements, Netscape entered into agreements of its own with five of the Regional Bell Operating Companies (RBOCs). Under the Netscape agreements, the RBOCs agreed to make Navigator their default Web browsing software in all cases, except those in which subscribers affirmatively requested other browsing software. In exchange, Netscape agreed to list the RBOCs first among the IAPs included in Netscape's referral server. In contrast to Microsoft's agreements, Netscape's agreements with the RBOCs imposed no

restrictions on their ability to distribute other browsing software, such as Internet Explorer, whether in response to customer requests or otherwise. Furthermore, Netscape's contracts with the RBOCs required them to set Navigator as the default only so long as AT&T and MCI were both restricted by their agreements with Microsoft from providing Navigator to their customers on par with Internet Explorer. In any event, the RBOCs currently deliver Internet access to less than five percent of the Internet access subscribers in North America.

267. Microsoft's Windows 95 Referral Server agreements were of relatively short duration. For example, Microsoft's agreement with EarthLink provided that it would expire two years from its signing in August 1996 unless either party elected to terminate it sooner, and both Microsoft and EarthLink were free to terminate the agreement for any reason on thirty days' written notice. The other Referral Server agreements were similarly short in term.

268. In April 1998, coincident with rising public criticism, the impending appearance of Bill Gates before a Congressional panel on competition in the computer industry, and the imminent filing of these lawsuits, Microsoft unilaterally waived the most restrictive provisions in the Windows 95 Referral Server agreements. Specifically, Microsoft waived the provisions that restricted the IAPs' ability to distribute non-Microsoft Web browsing software. With respect to promotion, the revised agreements merely required the IAPs to promote Internet Explorer at least as prominently as they promoted non-Microsoft browsers. Notably, however, the agreements still required the IAPs to make Internet Explorer their default browser.

269. By the end of September 1998, all of the Windows 95 Referral Server agreements had expired by their own terms. Microsoft's Windows 98 Referral Server agreements do not contain any

provisions requiring that Internet Explorer make up any particular percentage of the IAPs' shipments. Furthermore, the Windows 98 Referral Server agreements offer no discounts on the referral fees predicated on the IAPs' adoption of any particular Microsoft technology or licensing any Microsoft product. With regard to promotion, the agreements require only that the IAPs promote Internet Explorer no less favorably than non-Microsoft Web browsing software. Still, for those IAPs concerned with the costs associated with supporting two browser products, this parity requirement is enough to compel them not to not make Navigator readily available to their subscribers. The new agreements have a one-year term and are terminable at will by the IAP on ninety days' notice.

270. IAPs no longer value placement in the Windows Referral Server as much as they did in 1996. For one reason, the ICW has apparently not been responsible for as many new IAP subscriptions as either Microsoft or the IAPs anticipated. In fact, from the third quarter of 1996 through the third quarter of 1998, only 2.1% of new users of the Internet became IAP subscribers through the Windows Referral Server. Partially on account of this realization, Microsoft began in the spring of 1998 to surrender significant control over the Internet sign-up process to OEMs. As described above, Microsoft gave the top fifty OEMs in the world the right to select both the IAPs (up to five) that appear in the Windows 98 Referral Server on the PC systems they sell and to determine the order in which those IAPs appear. Microsoft also permits the fifty OEMs to keep any bounties that the IAPs pay them for inclusion in the Referral Server. The OEMs simply pay Microsoft a nominal fee (a flat fee of approximately \$10,000 plus thirty cents per subscriber) to defray the costs of operating the Referral Server program. Furthermore (as is also discussed above), Microsoft has allowed seven of the highest-volume OEMs to supplant the ICW altogether.

271. By both lifting restrictions in its agreements and ceding control over the IAP sign-up process to OEMs, in the spring of 1998, Microsoft relaxed the strictures that it had imposed in the fall of 1996 on the distribution and promotion of Web browsing software by the most popular IAPs. In the year-and-a-half that they were in full force, however, the restrictive terms in the Referral Server agreements induced the major IAPs to customize their client software for Internet Explorer, gear their promotional and marketing activities to Microsoft's technologies, and convert substantial portions of their installed bases from Navigator to Internet Explorer. They may have welcomed more flexibility to distribute Navigator to those subscribers that expressed demand for it, but they had no incentive to launch an expensive campaign to reverse the tide that Microsoft's restrictions had already generated. Consequently, few ISPs have responded to Microsoft's contractual dispensations by increasing significantly their distribution and promotion of Navigator. Furthermore, one of the reasons Microsoft felt comfortable relaxing the controls on IAPs in the spring of 1998 was that it had achieved — and planned to maintain — control over the distribution and promotion of Web browsing software by AOL and the other major OLSs, whose combined subscriber base comprised most of North America's Internet users.

### **c. The Online Services Folder Agreements**

272. In late 1995 and early 1996, senior executives at Microsoft recognized that AOL accounted for a substantial portion of all existing Internet access subscriptions and that it attracted a very large percentage of new IAP subscribers. Indeed, AOL was and is the largest and most important IAP. The Microsoft executives thus realized that if they could convince AOL to distribute Internet

Explorer with its client software instead of Navigator, Microsoft would — in a single coup — capture a large part of the IAP channel for Internet Explorer. In the early spring of 1996, therefore, Microsoft exchanged favorable placement on the Windows desktop, as well as other valuable consideration, for AOL's commitment to distribute and promote Internet Explorer to the near exclusion of Navigator. AOL's acceptance of this arrangement has caused an enormous surge in Internet Explorer's usage share and a concomitant decline in Navigator's share. To supplement the effects of the AOL deal, Microsoft entered similar agreements with other OLSs. The importance of these arrangements to Microsoft is evident in the fact that, in contrast to the restrictive terms in the Windows Referral Server agreements, Microsoft has never waived the terms that require the OLSs to distribute and promote Internet Explorer to the near exclusion of Navigator.

**i. AOL**

273. Prior to 1995, OLS subscribers used proprietary access software to view only their OLS's specialized content. Beginning in 1994, however, the public became increasingly interested in accessing information on the Web. So to keep from losing subscribers and to attract new ones, OLSs upgraded their services to provide access to the Web. In November 1994, for example, AOL purchased BookLink and incorporated its Web browsing software into AOL's proprietary access software to enable AOL's subscribers to access and view Web content.

274. While public awareness of the Web was taking hold, companies like Netscape and Microsoft were hard at work developing Web browsing software. By the fall of 1995, a number of OLSs, including AOL, had decided not to devote the considerable resources that would have been required to keep up with this rapid pace of innovation. They chose instead to license state-of-the-art

Web browsing technology from a separate supplier. Microsoft saw AOL, with its subscriber base then approaching five million, as a potential breakthrough opportunity — a way for Microsoft quickly to obtain credibility in Web browsing technology as well as usage share for the current version of its browsing software, Internet Explorer 3.0.

275. In November 1995, David Cole of AOL advised Pete Higgins of Microsoft that AOL was looking for Web browsing software to license and incorporate into future versions of its proprietary access software. Bill Gates and AOL's Chairman, Steve Case, subsequently spoke several times on the telephone. In those conversations, Gates urged that AOL representatives meet with Microsoft technical personnel in order to get a better sense of the quality and features of Internet Explorer 3.0. For his part, Case told Gates that he wanted Microsoft to include AOL's client software with Windows such that AOL received the same desktop promotion that MSN enjoyed. Gates insisted that such favorable treatment of AOL within Windows was out of the question.

276. Lower down in Microsoft's chain of command, executives took issue with Gates' reluctance to grant AOL favorable placement in Windows. In October 1995, before Gates and Case began talking, a group of Microsoft executives prepared for Gates a memorandum on the company's Internet Explorer efforts entitled, "How to Get to 30% Share in 12 Months." The executives wrote that

we need to remove barriers to browser adoption by Online Services and Internet Access Providers. Today MSN is an access service . . . , an online service . . . , and an Internet site . . . ; in other words, it competes with everyone. By bundling MSN in the Windows box, we are threatening ISV's in each of these areas, who in turn have no incentive to promote our Internet Browser.

277. One of the proposals the executives put forward was that Microsoft "Open Up the Windows Box." In other words, the executives believed that, in exchange for favorable treatment of



Internet Explorer, Microsoft should include the client software of IAPs in Windows and give those services prominent placement on the desktop, even if such placement drew attention away from MSN. Over the months that followed, senior Microsoft executives came to the conclusion that opening up the Windows box to MSN's competitors was a necessary price to pay for increasing Internet Explorer's share of browser usage.

278. Case ultimately agreed to visit Microsoft's Redmond campus in January 1996. In preparation for that meeting, Microsoft purchased PC systems from five different OEMs (Compaq, Hewlett-Packard, IBM, Packard Bell, and NEC) at retail outlet stores. When they turned these systems on, employees at Microsoft discovered that the OEMs were already shipping AOL's software pre-installed on their PCs and giving the AOL service more prominent placement than MSN on the Windows desktop. From the fact that AOL was already enjoying broad distribution and promotion on the Windows desktop through agreements with OEMs, several senior Microsoft executives, in particular Paul Maritz and Brad Chase, concluded that Microsoft would not be giving up all that much if it traded placement on the Windows desktop for AOL's commitment to promote and distribute Internet Explorer. At least initially, Gates took a different lesson from the experiment with the five PC systems. He seems to have felt that Microsoft should react not by 'opening up the Windows box,' but rather by clamping down on the ability of OEMs to configure the Windows desktop. Indeed, the discovery that OEMs were promoting AOL on the Windows desktop was one of the things that led him to complain to Joachim Kempin on January 6, 1996 about OEMs that were bundling non-Microsoft Internet services and software and displaying it on their PCs "in a FAR more prominent way than MSN or our Internet browser."

279. Case's insistence that Microsoft promote AOL on the Windows desktop stemmed partly from factors other than the additional subscriptions expected to come from the OLS folder. After all, AOL already enjoyed distribution agreements with major OEMs that placed an AOL icon on the desktop of millions of new PC systems. But given that its OEM agreements tended to be short-term and somewhat tenuous, and considering how sensitive the OEMs were to Microsoft's will, AOL executives realized that AOL's position on the Windows desktop would be more secure if it met with some degree of contractual acquiescence from Microsoft. After all, whereas Microsoft retaliated in subtle and not-so-subtle ways against OEMs, such as IBM, that pre-installed software on their PCs that Microsoft found minatory, it pronounced more extreme sanctions against OEMs, such as Compaq, that had the temerity to remove icons and program entries from the Windows desktop that Microsoft had placed there. Case had reason to see value, then, in shifting AOL from being a source of software at whose promotion Microsoft took umbrage to the dispenser of software whose placement on the Windows desktop Microsoft guaranteed. Moreover, obtaining Microsoft's commitment to include the AOL client software and prominent promotion for AOL in every copy of Windows would place AOL on all Windows 95 PC systems, including those sold by the multitude of OEMs whose shipment volumes were too low to warrant the negotiation of separate distribution deals. Furthermore, placement on the desktop in some fashion would improve AOL's negotiating position when it asked individual large OEMs to place an AOL icon directly on the desktop of their PC systems. Whatever the reason, and irrespective of the considerable value that Microsoft offered AOL apart from desktop placement, Case made clear to Gates his sincere conviction that AOL would not recruit its subscribers

to Internet Explorer unless Microsoft included AOL's client software in Windows and promoted AOL in some form on the Windows desktop.

280. Four days before Case was due to arrive at Microsoft's campus, Gates sent an E-mail outlining Microsoft's goals in negotiating a deal with AOL to the responsible Microsoft executives. He wrote:

What we want from AOL is that for a period of time — say 2 years — the browser that they give out to their customers and the one they mention and put on their pages and the one they exploit is ours and not Netscape[']s. We need for them to make our browser available as the browser to existing and new customers. We have to be sure that we don't allow them to promote Netscape as well. We want all the hits that come off of AOL to register on servers as our browser so people can start seeing us as having measurable browser share.

Gates understood that if AOL gave assurance that its subscribers used Internet Explorer when browsing the Web, the measure of browser usage share data to which application developers paid most attention — i.e., server “hit” data — would show a significant rise in Internet Explorer's usage share. Gates also realized that such a commitment by AOL was worth seeking even if it lasted for only a couple of years.

281. On January 18, 1996, Case arrived at Microsoft's campus with three other AOL executives. During the first meeting, Microsoft described the componentized architecture of Internet Explorer 3.0 that would allow AOL to embed the browsing software into AOL's access software. The AOL executives viewed componentization as a highly attractive feature, because AOL wanted its subscribers to feel they were using an AOL service whether they were viewing proprietary AOL content or browsing content on the Web. In fact, Case and the other AOL representatives told their Microsoft hosts that AOL wanted total control over the “browser frame” (the windows in which Web

content is displayed) to make it distinctive to AOL. In other words, AOL wanted no menus, dialog boxes, or other visible signs that would alert AOL users to the fact that they were using Web browsing software supplied by a company other than AOL.

282. At the end of the meeting, Case expressly acknowledged the attractiveness of Microsoft's componentized approach. Notably, Netscape had not yet developed a componentized version of Navigator. Netscape had assured AOL that it would do so, and AOL believed that Netscape was capable of eventually making good on its pledge, but the fact remained that Microsoft had already completed a componentized version of Internet Explorer. Case was impressed enough with Internet Explorer 3.0 that when he returned to AOL he told a number of fellow executives that, when it came to AOL's technical considerations, Microsoft perhaps enjoyed an edge over Netscape. Still, the AOL executives saw Navigator as enjoying better brand recognition and demonstrated success in the marketplace.

283. Later in the day on January 18, Case and his team also met with Gates, Chase, and Chase's direct superior, Brad Silverberg, to discuss the business aspects of a potential AOL-Microsoft alliance. At one point during the meeting, Case again told Gates that AOL needed inclusion of its client software in Windows and prominent placement on the Windows desktop if there was to be a closer relationship between the two companies. Gates expressed frustration that Case continued to insist on getting an AOL icon on the Windows desktop in addition to the technology, engineering assistance, and technical support Microsoft was offering AOL. Despite the obvious importance that Case attached to desktop placement, Gates said he would not agree to that condition.

284. A week after the January 18 meeting, Chase and Silverberg met with Gates. They reiterated that, whether Gates liked it or not, an AOL icon already appeared on the desktop of the major OEMs' PCs. Given that fait accompli, they argued, Microsoft would gain much more than it would lose by agreeing to place AOL on the Windows desktop in exchange for AOL's commitment to promote and distribute Internet Explorer. This time, Gates agreed to give AOL some sort of promotion in Windows. He continued to insist, however, that Microsoft not place an AOL icon directly on the Windows desktop. Rather, Gates agreed to include AOL, along with other OLSs, in a generic "Online Services Folder," an icon for which would reside on the desktop. Since MSN enjoyed a branded icon directly on the desktop, including AOL in the OLS folder would maintain its inferior status to Microsoft's service.

285. Still, Gates viewed the concession as a significant one; he understood that it meant undermining MSN's success in the pursuit of browser share. As he told an interviewer in the spring of 1996:

We have had three options for how to use the "Windows Box": First, we can use it for the browser battle, recognizing that our core assets are at risk. Second, we could monetize the box, and sell the real estate to the highest bidder. Or third, we could use the box to sell and promote internally content assets. I recognize that, by choosing to do the first, we have leveled the playing field and reduced our opportunities for competitive advantage with MSN.

286. In light of AOL's success in having gained access to the Windows desktop through the expedient of OEM pre-installation without Microsoft's acquiescence, Gates' abiding reluctance to grant AOL access through Microsoft's front door may have stemmed from a preoccupation with the message such a move would send — both to other firms in the computer industry and to consumers deciding

which Internet service to use. Although Gates viewed it as a significant concession, he acquiesced in granting AOL a place in Windows because he believed that Microsoft could not pass up the opportunity AOL presented to drive Internet Explorer's usage share dramatically upward and to exclude Navigator from a substantial part of the IAP distribution channel.

287. The negotiations between Microsoft and AOL proceeded throughout February and early March 1996. On March 11, 1996, AOL announced that it had selected Navigator as the primary Web browsing software for GNN, which was AOL's basic ISP service at the time and had a subscriber base only two to three percent the size of the subscriber base of AOL's flagship online service. The GNN arrangement was thus eclipsed the following day when AOL announced that it had chosen Internet Explorer as the primary Web browsing software for its flagship service.

288. Under the March 12 agreement, Microsoft gave AOL access to, and the right to modify, Internet Explorer source code in order to customize it for use with AOL's proprietary access software. This concession went far beyond the freedom that the IEAK granted IAPs to place their own branding on Internet Explorer. Microsoft also agreed to provide AOL with significant engineering assistance and technical support to enable AOL to integrate Internet Explorer into AOL's proprietary access software. Further, Microsoft agreed to provide AOL with certain specific features of Internet Explorer 3.0 by precise target dates and to ensure that future versions of its Web browsing software would possess the latest available Internet-related technology features, capabilities, and standards. Finally, Microsoft granted AOL free world-wide distribution rights to Internet Explorer and agreed to distribute AOL's proprietary access software in Windows and to place an AOL icon in the OLS folder on the Windows desktop.

289. In return for Microsoft's commitments, AOL agreed to base the proprietary access software of its flagship online service for Windows and the Mac OS on Internet Explorer 3.0 and to update that software as newer versions of Internet Explorer were released. Another provision in the agreement provided that "AOL and AOL Affiliates will, with respect to Third Party Browsers, exclusively promote, market and distribute, and have promoted, marketed and distributed, Internet Explorer on or for use by subscribers to the AOL Flagship Service." Specifically, AOL agreed to ensure that in successive six-month periods, neither the number of copies of non-Microsoft Web browsing software it shipped (through any sub-channel, including GNN), nor the number of new subscribers accessing AOL (including GNN) with non-Microsoft Web browsing software, would exceed fifteen percent of the total number of copies of proprietary access software that AOL distributed through any channel (i.e., through the Windows desktop or otherwise). AOL retained the right to distribute non-Microsoft Web browsing software to subscribers who affirmatively requested it, as long as doing so did not raise the relevant shipment quotients above fifteen percent. AOL also retained the right to provide a link within its service through which its subscribers could reach a Web site from which they could download a version of Navigator customized for the AOL service. At the same time, however, the agreement prohibited AOL from expressing or implying to subscribers or prospective subscribers that they could use Navigator with AOL. Nor did it allow AOL to include, on its default page or anywhere else, instructions telling subscribers how to reach the Navigator download site. In any event, as the Court has found above, downloading large programs over the Internet involves considerable time, and frequently some frustration, for the average user with average hardware and an analog connection. The prospects were slim that many AOL users (who tend to be novice

users with average equipment) would expend the effort to download Navigator when they already had browsing software that worked well with the AOL service. Finally, while the agreement permitted AOL (subject again to the fifteen-percent shipment quotas) to distribute non-Microsoft Web browsing software when requested by third-party providers, distributors, and corporate accounts, it obligated AOL to use all reasonable efforts to cause the third party to distribute that software on its own and to minimize the use of AOL's brand name with the distribution.

290. The Microsoft executives responsible for closing the deal with AOL recognized that AOL had agreed to distribute and promote Internet Explorer to the virtual exclusion of Navigator. Two days after Microsoft signed the agreement with AOL, Chase sent to Microsoft's executive staff a memorandum answering questions he thought the executives might have about the agreement. One such question was, "I find it hard to believe that AOL is using Internet Explorer as its browser. Are there exceptions?" Chase responded: "Yes the[re] are some but they are pretty remote. An AOL customer could choose to use Navigator and it will be available to be downloaded from the AOL site, though not in a prominent way. There are some circumstances with 3<sup>rd</sup> party distribution deals where AOL has some limited flexibility. On its GNN service, AOL can do what it wants. But for all intents and purposes it is true, AOL will be moving its 5M customers to a new client integrated with Internet Explorer 3 starting this summer/fall."

291. As with the restrictive provisions in the Referral Server agreements, the provisions in the March 1996 agreement constraining AOL's distribution and promotion of Navigator had no purpose other than maximizing Internet Explorer's usage share at Navigator's expense. Considering that the restrictions applied to AOL's proprietary access software regardless of the sub-channel



through which it was distributed, and that Microsoft collected no revenue from Internet Explorer, the restrictions accomplished no efficiency. They affected consumers only by encumbering their ability to choose between competing browsing technologies. In order to gain AOL's acceptance of these restrictions, Microsoft accorded AOL free desktop placement that undermined its own MSN, in which Microsoft had invested hundreds of millions of dollars. Significantly, Microsoft did not waive any of the terms of its agreement with AOL (nor of its agreements with other OLSs) when it waived some of the restrictive provisions in its Referral Server agreements in April 1998. The reason was Microsoft's recognition that holding OLSs, particularly AOL, to exclusive distribution and promotion terms was more important to maximizing Internet Explorer's usage share than holding ISPs to similar terms.

292. Microsoft closely monitored AOL's compliance with the restrictive provisions in the March 1996 agreement. Microsoft employees periodically inspected AOL's service for any sign of promotions for Netscape. The scrutiny was close enough to prompt an AOL executive to write Microsoft's Chase: "We are not selling NS advertising around its browser or otherwise — let's move on. . . . [I]t is not time to be paranoid . . . ."

293. Ever since the negotiations with Microsoft intensified in early 1996, it had been AOL's intention to select one firm's Web browsing software and then to work closely with that firm to incorporate its browsing technology seamlessly into the AOL flagship client software. Regardless of which software it chose as its primary offering, though, AOL still wanted the ability to satisfy consumer demand for competing Web browsing software. AOL did not want users who preferred a certain brand of Web browsing software to have to go to a competing OLS in order to obtain it. Therefore, even once it selected Internet Explorer as the software that it would integrate seamlessly into its client,

AOL would have preferred to make an AOL-configured version of Navigator readily available to subscribers and potential subscribers.

294. Despite its preference, however, AOL did not make Navigator readily available to subscribers after the agreement with Microsoft took effect. To the contrary, AOL made it relatively difficult for new subscribers to obtain a version of Navigator that would work with its client software, and it pressured existing subscribers who used Navigator to abandon it in favor of client software that included Internet Explorer. In essence, AOL contravened its natural inclination to respond to consumer demand in order to obtain the free technology, close technical support, and desktop placement offered by Microsoft.

295. On October 28, 1996, Microsoft and AOL entered into an additional agreement called the Promotional Services Agreement, whereby AOL agreed to promote its new proprietary access software that included Internet Explorer to existing AOL subscribers, and Microsoft agreed to pay AOL for such promotion based on results. Specifically, Microsoft agreed to pay AOL \$500,000, plus twenty-five cents (up to one million dollars) for each subscriber who upgraded from older versions of AOL's proprietary access software to the version that included Internet Explorer, plus \$600,000 if AOL succeeded in upgrading 5.25 million subscribers by April 1997. In addition, AOL's Referral Server agreement with Microsoft provided that AOL would receive a two-dollar credit on referral fees for each new subscriber who used Internet Explorer. So while the March 12, 1996 agreement ensured that nearly all new AOL subscribers would use Internet Explorer, the Promotional Services and Referral Server agreements enlisted AOL in the effort to convert the OLS's millions of existing subscribers to Internet Explorer. In fulfillment of these agreements, AOL began to prompt its

subscribers to download the latest version of its client access software, complete with Internet Explorer, every time they logged off the service.

296. It is not surprising, given the terms of the 1996 agreements between Microsoft and AOL, that the percentage of AOL subscribers using a version of the client software that included Internet Explorer climbed steeply throughout 1997. By January 1998, Cameron Myhrvold was able to report to Gates and the rest of Microsoft's executive committee that ninety-two percent of AOL's subscribers (who by then numbered over ten million) were using client access software that included Internet Explorer. A year earlier, the same type of data had shown that only thirty-four percent of AOL subscribers were using AOL client software that included Internet Explorer. The marked increase resulted in no small part from AOL's efforts to convert its existing subscribers to the newest version of its client software.

297. Even if an AOL subscriber obtains the new client software that includes Internet Explorer, he can still browse the Web using any browsing software, including Navigator, that happened to be installed on his hard drive. It is unlikely that many users will go to this effort, however, given the ease of browsing with the software that comes with AOL's client software. The average AOL user, being perhaps less technically sophisticated than the average IAP subscriber, is particularly unlikely to expend any effort to use browsing software other than that which comes included with the AOL software. AOL, acting pursuant to the provisions of the March 1996 agreement, has not made it easy for its subscribers to locate, download, and install a version of Navigator configured for its service. Consequently, those AOL subscribers who did not already have Navigator on their systems by the time that agreement took effect were even less likely to use Navigator.

298. So when Microsoft executives learned that ninety-two percent of AOL subscribers were using client software that included Internet Explorer, they could rest assured that virtually the same percentage of AOL's subscribers were using Internet Explorer whenever they connected to the Internet with AOL. In fact, an examination of the "hit" data collected by AdKnowledge indicates that as of early 1999, only twelve percent of AOL subscribers were using Navigator when they browsed the Web (see Section V.H.1., *infra*, for a description of the method by which AdKnowledge collects data). AOL (and its CompuServe subsidiary), in turn, accounted for a very large percentage of all IAP subscribers. In fact, according to data Microsoft collected and used internally, AOL and CompuServe accounted for sixty-five percent of the combined subscriber base of the top eighty IAPs in late 1997. It is thus a reasonable deduction that the restrictive terms Microsoft induced AOL to accept in 1996 preempted a substantial part of the IAP channel for Internet Explorer.

299. On November 24, 1998, AOL and Netscape agreed that AOL would acquire Netscape for 4.3 billion dollars' worth of AOL stock. In a related transaction, AOL entered into a three-year strategic alliance with Sun, pursuant to which Sun would develop and market both its and Netscape's server software and would manage the companies' joint efforts in the area of electronic commerce. AOL purchased Netscape not just for its browsing technology, but also for its electronic commerce business, its portal site, its brand recognition, and its talented work force. To the extent AOL was paying for Netscape's browser business, its primary goal was not to compete for user share against Internet Explorer. Rather, AOL was interested in Navigator to the extent that it drove Web traffic to Netscape's popular portal site, NetCenter. AOL was also interested in ensuring that an alternative to Internet Explorer remained viable; it wanted the option of dropping Internet Explorer to

retain enough vitality so that it would not be at the mercy of Microsoft for software upon which the success of its online service largely depended. Finally, AOL was interested in keeping Navigator alive in order to ensure that Microsoft did not gain total control over Internet standards.

300. AOL had the right under its agreement with Microsoft to terminate the distribution and promotion provisions relating to Internet Explorer on December 31, 1998. If AOL had decided to terminate those provisions, the March 1996 agreement would otherwise have remained in effect, and AOL could have continued to base its proprietary access software on Internet Explorer, taking advantage of Microsoft's engineering and technical support. Microsoft, however, would have had the option of removing AOL from the OLS folder. What is more, Chase informed AOL that Microsoft might react to AOL's termination of the restrictive provisions by discontinuing the OLS folder altogether, which would have disadvantaged the AOL's subsidiary OLS, CompuServe, which also enjoyed a place in the OLS folder.

301. Despite its acquisition of Netscape, AOL did not exercise its right to terminate the exclusivity provisions of its agreement with Microsoft at the end of 1998. AOL executives made the reasons clear to AOL's board of directors on November 17, 1998, when they presented the Netscape/Sun transactions for the board's approval. They wrote:

In exchange for using IE as our primary browser component, Microsoft bundles [AOL] in the "Online Services Folder" on the Windows desktop. This is an important, valued source of new customers for us, and therefore something we are inclined to continue. Microsoft has made it clear that they will not continue to include us in Windows if we don't agree to continue our "virtual exclusivity" provisions for use of IE within [AOL]. . . . There are benefits to [Netscape] of replacing IE with the [Netscape] browser — it would dramatically shift browser market share (from about 50/50 today to 65/35 in favor of [Netscape]). However, our present intent is to continue with IE,

partly to get the continued marketing benefits of Windows bundling, and partly to maximize the likelihood of continued “détente” with Microsoft.

By not exercising its right to terminate the “virtual exclusivity” provisions in the agreement with Microsoft, AOL committed itself to abide by those restrictions until January 1, 2001.

302. AOL does not believe that it must make every possible use of Netscape’s browsing software, and maximize Navigator’s usage share, in order to justify its purchase of Netscape. Now that AOL has the capability to produce its own state-of-the-art componentized browsing software, however, the fact remains that, of the various advantages Microsoft currently offers AOL in exchange for its agreement to distribute and promote Internet Explorer with near exclusivity, the only one likely to still be of great value to AOL at the beginning of the new millennium is the inclusion of AOL’s client software, and the promotion of its service, within Windows. Assuming Microsoft continues to offer that placement to AOL after January 1, 2001, the extent to which AOL continues to distribute and promote Internet Explorer to the exclusion of other browsing software will depend largely on the value that AOL assigns to that placement and to any new forms of consideration Microsoft offers. With respect to the value of placement in the OLS folder, AOL registered approximately 970,000 new subscribers through the OLS folder in the fiscal year ending in June 1998. This represented eleven percent of the new subscriptions AOL gained that year, and it was enough to prompt AOL executives in November 1998 to describe the OLS folder to the AOL board as an “important, valued source of new customers for us.”

303. If AOL were to halt its distribution and promotion of Internet Explorer, the effect on Internet Explorer’s usage share would be significant, for AOL’s subscribers currently account for over

one third of Internet Explorer's installed base. But even if AOL stops distributing Internet Explorer after January 1, 2001 and updates its entire subscriber base to client software that includes its own or some other proprietary browsing software, Microsoft will still have ensured that, over the preceding four years (AOL subscribers began using proprietary access software based on Internet Explorer in November 1996), a very large majority of AOL subscribers used Internet Explorer whenever they browsed the Web through the AOL service. This period is significantly longer than the two years Gates thought AOL's obligations would have to last in order for the deal to be worthwhile to Microsoft.

304. AOL's subscribers now number sixteen million, and a substantial part of all Web browsing is done through AOL's service. By granting AOL valuable desktop real estate (to MSN's detriment) and other valuable consideration, Microsoft succeeded in capturing for Internet Explorer, and holding for a minimum of four years, one of the single most important channels for the distribution of browsing software. Starting the day Microsoft announced the March 1996 agreement with AOL, and lasting at least until AOL announced its acquisition of Netscape in November 1998, developers had reason to look into the foreseeable future and see that non-Microsoft software would not attain stature as the standard platform for network-centric applications. Microsoft exploited that interval to enhance dependence among developers on Microsoft's proprietary interfaces for network-centric applications — dependence that will continue to inure to Microsoft's benefit even if AOL stops distributing Internet Explorer in the future. The AOL coup, which Microsoft accomplished only at tremendous expense to itself and considerable deprivation of consumers' freedom of choice, thus contributed to extinguishing the threat that Navigator posed to the applications barrier to entry.

## **ii. Other Online Services**

305. In the summer and fall of 1996, Microsoft entered into agreements with three other OLSs, namely, AT&T WorldNet, Prodigy, and AOL's subsidiary, CompuServe. The provisions of these agreements were substantially the same as those contained in the March 1996 agreement between Microsoft and AOL. As with the AOL agreement, Microsoft did not deign to waive the restrictive terms in these OLS agreements when it waived similar terms in the Referral Server agreements in the spring of 1998. The OLSs were discontented with the provisions that limited their ability to distribute and promote non-Microsoft browsing software. Prodigy, for one, found those provisions objectionable and tried, unsuccessfully, to convince Microsoft to make the terms less restrictive. AT&T WorldNet's negotiator also told his Microsoft counterpart, Brad Silverberg, that AT&T wanted to remain neutral as to browsing software. Despite their reservations, the OLSs accepted Microsoft's terms because they saw placement in the OLS folder as crucial, and Microsoft made clear that it would only accord such placement to OLSs that agreed to give Internet Explorer exclusive, or at least extremely preferential, treatment. As one Microsoft negotiator reported to Chase about AT&T WorldNet, "It's very clear that they really really want to be in the Windows box." The OLSs became even more desperate for inclusion in the OLS folder once it was announced that their largest competitor, AOL, had already won placement there. One Prodigy executive wrote to another two weeks after his company signed the agreement with Microsoft, "it was absolutely critical to Prodigy's business" and "essential in order to remain competitive" that Prodigy obtain Microsoft's agreement to include the Prodigy Internet service icon in the OLS folder.

306. Although none of these OLSs possessed subscriber bases approaching AOL's, they comprised, along with MSN, the most significant OLSs other than AOL. By making arrangements with



them similar to the one it enjoyed with AOL, Microsoft ensured that, for as long as the agreements remained in effect, the overwhelming majority of OLS subscribers would use Internet Explorer whenever they accessed the Internet. Since AOL owns CompuServe, the acquisition of Netscape may affect CompuServe's arrangement with Microsoft in the future; however, the acquisition does not alter the incentives for the other OLSs to enter new agreements with Microsoft similar to the ones signed in 1996.

**d. Effect of Microsoft's Actions in the IAP Channel**

307. As described above, Microsoft gave valuable consideration at no charge to IAPs that agreed to distribute and promote a product that brought no revenue to Microsoft. By tendering additional valuable perquisites (at the cost of lost revenue), Microsoft induced IAPs to restrict drastically their distribution and promotion of Navigator. With the offer of still other concessions, Microsoft induced IAPs to turn subscribers already using Navigator into Internet Explorer users.

308. As Microsoft hoped and anticipated, the inducements it gave out gratis, as well as the restrictive conditions it tied to those inducements, had, and continue to have, a substantial exclusionary impact. First, many more copies of Internet Explorer have been distributed, and many more IAPs have standardized on Internet Explorer, than would have been the case if Microsoft had not invested great sums, and sacrificed potential sources of revenue, with the sole purpose of protecting the applications barrier to entry. Second, the restrictive terms in the agreements have prevented IAPs from meeting consumer demand for copies of non-Microsoft browsing software pre-configured for those services. The IAPs subject to the most severe restrictions comprise fourteen of the top fifteen access

providers in North America and account for a large majority of all Internet access subscriptions in this part of the world.

309. Not surprisingly, the inducements that Microsoft gave out and the restrictions it conditioned them upon have resulted in a substantial increase in Internet Explorer's usage share. A study Microsoft conducted shows that at the end of 1997, Internet Explorer enjoyed a ninety-four percent weighted average share of shipments of browsing software by ISPs that had agreed to make Internet Explorer their default browser. By contrast, the study shows that Internet Explorer had only a fourteen percent weighted average share of shipments of browsing software by ISPs that had not agreed to make Internet Explorer their default browser. The same study shows that Microsoft's weighted average share of browser usage by subscribers to ISPs that had made Internet Explorer their default browser was over sixty percent at the end of 1997, whereas its weighted average share of browser usage by subscribers to ISPs that did not make Internet Explorer their default browser was less than twenty percent.

310. An appropriate use of the AdKnowledge hit data shows the difference in Internet Explorer's success among categories of IAPs subject to different levels of distribution and promotion restrictions (see Section V.H.1., *infra*, for a description of the method by which AdKnowledge collects data). One category was hits originating from subscribers to IAPs that, according to a chart prepared by Microsoft for its internal use, were not subject to any distribution or promotion restrictions. Another category was hits originating from subscribers to any IAP. A third category was hits originating from subscribers to AOL and CompuServe. The hit data show that, from January 1997 to August 1998, Internet Explorer's usage share among subscribers to IAPs that were uninhibited by restrictions rose

ten points, from about twenty to about thirty percent. Over the same period, Internet Explorer's usage share among all IAP subscribers, including those subject to restrictions, rose twenty-seven points, from twenty-two to forty-nine percent. Finally, Internet's Explorer's usage share among subscribers to two IAPs subject to the most severe restrictions, AOL and CompuServe, rose sixty-five points, from twenty-two to eighty-seven percent. The differences in the degree of Internet Explorer's success in the three categories reveal the exclusionary effect of Microsoft's interdiction of Navigator in the IAP channel.

#### **4. Inducing ICPs to Enhance Internet Explorer's Usage Share at Navigator's Expense**

311. ICPs create the content that fills the pages that make up the Web. Because this content can include advertisements and links to download sites, ICPs also provide a channel for the promotion and distribution of Web browsing software. Executives at Microsoft recognized that ICPs were not nearly as important a distribution channel for browsing software as OEMs and IAPs. Nevertheless, protecting the applications barrier to entry was of such high priority at Microsoft that its senior executives were willing to invest significant resources to enlist even ICPs in the effort. Executives at Microsoft determined that ICPs could aid Microsoft's browser campaign in three ways. First, ICPs could help build Internet Explorer's usage share by featuring advertisements and links for Internet Explorer, to the exclusion of non-Microsoft browsing software, on their Web pages. Second, those ICPs that distributed software as well as content could bundle Internet Explorer, instead of Navigator, with those distributions. Finally, ICPs could increase demand for Internet Explorer, and decrease

demand for Navigator, by creating their content with Microsoft technologies, such as ActiveX, that would make the content more appealing in appearance when accessed with Internet Explorer.

312. As early as the fall of 1995, Microsoft executives saw that they could help reinforce the applications barrier to entry by inducing the leading ICPs to focus on Microsoft's browsing technologies. In the October 1995 memorandum that Microsoft executives sent to Gates on Microsoft's browser campaign, one of the suggestions was, "Get 80% of Top Web Sites to Target Our Client." Specifically, the executives wrote:

Content drives browser adoption, and we need to go to the top five sites and ask them, "What can we do to get you to adopt IE?" We should be prepared to write a check, buy sites, or add features — basically do whatever it takes to drive adoption.

313. By the middle of 1996, this proposal had become corporate policy. Senior executives at Microsoft believed that inducing the ICPs responsible for the most popular Web sites to concentrate their distributional, promotional, and technical efforts on Internet Explorer to the exclusion of Navigator would contribute significantly to maximizing Internet Explorer's usage share at Navigator's expense. When Microsoft began, in late 1996, to enlist the aid of the most popular ICPs, it used an inducement that it had already successfully employed with the top IAPs: Microsoft created an area on the ubiquitous Windows billboard for the promotion of ICPs and then exchanged placement in that area at no charge for the commitment of important ICPs to promote and distribute Internet Explorer exclusively and to create their content with technologies that would make it appear optimally when viewed with Internet Explorer. Microsoft executives referred to this tactic as "strategic barter." As was the case with the IAPs, neither the sacrifice that Microsoft made to enlist the aid of the top ICPs nor the

restrictions it placed on them can be explained except as components of a campaign to protect the applications barrier to entry against Navigator.

314. The Active Desktop was a Microsoft feature that, if enabled, allowed the Windows user to position Web pages as open windows that appear on the background, or “wallpaper” of the Windows desktop. If the Web pages featured “push” technology, they would automatically update themselves by downloading information from their respective servers at times scheduled by the user. Thus, a user could position on his desktop wallpaper Web pages that displayed periodically updated stock prices, sports scores, and news headlines. The Channel Bar was a feature of the Active Desktop. If enabled, the Channel Bar appeared as a rectangular graphic on the desktop wallpaper. It was divided into pre-configured links to the Web sites of certain ICPs that implemented push technology. Microsoft introduced the Active Desktop, including the Channel Bar, as a feature of Internet Explorer 4.0, which it released on September 30, 1997.

315. As pre-configured by Microsoft, the top channel on the Channel Bar linked to a Microsoft Web site, called the “Active Channel Guide,” that provided a list of sites enabled with push technology. The next five channels were each labeled with a generic category such as “News & Technology” or “Business.” Clicking on one of these five channels brought up a display of icons for specific Web sites. For example, clicking on the “Sports” channel brought up a display including icons for sports-related Web sites such as ESPN SportsZone and CNN SI. Below the five generic category channels were branded ones, each of which would link the user directly to a specific ICP’s Web site.

316. Considering how ICPs generate revenue, it is not surprising that they attached great value to placement on the Channel Bar. Most ICPs charge fees for placing advertisements on their

Web pages. In addition, some ICPs display certain of their content only to users who pay a fee. The higher the volume of user traffic an ICP's site attracts, the higher the rates it can charge for the placement of advertising on its sites. Higher volume also brings increased revenue to ICPs that charge users for content. Microsoft pre-configured Internet Explorer 4.0 so that the Active desktop and the Channel Bar would appear by default on a user's Windows 95 PC system, and Microsoft forbade OEMs to disable either feature. Microsoft and the ICPs consequently surmised that a very high volume of user traffic would be driven to the Web sites for which channels appeared on the Channel Bar. Intuit, for one, believed that placement on the Windows desktop would provide it with unparalleled promotional and distributional advantages. As a result, the company was prepared to pay a substantial fee for placement on the Channel Bar. The managers of ZDNet felt the same way, as did the executives responsible for Disney's Internet content. Some ICPs, including Intuit, even admitted to Microsoft that inclusion on the Channel Bar was critical to them and asked what they would be obliged to pay to be included.

317. Based on the interest ICPs expressed, as well as Microsoft's own assessment of the value of placement on the Channel Bar, executives at Microsoft considered charging ICPs for inclusion on the Channel Bar. They estimated that ICPs appearing directly on the Channel Bar would pay as much as \$10 million per year, and that even ICPs appearing under the generic channels would pay a couple of million dollars each annually. These estimates proved to comport well with the value that ICPs themselves actually attached to inclusion in the Channel Bar, at least before the feature had been tested in the marketplace. For example, in December 1996, more than nine months before the Active

Desktop made its debut, Microsoft signed an agreement with PointCast pursuant to which PointCast agreed to pay \$10 million for the first year that its channel would appear directly on the Channel Bar.

318. Following the signing of its agreement with PointCast, Microsoft proceeded to enter similar “Top Tier” or “Platinum” agreements with twenty-three other ICPs, all in the summer and early fall of 1997. Microsoft used the term “Top Tier” to refer to the four non-Microsoft ICPs (including PointCast) given placement directly on the Channel Bar and the term “Platinum” to describe the twenty ICPs included in the five generic categories accessible from the Channel Bar. Although the agreements were individually negotiated and their terms varied to some extent, the typical agreement obligated Microsoft to promote the ICP’s business in three ways. First, Microsoft agreed to include on the Channel Bar (or in one of the lists accessible directly from the Channel Bar) a link that would send a user directly to the ICP’s “push” site. Second, Microsoft agreed to promote the ICP’s content in national public-relations and computer-industry events, as well as on Microsoft Web sites. Finally, Microsoft agreed to include introductory content from the ICP with certain distributions of Windows and Internet Explorer.

319. The agreements did not obligate the Top Tier and Platinum ICPs to pay money to Microsoft in exchange for any of the benefits, including placement on the Windows desktop, that Microsoft extended to them. Rather, the agreements obligated the ICPs to compensate Microsoft in other ways. Although the agreement that PointCast signed purported to call for a payment of ten million dollars to Microsoft, it entitled PointCast to a discount on the full amount if it behaved as other ICPs undertook to do in their own Top Tier and Platinum agreements with Microsoft.

320. The first obligation that the ICPs undertook was to distribute Internet Explorer and no “Other Browser” in connection with any custom Web browsing software or CD-ROM content that they might offer. The term “Other Browser” was defined in the agreements as Web browsing software that ranked first or second by organizations in the business of measuring the usage of browsing software. This obligation was pertinent only to the six Top Tier and Platinum ICPs that distributed Web browsing software during the term of the agreements: PointCast, CNet, Intuit, AOL, Disney, and National Geographic.

321. The Top Tier and Platinum agreements also required the signatory ICPs to promote Internet Explorer and no “Other Browser” as their “browser of choice.” In particular, the ICPs were required to display a logo for Internet Explorer and no “Other Browser” on the home page of the sites specified in the agreements and on any other pages on which the ICP typically displayed such links. The ICPs were also required to place Internet Explorer download links on their Web sites and to remove any links to Navigator’s download site. Aggregating the Web sites offered by the twenty-four Top Tier and Platinum ICPs, the number of Web sites affected by this provision was thirty-one.

322. A third provision that the ICPs accepted in return for placement on the Channel Bar was a prohibition against their entering agreements with a vendor of an “Other Browser” whereby the ICPs would pay money or provide other consideration to the vendor in exchange for the vendor’s promotion of the ICP’s branded content. Finally, the agreements required the ICPs, in designing their Web sites, to employ certain Microsoft technologies such as Dynamic HTML and ActiveX. Some of the agreements actually required the ICPs to create “differentiated content” that was either available only to Internet Explorer users or would be more attractive when viewed with Internet Explorer than



with any “Other Browser.” For example, the agreement with Intuit provided: “Some differentiated content may be available only to IE users, some may simply be ‘best when used with IE,’ with acceptable degradation when used with other browsers.”

323. The ICPs were so intent on gaining placement on the Channel Bar that they even complied, albeit reluctantly, when Microsoft imposed restrictions not contained in the Top Tier and Platinum agreements. For example, Microsoft demanded that Disney remove its distinctive branding from its link on Navigator’s user interface and threatened to remove Disney from the Channel Bar if it did not accede. Executives at Disney believed that such a requirement went beyond the language of the Top Tier agreement that Disney had signed with Microsoft, but they saw no recourse in making an issue of the matter, for Microsoft could keep the Disney icon off the Channel Bar during the pendency of the dispute, and Microsoft would be less amenable to promotional opportunities for Disney in the future. Therefore, Disney capitulated. In a similar fashion, a Microsoft employee told a counterpart at Wired Digital that even if the agreement between the companies did not technically prohibit it, Wired Digital would be violating the spirit of its agreement if it placed a link to any of its subsidiary sites on Navigator’s user interface. What Microsoft wanted to avoid were announcements suggesting that any of Microsoft’s ICP partners were also cooperating with Netscape.

324. Intuit is a leading developer of software designed to help individuals and small businesses manage their finances. A consumer can use one of Intuit’s popular products by purchasing a copy of the software, but Intuit makes additional features available through its Quicken.com Web site. Thus, Intuit is both an ISV and an ICP. Beginning in late 1995, Intuit distributed Navigator with its products in order to ensure that its users could access the features provided through Quicken.com. In

1996, Microsoft commenced the process of converting Intuit from a Netscape partner to a distributor of Internet Explorer. In July of that year, Gates reported to other Microsoft executives on his attempt to convince Intuit's CEO to distribute Internet Explorer instead of Navigator:

I made it clear to him that beyond giving him the best browser technology for no cost that we were only will[ing] to do some very modest favors in addition to that. . . . I was quite frank with him that if he had a favor we could do for him that would cost us something like \$1M to do that in return for switching browsers in the next few months I would be open to doing that.

325. Intuit did not accept Gates' offer immediately, but less than a year later, in June 1997, Intuit became one of the ICPs to sign a Platinum agreement with Microsoft. This allowed Intuit to place a link to Quicken.com under the "Business" heading on Microsoft's Channel Bar. In return, however, the agreement required Intuit to distribute Internet Explorer, and no "Other Browser," with its software products, including those not distributed through the Channel Bar. Intuit also agreed to the other terms, relating to the promotion of browsing technologies, business relationships with Netscape, and the adoption of Internet Explorer technologies, that applied to the other Top Tier and Platinum ICPs.

326. Microsoft would have granted Intuit a license to distribute the componentized version of Internet Explorer at no charge even if Intuit had not entered a Platinum Agreement. In the absence of the agreement's restrictive terms, in fact, Intuit likely would have distributed the componentized version of Internet Explorer with its products while simultaneously promoting Navigator and distributing to consumers who requested it a version of Navigator specially-configured for Intuit's products. The only way Intuit could gain a place on the Channel Bar, however, was by agreeing to the provisions that required it to limit its promotion of Navigator, to cease distributing that browser altogether, and to refuse to pay Netscape to promote Intuit products on Netscape's Web sites. Intuit accepted these

terms reluctantly, for Navigator remained a popular product with consumers, and Netscape's Web sites still attracted a great deal of traffic.

327. In addition to the Top Tier and Platinum agreements, Microsoft entered into two other types of agreements with ICPs. First, Microsoft signed so-called "Gold" agreements with between thirty and fifty ICPs. Pursuant to these agreements, Microsoft included ICPs in the "Active Channel Guide" Web site, which appeared whenever a Windows user clicked on the top link on the Channel Bar. In exchange for this promotion, the Gold-agreement ICPs agreed to promote Internet Explorer on at least equal footing with other browsing technology, including Navigator.

328. Second, Microsoft entered into IEAK agreements with between eight and twelve ICPs devoted to business-related content. Under the typical IEAK agreement, Microsoft agreed to include functionality in the IEAK that would facilitate the inclusion of a link to the ICP's Web site under the "Business" category of the Channel Bar. In exchange, the ICPs committed to distributing Internet Explorer exclusively (to the extent they distributed any browsing software), to promote Internet Explorer as their "browser software of choice," to refrain from promoting any "Other Browser" (defined as in the other ICP agreements) on their Web sites, and to create content that could be accessed optimally only with Internet Explorer.

329. Cross-marketing arrangements in competitive markets do not necessarily make those markets less competitive; however, four characteristics distinguish this case from situations in which such agreements are benign. First, Microsoft was able to offer ICPs an asset whose value competitors could not hope, on account of Microsoft's monopoly power, to match. Second, Microsoft bartered that asset not to increase demand for a revenue-generating product, but rather to suppress the

distribution and diminish the attractiveness of technology that Microsoft saw as a potential threat to its monopoly power. Third, and more specifically, Microsoft prohibited the ICPs from compensating Netscape for promotion of their products even while not attempting to prohibit the promotion itself. This reveals that Microsoft's motivation was not simply a desire to generate brand associations with Internet Explorer. Finally, Microsoft went beyond encouraging ICPs to take advantage of innovations in Microsoft's technology, explicitly requiring them to ensure that their content appeared degraded when viewed with Navigator rather than Internet Explorer. Microsoft's desire to lower demand for Navigator was thus independent of, and far more malevolent than, a simple desire to increase demand for Internet Explorer.

330. The terms of Microsoft's agreements with ICPs cannot be explained in customary economic parlance absent Microsoft's obsession with obliterating the threat that Navigator posed to the applications barrier to entry. Absent that obsession, Microsoft would not have given ICPs at no charge licenses to distribute Internet Explorer. What is more, Microsoft would not have incurred the cost of componentizing Internet Explorer and then licensed that version to Intuit at no charge. By sacrificing opportunities to cover its costs and even make a profit, Microsoft advanced its strategic goal of maximizing Internet Explorer's usage share at Navigator's expense. Whereas Microsoft might have developed the Channel Bar without ulterior motive as a matter of product improvement, it would not have exchanged placement on the Channel Bar for terms as highly and broadly restrictive as the ones it actually extracted from ICPs. Nevertheless, and to Microsoft's dismay, circumstances prevented these restrictions from having a large impact on the relative usage shares of Internet Explorer and Navigator.

331. Despite Microsoft's and the ICPs' expectations to the contrary, consumers showed little interest in the Channel Bar, or in the Active Desktop in general, when the features debuted in the fall of 1997. Moreover, reviews of the Channel Bar in computer-related publications were generally unfavorable. The Channel Bar may not have attracted consumer interest, but the ICP agreements relating to the Channel Bar did attract controversy. Indeed, Gates faced pointed questions about them when he appeared before the Senate Judiciary Committee in March 1998. Microsoft took several measures to quell the public criticism in early April 1998. First, it waived the most restrictive terms in the Top Tier and Platinum agreements; thereafter, the agreements required ICPs merely to promote Internet Explorer in a manner at least equal to their promotion of Navigator. Second, Microsoft made no attempt to renew the Gold and IEAK agreements, which had expired by their own terms in March 1998. Third, Microsoft authorized its OEM licensees to configure the Windows 98 desktop so that the Channel Bar would not appear by default, and nearly every major OEM availed itself of the permission. Deeming the Channel Bar more trouble than it was worth, Microsoft decided to eliminate the feature entirely from future versions of Windows, including Windows 98 updates. Therefore, the provisions requiring ICPs to exclusively distribute and promote Internet Explorer had all expired within seven months of the Channel Bar's release. All of the Top Tier and Platinum agreements had expired by their own terms by December 31, 1998. In light of its decision to discontinue the Channel Bar, Microsoft did not seek to renew any of them.

332. For a period of about eight months, however, agreements with Microsoft had prohibited approximately thirty-four ICPs from distributing Navigator and from promoting Navigator in all but a few ways. For an overlapping period of between a year and a year-and-a-half, those thirty-

four ICPs, plus between thirty and fifty more, were required to promote Internet Explorer at least as prominently as they promoted Navigator. Although the affected Web sites made up only a tiny percentage of those existing on the Web, they comprised the offerings of all but a few of the most popular ICPs. If the estimation of one Microsoft employee in June 1996 can be considered accurate, the affected ICPs accounted for a significant percentage of the Web traffic in North America. Still, there is not sufficient evidence to support a finding that Microsoft's promotional restrictions actually had a substantial, deleterious impact on Navigator's usage share. For one thing, only six of the affected ICPs distributed any Web browsing software bundled with their products during the period in which Microsoft's distributional restrictions remained in effect. AOL obviously distributed a substantial volume of Web browsing software during this period, but since AOL was separately precluded under its Online Services Folder agreement from distributing virtually any non-Microsoft browsing software, AOL would not have distributed a significant number of Navigator copies even if it had not entered a Top Tier agreement with Microsoft.

333. Pursuant to its agreement with Microsoft, Intuit distributed over five million copies of Internet Explorer with the 1998 versions of its products. Microsoft had offered Intuit a componentized browser while Netscape had not, and it stands to reason that Intuit would in all probability have distributed close to the same number of Internet Explorer copies even absent the distributional restrictions imposed by its contract. Still, Intuit had distributed over five million copies of Navigator with the 1997 versions of its products. Unconstrained by its agreement with Microsoft, Intuit might have distributed with its 1998 products a sum approaching that number of Navigator copies along with the componentized version of Internet Explorer (particularly if the CD-ROM represented its primary

distribution vehicle). Of the affected ICPs (excluding AOL), Intuit almost certainly distributed the most Web browsing software bundled with its products.

334. All of the Top Tier, Platinum, and IEAK ICPs were capable of including download links on their Web pages. While many of these ICPs had included such links for Navigator prior to entering agreements with Microsoft, only Internet Explorer download links were allowed while the restrictive terms were in effect. On the whole, it is reasonable to deduce from the evidence that the restrictions Microsoft imposed on ICPs prevented the distribution and installation of a significant quantity, but certainly less than ten million, copies of Navigator.

335. The terms Microsoft imposed did prevent a number of the ICPs otherwise inclined to do so from compensating Netscape for its promotion of the ICPs' content in Navigator or on Netscape's Web sites. While they were in effect, Microsoft's restrictions probably deprived Netscape of revenue measured in millions of dollars, but nowhere near \$100 million.

336. It appears that, at the time the obligation expired, Microsoft had not yet begun to enforce its requirement that the Top Tier, Platinum, and IEAK ICPs develop content that would appear more attractive when viewed with Internet Explorer than when viewed with Navigator. Moreover, there is no evidence that any ICP other than Disney developed any "differentiated content" in response to its agreement with Microsoft. Therefore, there is insufficient evidence to find that the requirements that Microsoft sought to impose with respect to the use of Microsoft-specific browsing technologies had any discernible, deleterious impact on Navigator's usage share.

## **5. Directly Inducing ISVs to Rely on Microsoft's Browsing Technologies Rather than APIs Exposed by Navigator**

337. Since 1995, more and more ISVs have, like Intuit, enhanced the features of their applications by designing them to take advantage of the type of content and functionality accessible through browsing software. An increasing number of these applications actually rely on browsing software to function. Microsoft's efforts to maximize Internet Explorer's share of browser usage at Navigator's expense were intended to encourage developers to use Windows-specific technologies when they wrote their applications to rely on a browser. In addition to creating this incentive indirectly, by disadvantaging Navigator, Microsoft also targeted individual ISVs directly, extracting from them commitments to make their Web-centric applications reliant on technology specific to Internet Explorer.

338. Because of the importance of "time-to-market" in the software industry, ISVs developing software to run on Windows products seek to obtain beta releases and other technical information relating to Windows as early and as consistently as possible. Since Microsoft decides which ISVs receive betas and other technical support, and when they will receive it, the ability of an ISV to compete in the marketplace for software running on Windows products is highly dependent on Microsoft's cooperation. Netscape learned this lesson in 1995.

339. In dozens of "First Wave" agreements signed between the fall of 1997 and the spring of 1998, Microsoft has promised to give preferential support, in the form of early Windows 98 and Windows NT betas, other technical information, and the right to use certain Microsoft seals of approval, to important ISVs that agree to certain conditions. One of these conditions is that the ISVs use Internet Explorer as the default browsing software for any software they develop with a hypertext-



based user interface. Another condition is that the ISVs use Microsoft's "HTML Help," which is accessible only with Internet Explorer, to implement their applications' help systems.

340. By exchanging its vital support for the agreement of leading ISVs to make Internet Explorer the default browsing software on which their products rely, Microsoft has ensured that many of the most popular Web-centric applications will rely on browsing technologies found only in Windows and has increased the likelihood that the millions of consumers using these products will use Internet Explorer rather than Navigator. Microsoft's relations with ISVs thus represent another area in which it has applied its monopoly power to the task of protecting the applications barrier to entry.

## **6. Foreclosing Apple as a Distribution Channel for Navigator**

341. In the summer of 1995, Microsoft had been willing to cede to Netscape the development of browsing software for the Mac OS, provided that Netscape would stop competing with the platform-level browsing technologies that Microsoft was developing for its 32-bit Windows products. The genesis of this offer had been Microsoft's belief that Netscape could never become the leading platform for network-centric software development if it did not distribute a middleware layer for the soon-to-be dominant 32-bit Windows platform. But once Netscape confirmed its determination to offer a middleware layer that would expose the same set of APIs on Windows, the Mac OS, and other platforms, Microsoft recognized that it needed to stifle the attention that developers would be inclined to devote to those APIs, even when they rested on top of a non-Windows platform like the Mac OS. After all, if Navigator became so popular on the Mac OS that developers made extensive use of the APIs exposed by that version of Navigator, those developers would be disposed to take advantage of identical APIs exposed by the version of Navigator written for the dominant platform, Windows.

Microsoft therefore set out to convince developers that applications relying on APIs exposed by Navigator would not reach as many Mac OS users as applications that invoked platform technologies found exclusively in Windows. Therefore, Microsoft set out to recruit Mac OS users to Internet Explorer, and to minimize Navigator's usage share among Mac OS users.

342. Just as pre-installation and promotion by OEMs is one of the most effective means of raising the usage share of browsing software among users of Intel-compatible PC systems, pre-installation and promotion by Apple is one of the most effective means of raising the usage share of browsing software among the users of Apple PC systems. Recognizing this, Bill Gates consistently urged Microsoft executives to persuade Apple to pre-install the Mac OS version of Internet Explorer on its PC systems and to feature it more prominently than the Mac OS version of Navigator.

343. By the summer of 1996, Apple was already shipping Internet Explorer with the Mac OS, but it was pre-installing Navigator as the default browsing software. After a meeting with Apple in June 1996, Gates wrote to some of his top executives: "I have 2 key goals in investing in the Apple relationship - 1) Maintain our applications share on the platform and 2) See if we can get them to embrace Internet Explorer in some way." Later in the same message, Gates expressed his desire that Apple "agree to immediately ship IE on all their systems as the standard browser."

344. One point of leverage that Microsoft held over Apple was the fact that ninety percent of Mac OS users running a suite of office productivity applications had adopted Microsoft's Mac Office. In 1997, Apple's business was in steep decline, and many doubted that the company would survive much longer. Observing Apple's poor performance in the marketplace and its dismal prospects for the future, many ISVs questioned the wisdom of continuing to spend time and money developing

applications for the Mac OS. Had Microsoft announced in the midst of this atmosphere that it was ceasing to develop new versions of Mac Office, a great number of ISVs, customers, developers, and investors would have interpreted the announcement as Apple's death notice.

345. Recognizing the importance of Mac Office to Apple's survival, Microsoft threatened to cancel the product unless Apple compromised on a number of outstanding issues between the companies. One of these issues was the extent to which Apple distributed and promoted Internet Explorer, as opposed to Navigator, with the Mac OS.

346. At the end of June 1997, the Microsoft executive in charge of Mac Office, Ben Waldman, sent a message to Gates and Microsoft's Chief Financial Officer, Greg Maffei. The message reflected Waldman's understanding that Microsoft was threatening to cancel Mac Office:

The pace of our discussions with Apple as well as their recent unsatisfactory response have certainly frustrated a lot of people at Microsoft. The threat to cancel Mac Office 97 is certainly the strongest bargaining point we have, as doing so will do a great deal of harm to Apple immediately. I also believe that Apple is taking this threat pretty seriously . . . .

347. Waldman was actually an advocate for releasing Mac Office 97 promptly, and he pressed for that outcome in his message to Gates and Maffei. Although they applauded Waldman's devotion to the product, Gates and Maffei made clear that the threat of canceling Mac Office was too valuable a source of leverage to give up before Microsoft had extracted acceptable concessions from Apple. Maffei wrote Waldman, "Ben - great mail, but [we] need a way to push these guys and this is the only one that seems to make them move." In his response to Waldman, Gates asked whether Microsoft could conceal from Apple in the coming month the fact that Microsoft was almost finished developing of Mac Office 97.

348. In order to assure his superiors that he was pursuing corporate policy despite his personal convictions, Waldman reported to Maffei in his June 1997 message that he had recently told his counterpart at Apple that Maffei “would be recommending to Bill [Gates] that we cancel Mac Office 97.” Waldman believed that his counterpart “got the message that we would, in fact, cancel.” Waldman went on to write that when his counterpart had asked what specific problems Microsoft had with Apple’s recent response to Microsoft’s proposals, Waldman had replied by mentioning four issues, including “IE equal access.” By that, Waldman meant Microsoft’s demand that the Mac OS make Internet Explorer just as available to its users as it made Navigator. According to Waldman, the Apple employee had responded that Apple would not be able to change the Mac OS’s default browser from Navigator until it released the next version of the operating system product in the summer of 1998.

349. A few days after the exchange with Waldman, Gates informed those Microsoft executives most closely involved in the negotiations with Apple that the discussions “have not been going well at all.” One of the several reasons for this, Gates wrote, was that “Apple let us down on the browser by making Netscape the standard install.” Gates then reported that he had already called Apple’s CEO (who at the time was Gil Amelio) to ask “how we should announce the cancellation of Mac Office . . . .”

350. Within a month of Gates’ call to Amelio, Steve Jobs was once again Apple’s CEO, and the two companies had settled all outstanding issues between them in three agreements, all of which were signed on August 7, 1997. Under the agreement titled “Technology Agreement,” which remains in force today, Microsoft’s primary obligation is to continue releasing up-to-date versions of Mac

Office for at least five years. Among the obligations that the Technology Agreement places on Apple are several relating to browsing software.

351. First, Apple has agreed, for as long as Microsoft remains in compliance with its obligation to support Mac Office, to “bundle the most current version of Microsoft’s Internet Explorer for Macintosh . . . with all system software releases for Macintosh Computers (‘MacOS’) sold by Apple.” The Technology Agreement also provides: “While Apple may bundle browsers other than Internet Explorer with such Mac OS system software releases, Apple will make Internet Explorer for Macintosh the default selection in the choice of all included internet browsers (i.e., when the user invokes the “Browse the Internet” or equivalent icon, the Mac OS will launch Internet Explorer for Macintosh).” In fulfillment of this requirement, Apple did not include Navigator in the default installation of the Mac OS 8.5 upgrade product. In other words, Navigator is not installed on the computer hard drive during the default installation, which is the type of installation most users elect to employ. Therefore, most users who upgraded their Macintosh systems to Mac OS 8.5 were unable to access Navigator without doing a customized installation. Having already installed an altogether adequate browser (Internet Explorer) when the Mac OS 8.5 upgrade completed its default installation process, however, most users are unlikely to trouble to install Navigator as well.

352. The Technology Agreement further provides that “[a]ny other internet browsers bundled in the Mac OS system software sold by Apple shall be placed in folders in the software as released.” In other words, Apple may not position icons for non-Microsoft browsing software on the desktop of new Macintosh PC systems or Mac OS upgrades. Moreover, the agreement states that “Apple will not be proactive or initiate actions to encourage users to swap out Internet Explorer for

Macintosh.” Both Apple and Microsoft read this term to prohibit Apple from promoting non-Microsoft browsing software. The agreement even states that Apple will “encourage its employees to use Microsoft Internet Explorer for Macintosh for all Apple-sponsored events and will not promote another browser to its employees.” Pursuant to this provision, Apple’s management has instructed the firm’s employees to not use Navigator in demonstrations at trade shows and other public events. Also with regard to the promotion of browser technology, the agreement requires Apple to display the Internet Explorer logo on “all Apple-controlled web pages where any browser logo is displayed.” Finally, the agreement grants Microsoft the right of first refusal to supply the default browsing software for any new operating system product that Apple develops during the term of the agreement.

353. At the same time that it entered the Technology Agreement, Microsoft concluded a “Preferred Stock Purchase Agreement” and a “Patent Cross License Agreement” with Apple. These latter two agreements place obligations on Microsoft that are unrelated to Mac Office, and they bind Apple in areas other than browsing software. The fact that Microsoft and Apple entered two other agreements at the same time that they entered the Technology Agreement does not change the fact that Microsoft’s commitment to continue developing Mac Office was at least partial consideration for Apple’s commitment to distribute and promote Internet Explorer more favorably than Navigator. Indeed, the language of the agreements themselves demonstrates that Microsoft and Apple saw the Mac Office and Internet Explorer obligations as more closely linked to each other than to any other obligations the parties simultaneously undertook: Whereas the provision in the Technology Agreement setting forth Apple’s obligations relating to browsing software explicitly states that those obligations will last as long as Microsoft complies with its obligation to continue supporting Mac Office, the provisions

in the other two agreements describing the patent cross-license and Microsoft's purchase of Apple stock mention neither browsing software nor Mac Office.

354. That the Mac Office and browsing software obligations are tied to each other is highlighted by the fact that the Microsoft executives who negotiated the agreement believe that Microsoft's remedy, were Apple to fail to meet its obligations with respect to browsing software, would be to discontinue Mac Office. When, in February 1998, a Microsoft employee proposed giving Apple an HTML control in exchange for Apple's agreement to use Internet Explorer as its standard browser internally, Waldman informed the employee that Apple was already obligated to use Internet Explorer as its standard browser internally and that Microsoft would revive the threat to discontinue Mac Office if Apple failed to comply with its obligation. In Waldman's words:

Sounds like we give them the HTML control for nothing except making IE the "standard browser for Apple?" I think they should be doing this anyway. Though the language of the agreement uses the word "encourage," I think that the spirit is that Apple should be using it everywhere and if they don't do it, then we can use Office as a club.

For at least a year after the Technology Agreement went into effect, Waldman and other Microsoft employees continued to use the threat of reduced commitment to Mac Office in holding Apple to its commitments to support Internet Explorer.

355. Apple increased its distribution and promotion of Internet Explorer not because of a conviction that the quality of Microsoft's product was superior to Navigator's, or that consumer demand for it was greater, but rather because of the in terrorem effect of the prospect of the loss of Mac Office. To be blunt, Microsoft threatened to refuse to sell a profitable product to Apple, a product in whose development Microsoft had invested substantial resources, and which was virtually

ready for shipment. Not only would this ploy have wasted sunk costs and sacrificed substantial profit, it also would have damaged Microsoft's goodwill among Apple's customers, whom Microsoft had led to expect a new version of Mac Office. The predominant reason Microsoft was prepared to make this sacrifice, and the sole reason that it required Apple to make Internet Explorer its default browser and restricted Apple's freedom to feature and promote non-Microsoft browsing software, was to protect the applications barrier to entry. More specifically, the requirements and restrictions relating to browsing software were intended to raise Internet Explorer's usage share, to lower Navigator's share, and more broadly to demonstrate to important observers (including consumer, developers, industry participants, and investors) that Navigator's success had crested. Had Microsoft's only interest in developing the Mac OS version of Internet Explorer been to enable organizational customers using multiple PC operating-system products to standardize on one user interface for Web browsing, Microsoft would not have extracted from Apple the commitment to make Internet Explorer the default browser or imposed restrictions on its use and promotion of Navigator.

356. Microsoft understands that PC users tend to use the browsing software that comes pre-installed on their machines, particularly when conspicuous means of easy access appear on the PC desktop. By guaranteeing that Internet Explorer is the default browsing software on the Mac OS, by relegating Navigator to less favorable placement, by requiring Navigator's exclusion from the default installation for the Mac OS 8.5 upgrade, and by otherwise limiting Apple's promotion of Navigator, Microsoft has ensured that most users of the Mac OS will use Internet Explorer and not Navigator. Although the number of Mac OS users is very small compared to the Windows installed base, the Mac OS is nevertheless the most important consumer-oriented operating system product next to Windows.



Navigator needed high usage share among Mac OS users if it was ever to enable the development of a substantial body of cross-platform software not dependent on Windows. By extracting from Apple terms that significantly diminished the usage of Navigator on the Mac OS, Microsoft severely sabotaged Navigator's potential to weaken the applications barrier to entry.

**G. Microsoft's Success in Excluding Navigator from the Channels that Lead Most Efficiently to Browser Usage**

357. The cumulative effect of the stratagems described above was to ensure that the easiest and most intuitive paths that users could take to the Web would lead to Internet Explorer, the gate controlled by Microsoft. Microsoft did not actually prevent users from obtaining and using Navigator (although it tried to do as much in June 1995), but Microsoft did make it significantly less convenient for them to do so. Once Internet Explorer was seen as providing roughly the same browsing experience as Navigator, relatively few PC users showed any inclination to expend the effort required to obtain and install Navigator. Netscape could still carpet bomb the population with CD-ROMs and make Navigator available for downloading. In reality, however, few new users (i.e., ones not merely upgrading from an old version of Navigator to a new one) had any incentive to install — much less download and install — software to replicate a function for which OEMs and IAPs were already placing perfectly adequate browsing software at their disposal. The fact that Netscape was forced to distribute tens of millions of copies of Navigator through high-cost carpet-bombing in order to obtain a relatively small number of new users only discloses the extent of Microsoft's success in excluding Navigator from the channels that lead most effectively to browser usage.