

*"The fact that IE's URL processing code was a pile of spaghetti before IE7 is a fact we ought not bring much attention to."<sup>325</sup> "There is a presumption in the world that IE's code is crappy, unstable, unmaintainable, patchwork, and while part of that is true, there's also a presumption that we – the IE dev team – are scared and intimidated by this codebase and afraid to make real, systemic improvements."<sup>326</sup>*

- (328) The lack of improvement of Internet Explorer after Netscape's defeat is also confirmed by a 2006 internal email preparing a questions session of Bill Gates, in which it is acknowledged that Microsoft "could have done more with the browser over the last several years".<sup>327</sup>

4.3.1.1.4.1.2.3.3 The market penetration of Internet Explorer 7.0 is largely due to the tying with Windows.

- (329) Microsoft's internal business plan for Internet Explorer for the financial years 2008 – 2010 (dated 2 May 2008 in Microsoft's submission, although the date might be an automatic update) indicates that Internet Explorer's large market share is even today not due to its quality, but due to its distribution with Windows. The business plan states:

*"Much of the product strategy for IE7 has been defensive. The release of IE7 was intended to "catch up" with Firefox and provide comparable value to the existing IE user base, thereby reducing the influence of the super engaged who continue to evangelize Firefox."<sup>328</sup>*

- (330) This business plan identifies "three key factors presently limiting substantial loss of usage share worldwide" – product quality is not among them. They are: "OEMs", "The enterprise" and "APAC" (i.e. strong market presence in Asia).<sup>329</sup> The "key factor" OEMs is explained as follows:

*"Default browser settings established by the OEM--especially DOEMs [presumably: Direct OEMs] --are important in maintaining strong usage share of IE. Default settings established by the computer maker are the single biggest factor in passive end users continuing to use Internet Explorer in non-workplace settings. It is also the single greatest area of risk to declining IE usage share. While end users can very easily choose to install and use an*

<sup>325</sup> Email of 11 August 2005, 5:55pm, from John Bedworth to Chris Wilson et al., subject "RE: CURL Blog Feedback", (MS01EU 00000006277), on page 3.

<sup>326</sup> Email of 11 August 2005, 5:55pm, from Bruce Morgan to Tony Chor et al., subject "RE: CURL Blog Feedback", (MS01EU 00000006277), on page 2.

<sup>327</sup> Attachment to an email from Craig Beilinson to Bill Gates of 17 March 2006, 3:37 pm, (MS01EU 000000099601), on page 53.

<sup>328</sup> "Business plan FY08-FY10 Windows Internet Explorer" dated 2 May 2008 (the date might be an automatic update) (MS01EU 000000095009), on page 13.

<sup>329</sup> "Business plan FY08-FY10 Windows Internet Explorer" dated 2 May 2008 (the date might be an automatic update) (MS01EU 000000095009), on page 3.

*alternative browser, many are not inspired to do so. By continuing to offer a strong IE value proposition to OEMs, we can reduce the likelihood of large-scale introduction of a [sic] alternative browser to the end user.*"<sup>330</sup>

- (331) A similar assessment of the importance of OEMs is expressed in the "Channel dynamics" section of the business plan:

*"The channel strategy for IE7 is perhaps the most critical factor in maintaining strong usage share for IE going forward. By continuing to offer a strong value proposition to OEMs and to their customers, we reduce the OEM's incentives to preinstall a competitive browser, and thus introduce the passive end user to those alternatives [sic] As such, ensuring that OEMs continue to see the value in IE, remains very important."*<sup>331</sup>

- (332) The "key factor" enterprise is explained as follows:

*"Intranet Web site and line-of-business application compatibility, and related switching costs, along with strong deployment and management tools compared with the competition have kept IE share very high among organizations with managed PCs."*<sup>332</sup>

- (333) Similarly, the business plan identifies "OEM defaults" (for home users) and "corporate settings" (for work users) as the key usage drivers for Internet Explorer as opposed to innovation which appears as the least important factor.<sup>333</sup> The business plan states that it is passive users, i.e. users who do not actively seek out and install a different web browser, who

*"[...] tend to support and uphold [Internet Explorer's] usage share. The drivers that support their continued use of IE are OEMs who choose not to preinstall alternative browsers and enterprises that prefer to standardize on IE for their corporate environment."*<sup>334</sup> (emphasis added)

- (334) The greatest share loss of Internet Explorer is attributed to the "enthusiast" user group, i.e. "super engaged, enthused personals, and enthused practicals". This group is characterised as follows:

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<sup>330</sup> "Business plan FY08-FY10 Windows Internet Explorer" dated 2 May 2008 (the date might be an automatic update) (MS01EU 000000095009), on page 3.

<sup>331</sup> "Business plan FY08-FY10 Windows Internet Explorer" dated 2 May 2008 (the date might be an automatic update) (MS01EU 000000095009), on page 12.

<sup>332</sup> "Business plan FY08-FY10 Windows Internet Explorer" dated 2 May 2008 (the date might be an automatic update) (MS01EU 000000095009), on page 3.

<sup>333</sup> "Business plan FY08-FY10 Windows Internet Explorer" dated 2 May 2008 (the date might be an automatic update) (MS01EU 000000095009), on page 8.

<sup>334</sup> "Business plan FY08-FY10 Windows Internet Explorer" dated 2 May 2008 (the date might be an automatic update) (MS01EU 000000095009), on page 7.

*"These are technology early adopters who have influence within their social network and among their professional peers. They typically have higher than average income and tend to work in technology-related fields. Their browser usage crosses over between home and work. At work, they hold positions within the ranks of every major audience group studied at Microsoft, with the highest density counted among developers (53%) and IT pros (37%). Within their work roles, 76% of super engaged manage projects to completion and 81% define work plans. Internet Explorer has seen its share erode the quickest among this audience segment."*<sup>335</sup>

(335) Users who actually compare and make a conscious choice between web browsers apparently tend to be the most likely to switch. All these quotes from the business plan show that it is not quality, but rather the tying to Windows, the prevention of a pre-installation of competing web browsers by OEMs and, in the case of enterprise customers, customer lock-in that are identified as key for Internet Explorer's continued success. None of these factors translate into a benefit for users.

(336) An undated, but post June 2007 Microsoft internal presentation also strongly suggests that Internet Explorer lags behind at least its strongest competitor Firefox in terms of performance. It states the following under the heading "How are we doing with IE7?": *"And compared to Firefox??? - Rough parity for mainstream user - Lags in key areas for super-engaged and developers"*.<sup>336</sup>

#### 4.3.1.1.4.1.2.3.4 Individual browser features

(337) Microsoft's internal business plan for Internet Explorer for the financial years 2008 – 2010 identifies the following areas where Firefox offers users more than Internet Explorer:

*"Firefox's product differentiation began by offering simple updates to the user experience. The most notable example was tabbed browsing, which offered a solution to the cluttered workspace created by multiple browser windows opened simultaneously. They also offered simple features absent from Internet Explorer such as pop-up blocking, in-line search, and developer tools such as contextual view source and a built-in JavaScript debugger. But their greatest competitive differentiator started out as something that may not have at first been viewed as a feature at all: Firefox Extensions. [...] This is a particularly compelling competitive dynamic when evaluated in terms of Firefox's other*

<sup>335</sup> "Business plan FY08-FY10 Windows Internet Explorer" dated 2 May 2008 (the date might be an automatic update) (MS01EU 00000095009), on page 8 (emphasis added).

<sup>336</sup> Presentation "Internet Explorer Business Plan" by Gary Schere or Schare (illegible) (undated) (MS01EU 000000137688), slide 7 (slide 8 contains data of June 2007, indicating that the presentations dates from after June 2007).

unique feature: a skinnable UI<sup>337</sup> supported by a flexible and simple XML-based markup language called XUL.<sup>338</sup>

- (338) Several editors of CNET, a market leader for technology review and comparisons, released a comprehensive study comparing Firefox 2.0 to Internet Explorer 7 along five dimensions: i) ease of installation; ii) look and community; iii) tabbed browsing; iv) features; and v) security and performance. It is concluded that:

*"Firefox 2 still rules the browser roost for now, despite a much improved version of Internet Explorer. The most obvious new feature for IE 7 (tabs) has been in Firefox forever, and the security additions from Microsoft aren't enough for us to allay concerns over new possible exploits. Lastly, the extensibility of Firefox 2 is its knockout punch, and IE's add-ons cannot compare. The flexibility and customizability of Firefox might be best suited to more advanced Web users, but it has earned its spot at the top of the browsers."<sup>339</sup>*

- (339) Similar findings also apply to Opera over the years. For example, tabbed browsing, as was mentioned above, was only introduced in Internet Explorer in 2006, whereas Opera offered multiple windows to show different websites at the same time as early as 1997<sup>340</sup>, and has offered tabbed windows since 2000.<sup>341</sup> In 2000, when broadband access was less widespread than today and consumers needed much more time to download a web browser, the size of the installation file that had to be downloaded mattered much more. Internet Explorer's file was much larger than the one of Opera for example.<sup>342</sup> In 2000, Opera also offered a transfer window that opened when the user wanted to download a file, and that could resume interrupted downloads in case the user had been disconnected.<sup>343</sup> As regards the "zoom in and out" option, Microsoft introduced the opportunity to rescale the whole page (and not only the text) in Internet Explorer after some of

<sup>337</sup> The user interface ("UI") of Firefox is skinnable, i.e. its appearance (color, functionality, layout, etc) are not hardcoded into the binary code, but is itself programmable. A program providing for an alternative skin (i.e. look, appearance), is itself referred to as a skin. The UI of Firefox can be programmed in a script language named XUL, which allows third parties to develop and offer alternative looks for Firefox and, more importantly, to develop extensions to Firefox that seamlessly integrate to the existing UI.

<sup>338</sup> "Business plan FY08-FY10 - Windows - Internet Explorer" dated 2 May 2008. (the date might be an automatic update) (MS01EU 000000095009), on page 11.

<sup>339</sup> Vamosi, Internet Explorer 7 vs. Firefox 2, [http://reviews.cnet.com/4520-10442\\_7-6656808-7.html?tag=rb\\_mtx:pf\\_left\\_nav](http://reviews.cnet.com/4520-10442_7-6656808-7.html?tag=rb_mtx:pf_left_nav), printed on 28 November 2008.

<sup>340</sup> See *CYBERSCAPE, Norwegian Browser Does Without Frills*, published in The International Herald Tribune on 15 December 1997.

<sup>341</sup> See *Opera 4.0*, published in .net on September 2000.

<sup>342</sup> See *Opera Sings a Different Browser Tune*, published in PC World on 19 May 2000;

<sup>343</sup> See *Opera 4.0*, published in .net on September 2000.

its competitors.<sup>344</sup> It also introduced the search box in the tool bar of Internet Explorer after some of its competitors: Opera already provided this feature in 2001<sup>345</sup>, whereas Microsoft only introduced this feature in Internet Explorer 7. In 1997, Opera also already offered, upon restart, to restore the pages that had been displayed when the web browser was closed, and to organise the favourites as a tree, a feature which Internet Explorer did not offer at that time.<sup>346</sup>

- (340) The distortion of the competitive process by Microsoft through tying Internet Explorer to Windows has detrimental consequences for users. Longer cycles of innovation have a negative impact on the quality and the features of web browsers. As the Court of First instance recalled in *Microsoft* in similar circumstances through tying "[...] *Microsoft interferes with the normal competitive process which would benefit users by ensuring quicker cycles of innovation as a consequence of unfettered competition on the merits*".<sup>347</sup>

#### 4.3.1.1.4.1.2.4 Conclusion

- (341) As can be seen from the section 4.3.1.1.4.1.2 on the market development, the actual effects of the tying of Internet Explorer in the market confirm the Commission's assessment that Microsoft's conduct shields Internet Explorer from competition on the merits with competing web browsers and leads to anticompetitive foreclosure. Furthermore, it has negative effects on content providers, software developers and users, as is outlined in section 4.3.1.1.4.1.3 below.

#### 4.3.1.1.4.1.3 Effect on content providers, software developers and users

##### 4.3.1.1.4.1.3.1 Introduction

- (342) It will be shown in the following that, in view of the indirect network effects in the market for web browsers for client PC operating systems, the ubiquitous presence of Internet Explorer code provides Microsoft with a significant competitive advantage, which has a negative impact on the freedom of choice not only of OEMs and users but also of content providers and software developers.

- (343) As already stated (at paragraphs (73) to (78)), web browsers constitute platform software because applications and content are developed for them. Content

<sup>344</sup> See *Believe it or not, there is an alternative* published in the Guardian Unlimited on 18 October 2001.

<sup>345</sup> In 2001 for example, Opera offered the opportunity to rescale texts and graphics, whereas Internet Explorer only offered to resize the text. See *Believe it or not, there is an alternative* published in the Guardian Unlimited on 18 October 2001.

<sup>346</sup> See *CYBERSCAPE, Norwegian Browser Does Without Frills*, published in The International Herald Tribune on 15 December 1997.

<sup>347</sup> Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, at paragraphs 1088.

providers and software developers look to installation and usage shares of web browsers when deciding – under resource constraints – on the basis of which technology to develop their web applications or to create their web content.

- (344) If tailored to Microsoft's Internet Explorer, due to this web browser being tied to the Windows client PC operating system, content providers' and software developers' products enjoy a potential audience which is equal to Microsoft's share of the client PC operating system market, that is to say, around 90% worldwide. As a consequence, web content and applications will primarily target Internet Explorer.
- (345) Once web content is encoded in one of the formats which Internet Explorer supports which are non-standardised across the industry or which significantly diverge from the web standards supported by other web browsers, costs for re-encoding in another format can be significant (see below paragraph (354)). This could be the case for example for companies who have developed applications which can only be displayed or executed in Internet Explorer because they make use of a format that only Internet Explorer supports. Changing the web browser would thus mean that they have to re-encode the applications in order to make them work with the web browser they choose (see below in paragraphs (351) and (352) about how to address the difference between web browsers from the developers' perspective). These companies can thus be to a certain extent locked into the use and targeting of Internet Explorer, and therefore into Windows since Internet Explorer is not a cross-platform web browser anymore. A Microsoft internal e-mail states that in 2005, 34% of "IT Pros" felt locked in by Internet Explorer because of websites and applications they had built on Microsoft's web browser platform (while 65% were "*pleased with the Internet Explorer and what it has enabled [them] to achieve*" which of course does not imply that all of these were not factually locked in as well).<sup>348</sup>
- (346) It is important to note that none of these effects are necessarily connected to functionality. Indeed, in a situation where one web browser in principle provides for a specific functionality that another web browser does not provide, the problem described above does not arise because then there are no two distinct ways for a developer to achieve the same result. However, in a situation where competing web browsers offer similar functionality, developers have an incentive to adapt to the ubiquitous Internet Explorer even if standards exist.

<sup>348</sup>

Email of Thursday 28 April 2005, 7:53 pm, from Michael Aldridge to Tony Chor et al., subject "the Firefox Question 2" (MS01EU 000000069404); on page 1.

- (347) Through tying Internet Explorer, Microsoft thus created a network effect reminiscent of the one that propelled Windows to its quasi-monopoly position in the client PC operating system market.

4.3.1.1.4.1.3.2 Content providers

- (348) As established previously at paragraphs (179) to (183), a major proportion of all PCs shipped worldwide are sold with Windows pre-installed, and consequently with Internet Explorer due to Microsoft's systematic bundling of the two products. Since Internet Explorer cannot be uninstalled, neither by OEMs nor by users, content providers thus know that a web site (including multimedia web content) that is rendered correctly on Internet Explorer can be correctly displayed and thus consumed on the large majority of PCs.
- (349) The question whether Microsoft's bundling of Internet Explorer with Windows has an impact on content providers is therefore tightly linked to the question whether websites need to be specifically encoded for different web browsers.
- (350) It has been established at paragraph (107) that Internet Explorer is the least standard-compliant of all the main web browsers<sup>349</sup>, but that the current tests for compliance with standards are not fully comprehensive, and that therefore even

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This seems to be the consequence of a conscious decision by Microsoft which was subject to an internal debate, as can be seen in Microsoft's internal emails. As early as 1997 Bill Gates, Microsoft CEO at the time, stressed "I think we want to make Trident extremely hard to clone. I think we want to patent elements of Trident. I think we want to make extensions to Trident on an ongoing basis." (Email of Tuesday 28 January 1997, 10:34 am, from Bill Gates to Paul Maritz and Brad Silverberg, subject "HTML "Openness"". Trident is the name of the rendering engine underlying Internet Explorer.) Moreover, a Microsoft internal email of 1999 states that: "[...] none of [the people involved in the discussion about standard-compliance] [...] would be willing to claim [they]'re at 100% or even PLAN TO REACH 100%" (Email of Monday 25 January 1999, 4:15 pm, from Mark Ryland to Chris Jones et al., subject "Standards" (MS-CC-Sun 000001208813); on page 2.) (emphasis in the original). However, the same email thread also mentions that: "[t]he XML team is still committed but [their] primary HTML rendering engine (Trident) is not. [Chris Jones] seems open to it when [Mark Ryland] talk[s] to him but his lead PM (M Wallent) is opposed" (In 1999, Chris Jones was product unit manager for Internet Explorer. See for example Microsoft's press release "Developers Line Up to Use Microsoft Dynamic HTML Behaviors for Easier-to-Build, More Powerful Web Pages", printed from <http://www.microsoft.com/presspass/press/1999/mar99/dhtmlpr.mspix> on 23 October 2008. From 1998 to 2000, Mark Ryland was director of standard activities. See for example Microsoft's press release "Enables Web Developers to Integrate Time-Based Media Into Today's Web Browsers, Using Standard-Based Approach", printed from <http://www.microsoft.com/presspass/press/1998/Sept98/MSTimePR.mspix> on 23 October 2008.) The thread also mentions that the "[...] HTML committee rep [...] is planning on quitting the IE team because he feels they [were] so misguided on this issue." (Email of Monday 25 January 1999, 7:30 pm, from Mark Ryland to Tod Nielsen et al., subject "Standards" (MS-CC-Sun 000001208813); on page 1.) Moreover, an email of 2002 states: "I would like to ask [...] that we recognize what choice we've made and not make derogatory comments about standards efforts that are probably not true, simply to justify our choice to ignore web standards". (Email of Wednesday 7 August 2002, 9:58 am, from Chris Wilson to Aaron Patterson, subject "XHTML 2<sup>nd</sup> edition" (MS-CC-Sun 000001307505); on page 1.)

two different web browsers which pass a given test will not always render the same content in exactly the same way.

- (351) If content providers use Microsoft's proprietary tools to encode their content, the content will not automatically be displayed correctly by standards-compliant web browsers which cannot "understand" content encoded in proprietary formats. Moreover, since Internet Explorer is less standards-compliant than most of its competitors, code written to be displayed primarily on Internet Explorer might not be rendered correctly in other web browsers if these web browsers treat it in the same way as they treat standards-compliant code. This explains why a large number of web pages include instructions to detect the user's web browser. In principle, the result of this detection determines which part of a web page's source code becomes active, each such part constituting web browser-specific code that compensates for the bugs of the web browser or for its non-standard-compliance, or takes advantage of certain features that are not offered by all web browsers.<sup>350</sup> To create the different browser-specific parts of a web page, content providers who want to target users of non-Internet Explorer web browsers therefore have to incur additional costs without any gain in functionality or productivity.
- (352) The Commission asked web portals to provide answers to the question of whether the co-existence of several web browsers resulted in additional costs for them.<sup>351</sup> In order to address differences between the web browsers, web portals can on the one hand choose to use only the capabilities shared by all web browsers, thus not taking advantage of some web browser-specific functionality. On the other hand, they can choose to use web browser-specific code, in order to benefit from some particular functionality or to circumvent bugs in the web browser's source-code.
- (353) The supplementary costs incurred by web portals can be divided into developing costs and testing costs. Web portals which make use of the specific features offered by the different web browsers face incremental developing costs. However, all the web portals, including the ones which do not make use of web browser-specific features, also said they incur testing costs because of the need to

<sup>350</sup> See TAEUS report, Task Nr 08-02, 08-EC001-000126, prepared for the European Commission, 29 July 2008 (sent on 30 July 2008), pages 19 and 31.

<sup>351</sup> Question 8 of the Commission's request for information dated 17 March 2008 read : "*Please provide an estimate of the costs that you incur because users use different browsers i.e. because different browsers interpret web content differently? (If need be, please liaise with the appropriate interlocutors in case you use a content management system or outsource web design). Please detail the different cost categories involved.*"



test every feature in each web browser due to the same web content being rendered differently in each web browser.

- (354) Wind stated that it estimates "[...] that a [25-35]% of the effort in the development of the 'presentation' layer is due to the browser compatibility issue".<sup>352</sup> Heise Zeitschriften Verlag said that the modification for Internet Explorer usability requires 2-5% of the development time for CSS/HTML.<sup>353</sup> Orange states that 10% of the technical costs are due to different web browser interpretations of the content.<sup>354</sup> Fox Interactive Media estimates that the different interpretation of content by different web browsers doubles the costs for testing and user interface development as well as for bug fixing efforts (primarily for Internet Explorer and Firefox).<sup>355</sup> According to Google, supporting the first web browser represents [45-60]% of the development time. Supporting Internet Explorer amounts to around [25-40]% of the development time.<sup>356</sup> Microsoft does not provide any precise figure with regard to the costs but explains that the co-existence of several web browsers involves additional development and testing time.<sup>357</sup> Yahoo does not provide any specific figure either but mentions that, although Internet Explorer's compliance with web standards is improving, it spends on average more time on Internet Explorer 6.0 and 7.0 than on other web browsers.<sup>358</sup>
- (355) The ubiquity of Internet Explorer resulting from it being tied with Microsoft's client PC operating system and the fact that Internet Explorer is the least standard compliant of the main web browsers thus has direct consequences for content providers. They have a strong incentive to design their web sites to be displayed correctly with the most wide-spread web browser Internet Explorer, even though it is less standard-compliant than other web browsers. Absent the ubiquity of Internet Explorer content, content providers would have little or no incentive to produce content for a non standard-compliant web browser. At the same time, web content written to Internet Explorer may "break" (i.e. lose essential functionality) if another web browser is used. Content providers writing for Internet Explorer therefore face a trade-off of higher costs for coding due to Internet Explorer being the least standard-compliant web browser, or lower value of their content due to it not being accessible on non-Internet Explorer web

<sup>352</sup> See Wind Telecomunicazioni's submission of 11 April 2008, page 3, reply to question 8, as complemented by email of 12 December 2008.

<sup>353</sup> See Heise Zeitschriften Verlag's submission of 17 April 2008, page 2, reply to question 8.

<sup>354</sup> See France Télécom's submission of 18 April 2008, page 2, reply to question 8.

<sup>355</sup> See Fox Interactive Media's submission of 12 December 2008, page 5, reply to question 8.

<sup>356</sup> See Google's submission of 25 April 2008, page 4, reply to question 8 as complemented by email of 16 December 2008.

<sup>357</sup> See Microsoft's submission of 22 April 2008, page 10, reply to question 8.

<sup>358</sup> See Yahoo's submission of 8 January 2009, page 11, reply to question 8.

browsers which also has the effect of reducing the attractiveness of these web browsers.

#### 4.3.1.1.4.1.3.3 Software Developers

- (356) Internet Explorer is a product for which applications are developed. Software programs can be written to the Internet Explorer APIs.<sup>359</sup> Software developers will write for several platforms if that is necessary to make their products available to the greatest number of users, but if they can get nearly full "coverage" by writing for a single platform, most will take into consideration the effort and expense to port, market and support their programs on other platforms. This gives developers the greatest opportunity to make sales, recover their costs and make the most efficient use of their limited development resources.
- (357) Microsoft acknowledges the importance of developers and tries to make them use Internet Explorer-specific tools as much as possible. An internal e-mail from Microsoft of November 2006 concerning business planning identifies the following "key things":

*"1) A new articulation of why IE share is important to Microsoft -this is absolutely critical (I'm asked this at least once a day) and we need your input ... and we need to be 100% aligned on the answer. 2) Some new thinking on the importance of OEM defaults and enterprise defaults on IE share, driving some priorities in product planning (though we're probably fine without major new innovation here) 3) A newfound religion that we have about integrating .NET Fx [.Net framework<sup>360</sup>] (specifically the new lightweight version) into IE8. [...] 4) A discussion of why we think the developer ecosystem is key and how we need to enable easy add-on development (nothing new here but just stating its importance for others who consume our plan) 5) The great need to build innovation to excite the super engaged and win them back from Firefox.*

*We're digging deeply into understanding how this audience will drive mainstream users away from IE if we don't win them back soon. We have more research to do here but our hypothesis is well accepted at MS." (emphasis added)<sup>361</sup>*

- (358) The way developers design their software has a direct impact on the format of the content. If software developers create applications that require content to be encoded in one of Microsoft's proprietary formats, content providers will have to

<sup>359</sup> See <http://msdn.microsoft.com/en-us/library/ms840210.aspx>, printed on 23 October 2008.

<sup>360</sup> Microsoft defines the .NET framework as "Microsoft's comprehensive and consistent programming model for building applications". See <http://www.microsoft.com/.NET/>, printed on 5 December 2008.

<sup>361</sup> Email of 13 November 2006, 10:12 pm, from Gary Schare to Dean Hachamovitch et al., subject "PMG Business Planning" (MS01EU 000000118402); on page 3.

encode their content in this format if they want to make use of the software, which in turn reinforces the demand for Microsoft's products. For example, bsalsa production offers a product called "Embedded Web Browser" that allows "[...] to create a customized web browsing application, add internet, file and network browsing, document viewing, and data downloading capabilities to your applications". It requires Microsoft Windows and Microsoft Internet Explorer.<sup>362</sup> Companies which want to make use of this application thus do not have a choice of web browser, since the software developer does not offer a similar product for third-party web browsers.

(359) As mentioned at paragraph (67), in order to display some types of web content and to use features that are not provided by the web browser as such, the user can install plug-ins<sup>363</sup> which are for example available on the internet. Plug-ins can be developed for different web browsers, i.e. cross-browser, such as the very widespread Adobe Flash, a technology for the creation and use of interactive multimedia applications on web pages, including video playback. On the other hand, plug-ins may also be specific to one web browser. Developers who wish to target as many users as possible without incurring the costs and time necessary to develop a cross-platform application will have an incentive to write first and foremost to Internet Explorer (assuming approximate equivalence of web browsers in terms of functionality) as Internet Explorer is tied to Windows, the client PC operating system that is installed on the large majority of PCs that are manufactured.

(360) Because of the network effects, the impact of the bundling of Internet Explorer with Windows reinforces Microsoft's browser's market position.<sup>364</sup> As regards plug-ins which are used to display content, due to the ubiquity of Windows, software suppliers, often under time and cost constraints, develop plug-ins for Internet Explorer. Content providers will thus have to encode in a format compatible with the plug-in in order for their content to be displayed in that application, which reinforces the demand for Internet Explorer. With respect to

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<sup>362</sup> See for example <http://www.businessmobile.fr/telecharger/0,39045761,39246043s,00.htm>, printed on 23 October 2008 or <http://www.bsalsa.com/> printed on 23 October 2008

<sup>363</sup> A plug-in can be defined as a software application relying on a host application and not directly on the operating system.

<sup>364</sup> An article published in zdnet states that "According to IDC, IE's dominance is also perpetuated by the rest of the IT industry, creating a cyclical relationship. Because IE currently has the dominant market share, makers of websites, software applications and their components that are accessible via a web browser, will place the highest priority on ensuring their products support IE, Mark Levitt, IDC's programme vice president for collaboration and enterprise 2.0 strategies, told ZDNet Asia." See <http://news.zdnet.co.uk/software/0,1000000121,39563441,00.htm>, printed on 28 November 2008.

other plug-ins and widgets<sup>365</sup>, the reasoning is similar. Software developers face an incentive to develop their product primarily for Internet Explorer because they know this gives them the largest potential audience. Internet users thus know that considerably more software is (will become) available for Internet Explorer than for other web browsers, reinforcing their demand for Internet Explorer.

(361) As regards business applications, due to the large market share of Internet Explorer in this segment of the market, many internal applications or intranet pages have been designed to work specifically with Internet Explorer. Consequently companies can be locked into Microsoft products and technologies<sup>366</sup> since changing the web browser would require modifying to a certain extent the source code of all internal applications that are specifically designed for use with Internet Explorer.

(362) The use of other widespread Microsoft software, such as Microsoft Office, can create barriers that impede the company's ability to switch to a non-Microsoft web browser. For instance, employees from companies who use Outlook, Microsoft's client e-mail system, can access their e-mails from a remote computer connected to the internet through Outlook Web Access. However, in Outlook Web Access 2007, access to the public folders or the creation and distribution of mailing lists is limited to the "premium" version, the functioning of which requires Internet Explorer 6 or a later version.<sup>367</sup> Employees who need to access this type of folder when travelling or from home therefore need to use Internet Explorer. In addition, it is more costly and time-consuming for enterprises to develop applications and provide training to their employees with respect to different web browsers. The requirement to use Internet Explorer in conjunction with other very widespread Microsoft software therefore contributes to the creation of artificial dependencies that provide strong incentives for companies not to switch to a competing web browser.

#### 4.3.1.1.4.1.3.4 Users

(363) The harmful consequences of Microsoft's tying of Internet Explorer to its dominant client PC operating system Windows vary according to the user or customer segment that is looked at.

<sup>365</sup> A widget is a small application software that can be put in web pages and provides the user with additional information or applications.

<sup>366</sup> Ray Valdes, Gartner research vice president, reportedly stated that: "Due to long-standing accumulations of dependencies, most enterprises will find it difficult or unfeasible to switch from IE to an alternative browser, such as Firefox, Opera or Safari." See *Analysts: IE entrenched in the enterprise*, printed from <http://news.zdnet.co.uk/software/0.1000000121.39563441.00.htm> on 28 November 2008.

<sup>367</sup> See [http://technet.microsoft.com/en-us/library/bb684907\(printer\).aspx](http://technet.microsoft.com/en-us/library/bb684907(printer).aspx), printed on 12 December 2008.

- (364) With respect to individual users (as opposed to business users), a line can be drawn between the most sophisticated users and others. The latter category includes a majority of internet users.<sup>368</sup> They are unlikely to download and install a new web browser. They will mostly use the web browser they are provided with by the OEMs, namely almost exclusively Internet Explorer. For this user group the tying results in a loss of choice because they were not offered the opportunity to choose a web browser conforming to their needs due to the fact that they may not know about the existence of competing products.<sup>369</sup>
- (365) With respect to the most sophisticated users who do not use Internet Explorer as their primary web browser, they are forced to have it on their computer because they cannot uninstall it, and they may have to use it to go to certain websites that are not rendered properly or that do not function with other web browsers even though they would have preferred to use another product. For illustration, customers of BNP Paribas, one of the largest French retail banks, and Postbank, the largest German retail bank, can only access their accounts online through Internet Explorer or Netscape (which is neither developed nor supported any more, see paragraph (97)).<sup>370</sup>
- (366) With respect to business consumers, a distinction must be made between users and IT managers. As in the consumer segment, the business segment has no choice but to obtain Windows with Internet Explorer. Unlike most individual consumers, business companies develop internal applications that meet the needs of their employees. Many of these applications have been built using Internet Explorer specific code. It may therefore be difficult for companies to switch to another web browser because they would have to (at least partly) redevelop all these internal applications. Interdependencies between Microsoft's applications (see above at paragraph (362)) also contribute to create artificial barriers that limit the ability of enterprises to switch to a non-Microsoft web browser.
- (367) Employees are often prevented from downloading software and therefore are forced to use the web browser they are provided with by the company, even if they would prefer to use another one. As recalled at paragraph (361), many

<sup>368</sup>

See above at paragraph (293).

<sup>369</sup>

A Microsoft internal presentation confirms that there is a large group of users (69% of internet users in the US) who is hardly aware of alternative web browsers such as Firefox and does generally not intend to install such a web browser. Presentation "IE 'Go Big' Strategy Discussion", attached to a preparatory email of Thursday 20 September 2007, 12:43 am, from Matthew Lapsen to Shanen Boettcher et al., subject "IE 'Go Big' Strategy Brainstorm" (MS01EU 000000007765); on slides 11.

<sup>370</sup>

See  
[http://www.bnpparibas.net/banque/portail/particulier/Fiche?type=folder&identifiant=BNPParibas\\_net\\_c](http://www.bnpparibas.net/banque/portail/particulier/Fiche?type=folder&identifiant=BNPParibas_net_c)  
 ommment se connecter 20021007153857, printed on 17 December 2008, and  
[http://www.bnpparibas.net/banque/portail/particulier/Fiche?type=folder&identifiant=BNPPARIBAS\\_N](http://www.bnpparibas.net/banque/portail/particulier/Fiche?type=folder&identifiant=BNPPARIBAS_N)  
 ET les cookies 20031009152037, printed on 15 December 2008.

companies developed a number of applications that can only be used with Internet Explorer. Even if they could download another web browser, employees could therefore not use it with respect to these applications.

4.3.1.1.4.2 The tying is liable to reinforce Microsoft's position in the market for client PC operating systems: the platform threat

(368) The large-scale deployment of modern web applications poses a potential threat to the business of vendors of client PC operating systems such as Microsoft. Web browsers have a potential of partly replacing the underlying client PC operating system(s) as the main tool for accessing and running such web applications. Many existing web applications can be accessed on various web browsers regardless of the underlying client PC operating system. The use of web applications therefore can reduce the dependency of customers on specific operating system platforms for running the applications they require.

(369) It must be recalled that it had already been established in the US proceedings that around 1995<sup>371</sup> Netscape's web browser posed a significant threat to the Windows client PC operating system platform.<sup>372</sup> The same analysis is even more appropriate today in view of the technological developments of the past decade. The deployment of modern interactive web applications has made it possible to switch entire applications from the earlier client-server architecture to a web-based setting without significant loss of user experience or functionality. The capability of web browsers to make available applications, such as word processing applications, across different operating system platforms, has the potential to make the web browser the essential gateway to customers and users and to replace client PC operating systems in this function.<sup>373</sup>

(370) Microsoft was well aware of the platform threat posed by web browsers. Indeed, it appears to have decided to engage in measures designed to protect the market position of its Windows client PC operating system against this emerging platform threat. In 1997, Bill Gates, Microsoft's CEO at the time, stressed that:

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<sup>371</sup> See [http://news.cnet.com/Ballmer-Navigator-a-threat-to-Windows/2100-1023\\_3-211836.html](http://news.cnet.com/Ballmer-Navigator-a-threat-to-Windows/2100-1023_3-211836.html), printed on 12 January 2009.

<sup>372</sup> See Conclusions of Law of 3 April 2000 United States District Court for the District of Columbia, *United States v Microsoft Corporation*, Civil Action No. 98-1232 and 1232 (TPJ), in section I.A.2.a.

<sup>373</sup> Microsoft's CEO said in September 2005 on Forbes.com "You could say 1995 to 2000 was about us winning on the desktop. Then 2000 to 2005 we won and drove the server market. And the next five years is all about driving and winning the Web". See *Microsoft's midlife crisis*, printed from [http://www.forbes.com/2005/09/12/microsoft-management-software\\_cz\\_vm\\_0913microsoft.html](http://www.forbes.com/2005/09/12/microsoft-management-software_cz_vm_0913microsoft.html) on 18 November 2008.

*"[in] one piece of mail people were suggesting that Office had to work equally with all browsers and that we shouldn't force Office users to use our browser. This is wrong and I wanted to correct this.*

*Another suggestion in this email was that we can't make our own unilateral extension to HTML. I was going to say this was wrong and correct this also.  
[...]*

*My view is that in order to maintain a strong operating system position we have to enhance the Windows API and make Trident a fully integrated part of the story. It can't be Windows APIs versus Trident – they have to be complimentary [sic] although Trident will obsolete some Windows calls.*

*I think we want to make Trident extremely hard to clone. I think we want to patent elements of Trident. I think we want to make extensions to Trident on an ongoing basis.<sup>374</sup>*

- (371) These suggestions are aimed at reinforcing the technical interdependence between Microsoft's web browser on the one hand, and its client PC operating system as well as its office suite<sup>375</sup> on the other hand. The rationale behind such suggestions is evident: The strong market position of the client PC operating system Windows was to be leveraged to drive the use of Microsoft's web browser by making its use mandatory for users of Windows or Microsoft Office, another product with a very large market share. In addition, the web browser Internet Explorer, via its core, the rendering engine Trident, was to be made proprietary, non-standards compliant and very difficult to clone. What Mr Gates said, in effect, is that Microsoft should set a *de facto* standard for web content, and to keep changing it in order to make it more difficult for other web browser vendors to implement. This would ensure a functionality differential between Microsoft's web browser and other web browsers which in turn would make it necessary for content providers and application developers to choose on which web browser platform to concentrate. In view of Internet Explorer's market share (stemming from the tie to the Windows client PC operating system), these ISVs would have an incentive to primarily target their content and their applications to the Internet Explorer platform. This in turn would lead to a technological lock-in of the consumers of this content and the users of these applications into Internet Explorer technology and the Windows client PC operating system, which is the only operating system on which Internet Explorer is available. Once such lock-in

374

Email of Tuesday 28 January 1997, 10:34 am, from Bill Gates to Paul Maritz and Brad Silverberg, subject "HTML "Openness". Trident is the name of the rendering engine underlying Internet Explorer.

375

An office suite is a collection of software products, generally sold together, designed to perform ordinary office tasks, and which generally include at least spreadsheets, a word processor and a presentation software product. Microsoft Office is currently the most widely used office suite.

occurs, i.e. users are dependent on software based on the Internet Explorer platform, their attachment to the Windows PC operating system platform itself would also be strengthened. Their needs could neither be fulfilled through another web browser on Windows nor by any web browser on another operating system.

(372) This lays open the rationale behind the strategy described by Mr Gates: it would counter the perceived "platform threat" from other web browsers because no application written specifically to Microsoft's web browser would give its users an option to switch web browsers or even the underlying operating system. As a result of this strategy, Internet Explorer is the least standard-compliant of all the main web browsers (see above at paragraph (107)). It appears that this strategy is still followed today by Microsoft. In a 2007 Microsoft internal memo, it is stressed that "[...] while [the standardization of web platform innovations is] good for developers, this may appear to limit the room for competitive advantage".<sup>376</sup>

(373) Microsoft acknowledges that tying Internet Explorer with Windows has the effect of reinforcing its position on the market of operating system products for client PCs. In one of its submissions to the Commission, Microsoft states that:

*"first, additional functionality available to end users increase demand for Windows directly. Second, often the additional functionality also exposes APIs that enrich the functions provided by other parts of the operating system and by third-party applications that run on Windows, thus increasing demand for Windows indirectly".<sup>377</sup>*

(374) A Microsoft internal presentation of September 2007 also states that "if users leave Internet Explorer, they are one step closer to leaving Windows", which is the core business of the company, and that Microsoft "care[s] [about Internet Explorer market share] because the relevance of Windows is at stake".<sup>378</sup> As early as 1998, a Microsoft internal memo states that "Microsoft's Windows platform is severely threatened because the World Wide Web has redefined the

<sup>376</sup> Microsoft's internal memo "IE8 Vision: Developer Experience", of 16 April 2008 (the printed date might be an automatic update), by Doug Stamper, Carl Edlund, Chris Wilson and al. The memo is attached to an email of Monday 8 January 2007, 1:36 am, from Jason Upton to Kris Krueger et al. (MS01EU 000000067371); on page 4.

<sup>377</sup> See Microsoft's submission of 5 March 2008, page 30, reply to question 9.

<sup>378</sup> Presentation "IE "Go Big" Strategy Discussion", attached to a preparatory email of Thursday 20 September 2007, 12:43 am, from Matthew Lapsen to Shanen Boettcher et al, subject "IE "Go Big" Strategy Brainstorm" (MS01EU 000000007765); on slide 4.



application paradigm."<sup>379</sup> Microsoft's response is expressed in an internal 2007 presentation, which features a heading "*Leverage the Client, Embrace the Web*".<sup>380</sup> One rationale for Microsoft's bundling of Internet Explorer and Windows is thus its fear that competitors' actions will change the value chain which in turn could weaken Microsoft's position or lower the barriers to entry in the market for operating systems for client PCs.<sup>381</sup>

(375) According to industry projections, the technical developments associated with Web 2.0 and in particular modern web-based applications will soon have led to a multi-billion Euro market of web-based services and applications that depend on web browsers as their gateways to their customers and users. According to the research company Forrester, "[...] 56% of North American and European companies consider Web 2.0 to be a priority in 2008" and "[t]he global enterprise Web 2.0<sup>382</sup> market will reach \$4.6 billion in 2013" compared to USD 764 million in 2008, with an annual growth rate of 43% over the next five years. Social networking will remain the top spending category.<sup>383</sup> According to comScore and Facebook, Facebook.com, a social networking website, enjoyed a 305% growth in 2007, and 250 000 new registrations per day since January 2007.<sup>384</sup> This development reinforces the threat that competing web browsers can pose to the Windows client PC operating system.

(376) In this context, Microsoft sees Google as its main challenger. In an internal presentation, Microsoft refers to the web browser "[...] as strategic *"front end"* to OS (Microsoft) & to services (Google)", and being "[...] in middle of huge battle for supremacy between Google & Microsoft" (emphasis added). Therefore

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<sup>379</sup> Note of Friday 2 October 1998 from Bruce MacNaughton "Redefining the Web Platform", enclosed in an email of Friday 2 October 1998, 5:00 pm, from Bruce MacNaughton to Pete Higgins et al., subject "Copy of Bill's Think Week Materials" (MS-CC-Sun 000000687878); on page 3.

<sup>380</sup> Presentation "Embracing the Best of Web Development" by Megan Sheehan/Presented by Bernardo Caldas, (undated, but slide 12 makes reference to an article published in January 2007) (MS01EU 000000137851); on slide 26.

<sup>381</sup> The nature of Microsoft's profits in this market is highlighted at paragraph (214): Microsoft's margin (Margin is defined as the ratio between net income and revenue) for client PC operating systems in the fiscal year 2008 appears to be around 77%. Revenues of the "Client" segment, mostly constituted by Windows for client PCs, represents 28% of Microsoft's overall revenue but 58% of its overall net income (The net income of a company is equal to the income minus all the costs (namely business, depreciation, interest, and taxes)).

<sup>382</sup> According to Forrester, the enterprise Web 2.0 market "*encompasses Web 2.0 technology and service investment for both externally facing marketing functions and internally facing productivity and collaboration functions*". See Forrester's report *Global Enterprise Web 2.0 Market Forecast: 2007 To 2013*, of 21 April 2008, by Oliver Young, for Market Research Professionals; on page 3.

<sup>383</sup> See Forrester's report *Global Enterprise Web 2.0 Market Forecast: 2007 To 2013*, of 21 April 2008, by Oliver Young, for Market Research Professionals; on pages 2 and 7.

<sup>384</sup> See MorganStanley's research report *Internet Trends*, of 18 March 2008, by Mary Meeker, David Joseph and Anant Thaker; on slide 13.

Microsoft concludes that the "*Browser war v2 is about the core value and future of Windows*".<sup>385</sup>

- (377) Microsoft's assessment of the strategic importance of the web browser for the Windows PC operating system platform is actually confirmed by Google:

*"Significant increases in network penetration and transmission, as well as in computing power, have made it possible for internet-based applications to challenge Microsoft's Windows monopoly. [...] Users can access and run such applications through browsers using standard internet protocols, regardless of the operating system running on their computers.*

*Google's online office productivity applications ("Google docs"), which compete with Microsoft's Office suite, are an example of this development. Users can access and edit documents, presentations, and spreadsheets on the Internet through their browsers, irrespective of whether their computers run Windows, Linux, or Apple's Mac OS."*<sup>386</sup>

#### 4.3.1.1.4.3 Conclusion

- (378) As has been highlighted in sections 4.3.1.1.4.1 and 4.3.1.1.4.2 above, the tying not only negatively affects the relations in the market between Microsoft, OEMs and suppliers of third-party web browsers by appreciably altering the balance of competition in favour of Microsoft and to the detriment of the other operators, but also has negative effects for content providers, software developers and users. Moreover, as stated above, tying Internet Explorer with Windows has the effect of reinforcing the position of Windows on the market of operating systems for client PCs and to simultaneously counter the general threat to Windows as an essential platform for application development and deployment that is posed by web browsers in conjunction with web based applications. In the light of the above, it can be concluded that Microsoft's conduct forecloses competition.

#### 4.3.1.1.5 Conclusion

- (379) As has been shown in the sections above, Microsoft's conduct fulfils the constituent elements of tying under Article 82 EC and is liable to foreclose competition. Furthermore, the Commission will establish below that there is no objective justification for tying Internet Explorer with Windows.

<sup>385</sup> Presentation "IE "Go Big" Strategy Discussion", attached to a preparatory email of Thursday 20 September 2007, 12:43 am, from Matthew Lapsen to Shanen Boettcher et al, subject "IE "Go Big" Strategy Brainstorm" (MS01EU 000000007765); on slide 5.

<sup>386</sup> See Google's submission of 16 December 2008 (redacted version of Google's letter of 22 October 2008), page 2.

#### 4.3.1.2 Justification put forward by Microsoft

(380) Microsoft's arguments discussed in this section attempt to show efficiencies from tying Internet Explorer with Windows which would outweigh any possible anti-competitive effects, thereby precluding Microsoft's liability for the tying of Internet Explorer with Windows pursuant to Article 82 EC. As will be shown below, Microsoft has not demonstrated that the integration of Internet Explorer with the client PC operating system leads to obvious efficiencies. Conceptually, some of the following considerations could also be discussed under the separate product test, as the upshot of Microsoft's argumentation is that it is no longer appropriate to consider the "integrated product" (Windows and Internet Explorer) as a bundle of two separate products.

##### 4.3.1.2.1 Tying Internet Explorer and efficiencies

###### 4.3.1.2.1.1 Tying Internet Explorer and efficiencies related to distribution

(381) Microsoft argues that Opera and other web browsers directly benefit from the integration of web browser functionality in Windows. According to Microsoft, unless third party web browser suppliers wanted to enter into numerous agreements with OEMs to install their products, the existence of web browser functionality in Windows is essential for them to obtain distribution through downloads.<sup>387</sup>

(382) However, the absence of agreements between OEMs and third-party web browser suppliers stems more from the difficulties they face in entering into an agreement with OEMs than from their lack of willingness to have their product pre-installed (see paragraphs (284) to (286)). Moreover, as established at paragraphs (289) to (299), downloading can only offset to a limited extent the lack of distribution through pre-installation. Contrary to Microsoft's contention, Microsoft's behaviour creates more drawbacks than opportunities for third-party web browser suppliers.

(383) Moreover, any claims regarding the efficiencies of tying in terms of lowered transaction costs for consumers, i.e. alleged reductions in the time required to obtain a web browser, and possible confusion stemming from, first having to choose a web browser when setting up a new PC would fail to differentiate between the benefit to consumers of having a web browser pre-installed along with the client PC operating system and of Microsoft selecting the web browser to be preinstalled. The Commission therefore does not deny that consumers will

<sup>387</sup>

See Microsoft's submission of 27 March 2008, page 7.

in general wish to have both an operating system and a web browser pre-installed when they buy a PC. That does not mean to say that it must be Microsoft which *de facto* imposes this configuration of two separate products through its tying.

- (384) In fact, OEMs customise their client PCs in terms of hardware and software in order to differentiate them from competing products and to meet specific consumer demand. OEMs generally have sophisticated skills with respect to both hardware and software and they are able to integrate software products for use on their PCs. In short, OEM services involve more technical expertise than the process of loading and configuring applications onto client PCs.<sup>388</sup> The market would therefore respond to the efficiencies associated with the purchase of a full package of hardware, operating system and software applications such as web browsers. Consumers could choose bundles of client PC operating system and web browsers offered by OEMs according to their preferences, and would as such be discharged of the possible costs of assembling a bundle themselves. Nothing about potential transaction efficiencies for consumers requires the pre-installation to be undertaken by Microsoft, let alone to bundle Internet Explorer exclusively and irreversibly with Windows.
- (385) Microsoft also argues that it must not be set at a competitive disadvantage compared to other operating system vendors which provide web browsing capabilities with their operating system offerings (either with a third party web browser<sup>389</sup> or, like Apple, with its own web browser). First, the Commission does not purport to prevent Microsoft from entering into arrangements with OEMs to pre-install Windows and a web browser on a client PC in order to meet the corresponding consumer demand.<sup>390</sup> Indeed, OEMs act as purchasing agents for consumers in providing such bundles. The Commission's preliminary conclusion in the present case is that Microsoft commits an abuse by invariably imposing its own web browser through tying.
- (386) Second, comparing conduct of a dominant undertaking to that of other players in the client PC operating system market, would disregard the different impact stemming from tying practices engaged in by a dominant company and by non-dominant players in the market. The potential degree of foreclosure of tying depends on the market share of the "tying" product.<sup>391</sup> It is for this reason that the

<sup>388</sup> See Direct Testimony of John Soyring in US Civil Action No. 98-1232 and 1233 (TPJ), *US v Microsoft*, printed from <http://www.usdoj.gov/atr/cases/f2000/2054.htm> on 23 October 2008.

<sup>389</sup> See paragraph (232).

<sup>390</sup> For example, RedHat Linux, SuSe Linux and other significant commercial Linux distributors all ship with removable third-party web browser products.

<sup>391</sup> See *mutatis mutandis* Case T-65/98 *Van den Bergh Foods v Commission* [2003] ECR II-4653, at paragraph 172.

existence of a dominant position is a precondition for a tying abuse under Article 82 EC. Low market shares indicate a small level of potential foreclosure. For illustration, Apple's bundling of the Safari browser with the Mac OS only affects users of Apple's operating system, namely 3.1% of the new PCs shipped in Microsoft's financial year 2008.<sup>392</sup>

- (387) In this context, it is important to recall that a dominant company may be deprived of the right to adopt a course of conduct which is unobjectionable if adopted by non-dominant undertakings.<sup>393</sup> The Court of Justice has also held that even if tied sales of two products are in accordance with commercial usage, such sales, if entered into by a dominant company, may constitute abuse within the meaning of Article 82 unless they are objectively justified.<sup>394</sup> In a competitive environment, market forces attenuate the scope of the deterrent effect on innovation of the tying of separate software with an operating system. While a non-dominant client PC operating system vendor which chooses to integrate may control innovation relating to the features on its platform, competitive innovation in the market is still possible because new features may be developed in conjunction with competing platforms. This is not the case where the operating system platform market is virtually monopolised. Tying will deter innovation in the whole market to which the integrated product belongs.

#### 4.3.1.2.1.2 Tying Internet Explorer and efficiencies related to Internet Explorer as a platform for content and applications

- (388) As pointed out above, Microsoft claims that Internet Explorer is part of the client PC operating system and that some components of the operating system rely on it.<sup>395</sup>
- (389) By way of preliminary observation, Microsoft has not submitted substantiated evidence that shows that the integration of Windows and Internet Explorer code base leads to superior technical product performance. Microsoft argues, however, that software developers want to be able to place calls to Internet Explorer's APIs.<sup>396</sup> According to Microsoft, if the client PC operating system on which developers' applications build (the platform) makes available web browser APIs, developers do not have to "re-invent the wheel" each time they want to implement functionality. They are able to focus on their areas of expertise and

<sup>392</sup> See Microsoft's submission of 5 March 2008, page 3, reply to question 1. Source: Microsoft PCMIT database.

<sup>393</sup> Case T-111/96, *ITT Promedia v Commission* [1998] ECR II-2937, at paragraph 139.

<sup>394</sup> Cf. Judgment of the Court of Justice in *Tetra Pak II*, at paragraph 37.

<sup>395</sup> See Microsoft's submission of 5 March 2008, page 16, reply to question 7b: "Internet Explorer is an integral part of Microsoft's Windows operating system."

<sup>396</sup> See Microsoft's submission of 27 March 2008, page 30.

commercial interest, the content and quality of their programmes. Consequently, the value of the operating system package for users increases. There are efficiencies of web browser integration which outweigh any possible anti-competitive effects, and therefore Internet Explorer and the client PC operating system has to be regarded as one product rather than two.

- (390) It is not necessary to determine whether it would have been possible to follow Microsoft's above line of argumentation had Microsoft demonstrated that tying of Internet Explorer was an indispensable condition for simplifying the work of application developers. Microsoft has, however, failed to supply evidence that tying of Internet Explorer is indispensable for these alleged pro-competitive effects to materialize.
- (391) The attractiveness of a client PC operating system is enhanced by the availability of high-quality, complementary applications at low prices. If these applications themselves exhibit APIs, as several web browsers do, efficiency gains follow for software developers who rely on these APIs when writing complementary applications. Web browsers in general exhibit application and platform software characteristics. While they build on the client PC operating system, other applications may build on them.<sup>397</sup> The efficiencies that may stem from providing a pre-installed bundle of an operating system and a web browser are therefore not specific to a bundle of only Microsoft components.
- (392) Furthermore, developers would also enjoy the benefits of being able to use API calls to Internet Explorer into their applications if Microsoft's Internet Explorer was pre-installed by OEMs and not imposed by Microsoft. In summary, Microsoft neither claims nor demonstrates that certain applications could not have been developed had Microsoft distributed Internet Explorer independently from its client PC operating system.
- (393) Other web browsers have also contributed to the dissemination of web content and web-based applications. Microsoft has offered no proof that developers only want to place calls to Internet Explorer as opposed to any other web browser.
- (394) Tying Internet Explorer with Windows is therefore not indispensable for the developer and consumer benefits on which Microsoft bases its justification for tying. With OEMs acting as purchasing agents for users, it is no more efficient for Microsoft to create its exclusive client PC operating system-and-application bundles than for multiple OEMs to create those client PC operating system-and-application bundles that are desired by users.

<sup>397</sup>

See 2004 Decision, at recital (964) and fn. 1225.

(395) This would only be different if it were held that, since developers would prefer a standardised platform, Microsoft's leveraging of its dominance into the market for web browsers for client PC operating systems would spare the industry possible ambiguity as to the outcome of the competitive race among competing web browsers, thereby generating net efficiencies.

(396) In this respect it suffices to refer to the judgment in *Microsoft* in which the Court of First Instance has addressed this argument in the following way:

*"[...] Although, generally, standardisation may effectively present certain advantages, it cannot be allowed to be imposed unilaterally by an undertaking in a dominant position by means of tying.*

*[...] The Court further notes that it cannot be ruled out that third parties will not want the de facto standardisation advocated by Microsoft but will prefer it if different platforms continue to compete, on the ground that that will stimulate innovation between the various platforms."*<sup>398</sup>

#### 4.3.1.2.1.3 Conclusion

(397) There is no evidence to the effect that tying Internet Explorer is objectively justified by pro-competitive effects which would outweigh the distortion of competition caused by it. In particular, it has been shown that what Microsoft presents as the benefits of tying could be achieved in the absence of Microsoft tying Internet Explorer with Windows.

#### 4.3.1.2.2 Alleged absence of incentives to foreclose

(398) Microsoft implicitly contends that it has no incentive to foreclose the market of web browsers for client PC operating systems, by stating that " *[...] Opera itself (as well as other third party Internet browsers) directly benefits from the integration of Internet browser functionality in Windows.*" and asserting that " *[...] [T]he existence of Internet browser functionality in Windows is essential for [rival web browsers] to obtain distribution.*"<sup>399</sup>

(399) However, as detailed before (see section 4.3.1.1.4.1.1), pre-installation of the web browser through tying is an unmatched distribution channel. The argument does therefore not appear relevant regarding a conduct that has taken place for more than ten years and which has allowed Microsoft to shield itself from effective competition. The Commission will, nevertheless, show that Microsoft has incentives to foreclose the market.

<sup>398</sup> Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, at paragraphs 1152 and 1153.  
<sup>399</sup> See Microsoft's submission of 27 March 2008, on page 7.