

they do not perform the same tasks. Moreover, web browsers can not run directly on hardware. They are not designed to control the basic functionalities of the hardware of a computer (not only the hard drive but also the motherboard, the processor).<sup>168</sup> There is therefore a need for a layer of software between the hardware and the web browser. This layer of software is precisely the client PC operating system.

- (143) Web browsers can therefore not be considered as substitutes to the client PC operating system.

#### 4.1.1.1.1.5 Conclusion

- (144) In conclusion, there are no realistic substitutes on the demand-side for client PC operating systems.

#### 4.1.1.1.2 Supply-side substitutability

- (145) Supply-side substitutability may also be examined when defining markets in situations in which its effects are equivalent to those of demand substitution in terms of effectiveness and immediacy (see paragraph (130) above). In this context, it has to be determined whether in response to a small but significant and non-transitory increase of price, undertakings active outside the market for client PC operating systems could easily switch production into client PC operating systems in order to compete more intensely on that market.
- (146) It should be highlighted that developing a new operating system is very costly and time consuming. This is because modern operating systems are very large and sophisticated software products. For example, Windows XP includes several tens of millions of lines of code.<sup>169</sup> Any undertaking which might account for such supply-side substitutability needs to already have access to and the ability to modify the source code of an operating system in order to be able to switch production effectively and immediately to PC operating systems. Therefore, the analysis of supply-side substitutability can be restricted to other operating systems.
- (147) The production of software is subject to increasing returns at all output levels. Nearly all of the costs of producing software are fixed costs related to the development of an initial/new version of a software product (that is to say, upfront costs). Therefore, whilst these fixed development costs will be high, once

<sup>168</sup>

See above at paragraphs (57) to (60) for a description of web browsers.

<sup>169</sup>

See 2004 Decision, at recital (335) and fn. 423.

the initial version has been developed and tested, the marginal cost of producing an extra copy will be very low.<sup>170</sup>

- (148) However, to enter the client PC operating system market, the operating system vendor would have to overcome significant barriers to entry.
- (149) From a marketing perspective, the vendor would need to persuade OEMs that there would be consumer demand for its operating system to be installed on client PCs. To do so, it would have to engage in aggressive advertising of its product as a client PC operating system. This would entail significant costs and expenses, since its product was not on the market before, and familiarity with a given "look and feel" is of paramount importance for many customers.<sup>171</sup>
- (150) From a technical perspective, operating systems for other devices (for example, servers, other client devices) would need to be considerably modified in order to take advantage of the capabilities of a different hardware, and would not offer the rich and easy-to-use user interface that is necessary for client PC operating systems. As a consequence, it would be necessary to modify the source code of the operating system to adapt it to the client PC operating system market. Such a process constitutes a significant investment, involves taking a significant commercial risk and relates to a time frame that would be longer than what is normally considered under supply-side substitution.<sup>172</sup>
- (151) Finally, the demand for such a new client PC operating system will be small if it is not able to support a large number of applications. A customer will not buy (and an OEM will not distribute) an operating system if no (or very few)

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<sup>170</sup> See for example [http://harvardbusinessonline.hbsp.harvard.edu/hbsp/hbr/articles/article.jsp?articleID=98610&ml\\_action=get\\_article&print=true](http://harvardbusinessonline.hbsp.harvard.edu/hbsp/hbr/articles/article.jsp?articleID=98610&ml_action=get_article&print=true), printed on 7 January 2009.

<sup>171</sup> See 2004 Decision, at recital (338) and fn. 424.

<sup>172</sup> Even for Microsoft, which is not only present, but dominant on the client PC operating system market (see section 4.2), the development of a new version from the beginning of the programming work to the release to market has as a rule been much longer than a year. For instance, for Windows XP, the beta testing period alone took more than a year, namely from October 2000 to October 2001. See Microsoft's press release *Microsoft Delivers First Beta Release of Next Version of Windows, Code-Named "Whistler"*, printed from <http://www.microsoft.com/presspass/press/2000/Oct00/Whistler1PR.asp> on 27 November 2008 and Microsoft's press release *Windows XP is Here!*, printed from <http://www.microsoft.com/presspass/press/2001/oct01/10-25XPOverallPR.asp> on 23 October 2008. The commercial version of Windows Vista was launched on 30 November 2006 for business customers and 30 January 2007 for consumers after more than one year of beta testing: the first beta version was released on 27 July 2005, and the second beta version on 8 June 2006. See Microsoft's *Media Alert: Microsoft Announces Release of Windows Vista Beta 1*, printed from <http://www.microsoft.com/presspass/press/2005/jul05/07-27VistaBeta1MA.msp> on 14 November 2008 and "Windows beta 2 public release" printed from <http://windowsteamblog.com/blogs/windowsvista/archive/2006/06/08/434124.aspx> on 14 November 2008.

applications are able to run on it. Therefore, any company wishing to switch resources into client PC operating systems would have to simultaneously develop a critical mass of applications that would be able to run on this platform. This is prohibitively expensive and time consuming. As outlined below in paragraphs (197) to (209), no company at this time has the technical skills or the financial means to overcome that barrier.

- (152) In conclusion, software developers not producing client PC operating systems would not be able to switch their production to client PC operating systems without incurring significant additional costs and risks, and the timeframe for such switching of resources would go significantly beyond that which is relevant when examining supply-side substitutability.

#### 4.1.1.1.3 Conclusion

- (153) In light of the above, by reason of its specific characteristics and the lack of realistic substitutes, the market for operating systems for client PCs constitutes a relevant product market for the purposes of this Statement of Objections.

#### 4.1.1.2 Web browsers for client PC operating systems

- (154) As outlined above, web browsers are client-side software applications, the core functionality of which is to allow users to access and interact with content of the web. As with other application software, a web browser consists of a Graphical User Interface and the underlying technology, that is to say, the software code which enables the functionality of the product.

##### 4.1.1.2.1 A web browser is a product distinct from an operating system

- (155) As will be shown below in paragraphs (227) to (254), web browsers are products distinct from client PC operating systems. There is separate customer demand for web browsers. This is *inter alia* demonstrated by the existence of stand-alone web browser software that can be installed on PCs on top of operating systems and by the existence of software vendors specialised in supplying web browsers but not operating systems (such as Opera). As explained in paragraphs (247) and (248) below, the fact that users expect to be able to access web content on their computer does not imply that the operating system and a web browser constitute one product.

##### 4.1.1.2.2 Demand side substitutability

- (156) In order to assess the relevant market, according to the Commission Notice on the definition of the relevant market for the purpose of Community competition law,

*"[...] the question to be answered [as regards demand-side substitutability] is whether the parties' customers would switch to readily available substitutes or suppliers located elsewhere in response to a hypothetical small (in the range of 5% to 10% ) but permanent relative price increase in the products and areas being considered".*

- (157) It is possible to download several web browsers for client PC operating systems free of charge from the internet. The question to be answered here is thus whether users would switch to any substitutes such as web browsers for other devices if a small fee were charged for web browsers for client PC operating systems. The functionality, the implementation and the price of potential substitutes must be examined in order to answer this question.
- (158) As regards users, the primary purpose of a web browser is to display web pages and access web-based applications from a network, either a local area network or through the internet, and to access online services such as e-commerce. Web browsers are used for both leisure and business purposes. In order for consumers to consider other web browsers as substitutes, they must have the same purpose and offer the same functionalities.
- (159) As established in paragraphs (100) to (102), not only PCs but also embedded devices are often sold with web browsers pre-installed.
- (160) However, web browsers for television sets cannot be used in a business context, since they are primarily designed for entertainment purposes, such as movie downloading, video watching, and picture sharing.<sup>173</sup> Although some products are also sold with a wireless keyboard, the user usually accesses web pages by means of a remote control as opposed to a keyboard. Such products can therefore not be seen as substitutes for web browsers for client PC operating systems usable for both business and leisure.
- (161) Web browsers for smart phones or personal digital assistants ("PDAs") operating systems offer considerably fewer features than web browsers for client PC operating systems. They usually do not offer tabbed browsing or content blocking. On the other hand, they do offer features that are useless on client PCs such as the ability to view pages in a landscape mode or, as some web browsers for mobile phone operating systems do, give the embedded device a virtual mouse. They do not provide the same experience to users as web browsers for client PC operating systems. Moreover, in order to be considered as potential substitutes, those other web browsing products should be easy to install on top of

<sup>173</sup>

See for example <http://www.apple.com/appletv/whatis.html> and <http://www.msntv.com/pc/experience/>, both printed on 18 November 2008.

a client PC operating system. However, the aforementioned web browsers are designed to run on operating systems for embedded devices whose APIs are different from those of operating systems for client PCs. Consequently, web browsers for embedded device operating systems cannot be downloaded and installed as such by customers on top of a client PC operating system.

(162) It must also be noted that the business models of web browsers for client PC operating systems and of web browsers for embedded device operating systems are different. Indeed, unlike virtually all web browsers for client PC operating systems, some web browsers for embedded device operating systems are not free of charge.

(163) There is therefore no available substitute for web browsers for client PC operating systems as regards demand-side substitutability. Only web browsers for client PC operating systems with similar functionalities exert competitive constraints on each other.

#### 4.1.1.2.3 Barriers to entry

(164) It often requires a highly qualified workforce to develop software, which may be a quite lengthy and costly operation. However, in the case of web browsers, the impact of open source development must be taken into account. Several of the most commonly used web browsers are open source products or make use of open source building blocks. This makes it very easy to develop something which will appear to consumers as a "new" web browser, i.e. by forking<sup>174</sup> from an existing web browser and modifying the visible characteristics of the resulting web browser to distinguish it from others.

(165) However, this purely technical argument does not mean that web browser vendors have to be concerned about the imminent entry of other software companies in their market. This is because there are barriers to entry into the client PC web browser market which are rooted in commercial considerations.

(166) First, all main web browser vendors today offer their web browsers to end consumers as free downloads. This predominant business model makes it very difficult for a new entrant to derive any direct revenue from licences or sales of a web browser.

(167) As has been shown in paragraphs (115) to (119), there are different indirect ways of generating revenue for web browser vendors.

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<sup>174</sup> See fn. 103 for an explanation of "forking".

- (168) Some vendors (e.g. Microsoft, Apple) bundle web browsers and client PC operating systems. This business model is, however, largely irrelevant for any prospective entrant in the web browser market only as it presupposes the willingness of a major PC operating system vendor to bundle third party software with its operating system.
- (169) Other business models depend on network effects. Microsoft profits from the sales of the tools it offers for developing web content optimised for Internet Explorer. These network effects can, however, only play out for a vendor who already has achieved a strong market position, but not for a new entrant.
- (170) As outlined in paragraphs (116) and (117), other vendors rely on distribution agreements with search engine providers such as Google. However, a new entrant would probably not be able to strike such deals given that such agreements are hardly interesting for search engine providers before a minimum market share has been reached.
- (171) Google's recent entry in the market for web browsers cannot be used as an indication either that this market is easy to enter. Google's browser Chrome has not yet seen a significant uptake (see paragraph (318)). This is despite Google possessing the most attractive search engine worldwide which is visited by millions of users daily and on which Google advertises its web browser for download. Furthermore, Google is not dependent on the business success of its web browser. In fact, other considerations may justify Google's investment, i.e. to provide a browser that can optimally work together with Google's online service offerings.
- (172) Second, it is also difficult to see how a new entrant on the market for web browsers could attain the necessary market share to make the effort worthwhile. As every web user already has a web browser, it would not be sufficient to offer a new web browser that is just as good as the web browser already available. Indeed, a new offer would have to be significantly better in order to overcome users' inertia and to make them switch.<sup>175</sup>
- (173) Moreover, the products of new entrants to the market for web browsers would probably only be available through downloading or on CD-ROMs in computing magazines (see paragraphs (110) to (113)). As will be established at paragraphs (289) to (303), these distribution channels are less effective than the bundling of browsers with client PC operating systems. Moreover, new entrants would need

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<sup>175</sup> Even a web browser such as Google Chrome, the release of which has also been widely publicised, has not been able to reach a significant market share over several months (see paragraph (318)).

to incur significant marketing costs to inform consumers about their products and to reassure them about their functionality and security features.

#### 4.1.1.2.4 Conclusion

- (174) In light of the above, by reason of its specific characteristics and the lack of realistic substitutes, the market for web browsers for client PC operating systems constitutes a relevant, separate product market.

#### 4.1.2 The relevant geographic market

- (175) According to the Commission Notice on the definition of the relevant market for the purposes of Community competition law, a relevant geographic market is defined as follows:

*"The relevant geographic market comprises the area in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those areas."*<sup>176</sup>

- (176) The relevant geographic market for client PC operating systems and web browsers for client PC operating systems is world-wide. The objective conditions for competition are essentially the same across the world. PCs are manufactured by a large number of companies that operate on a world-wide scale such as Lenovo, Hewlett-Packard, or Dell. In order to sell computers with the operating system (and a web browser) already installed, such manufacturers obtain the necessary licences from the software manufacturers. Generally, a single world-wide licence agreement is entered into between the computer manufacturer and the software manufacturer. The computers are then sold on a world-wide scale. Neither import restrictions, transport costs nor technical requirements constitute significant limitations. Language-specific demand characteristics regarding the relevant software exist but, in so far as the supply-side is concerned, do not constitute an obstacle for swift supply on a global basis in accordance with language-related preferences. The relevant geographic market is worldwide.

## 4.2 Dominant position in the client PC operating system market

- (177) A dominant position under Article 82 EC has been defined by the Court of Justice of the European Communities ("ECJ") as

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<sup>176</sup> Commission notice on the definition of relevant market for the purposes of Community competition law (OJ C 372, 9.12.1997, p. 5).

"[...] a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, its customers and ultimately of the consumers".<sup>177</sup>

#### 4.2.1 Market shares

(178) Both third party and Microsoft estimates of market shares and the evidence gathered during the investigation highlight the extraordinary position of Microsoft in the market for client PC operating systems.

(179) In 2006, according to IDC<sup>178</sup>, Microsoft's worldwide market share in terms of *Worldwide Shipments of Client Operating System* was 92.0% and had been up to 93.6% in 2004.<sup>179</sup> If operating systems for x86-compatible PCs are looked at (see paragraph (134) above), Microsoft holds a comparable share of the market. IDC estimates Microsoft's market share in 2005 was 91.8% when excluding the Macintosh operating system which at that time was not x86-compatible.<sup>180</sup>

(180) Moreover, Microsoft's extremely high market shares have not come about only recently. The Finding of Facts of the Court for the District of Columbia of 5 November 1999 state in paragraph 35 that:

*"Every year for the last decade, Microsoft's share of the market for Intel-compatible PC operating systems has stood above ninety percent. For the last couple of years the figure has been at least ninety-five percent"*<sup>181</sup>

According to IDC, Microsoft had a market share over 90% in the years after 2000.<sup>182</sup>

(181) Microsoft argues that IDC's data do not reflect the reality of the market because IDC does not take into account *"the growing popularity of Linux and open source*

<sup>177</sup> See Case 27/76 *United Brands v Commission* [1978] ECR 207, at paragraph 65.

<sup>178</sup> International Data Corporation describes itself as *"the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets"*. See <http://idc.com/about/about.jsp;jsessionid=XSBEZDGI1GOTQCOJAFICFFAKBEAUMIWD>, printed on 23 October 2008. IDC data for 2007 are not available yet.

<sup>179</sup> See Microsoft's submission of 5 March 2008, page 3, reply to question 1. Source: IDC Report *"Worldwide Client and Server Operating Environments 2007-2010 Forecast and Analysis: Don't Count Anybody Out Yet"*, February 2007.

<sup>180</sup> See Microsoft's submission of 5 March 2008, page 3, reply to question 1. Source: IDC Report *"Worldwide Client and Server Operating Environments 2007-2010 Forecast and Analysis: Don't Count Anybody Out Yet"*, February 2007. 2005 was the last year Apple only sold non-x86 compatible PCs. In 2006, it sold a mix of x86-compatible and non-x86 compatible PCs, thus making any difference between the two market definitions less relevant.

<sup>181</sup> See Findings of Fact of 5 November 1999, United States District Court for the District of Columbia, *United States v Microsoft Corporation*, Civil Action No. 98-1232 and 1232 (TPJ), at paragraph 35.

<sup>182</sup> See Microsoft's submission of 5 March 2008, page 3, reply to question 1.



software, which are available for free".<sup>183</sup> Microsoft thus makes its own estimates of market shares of operating systems pre-installed on new PCs, not including copies distributed on a "standalone" basis. As a basis of comparison with the previous figures, Microsoft estimates its worldwide market share at 68.6% in 2006 and Linux' market share at 3.1%.<sup>184</sup>

(182) As regards Europe, Microsoft's estimate of its own market share is 77.4% for its FY 2006<sup>185</sup>. Microsoft estimates an increase to 78.4% for its FY 2007 and 81.2% for its FY 2008.<sup>186</sup>

(183) Microsoft's share of the market, no matter whether IDC's or Microsoft's own estimates are used, only allows for fringe competition. The main alternative to Microsoft's client PC operating system product would be Apple's Mac OS. According to Microsoft's estimates, in Microsoft's fiscal year 2004, this client PC operating system held a market share of 1.5% in Europe and 2.0% worldwide.<sup>187</sup> According to Microsoft, this share will have increased to 2.6% in Europe and to 3.1% worldwide in its fiscal year 2008. According to IDC data, Apple enjoyed a slightly higher market share of 3.7% in 2004. Table 4 and 5 summarise Microsoft's estimates of its market share of operating systems installed on new PCs and those of its competitors since Microsoft's fiscal year 2004 in Europe and worldwide:

**Table 4: Market shares of operating systems installed on new PCs in Europe since Microsoft's FY2004 (%)**<sup>188</sup>

Operating system	FY2004	FY2005	FY2006	FY2007	FY2008
Windows	73.1	75.8	77.4	78.4	81.2
Linux	1.2	1.5	1.6	1.7	1.7
Apple	1.5	1.7	2.0	2.3	2.6
Unlicensed/Other OS	24.2	20.9	19.1	17.5	14.5

<sup>183</sup> See Microsoft's submission of 5 March 2008, page 1, reply to question 1.

<sup>184</sup> See Microsoft's submission of 5 March 2008, page 4, reply to question 1. Source: Microsoft PCMIT team database.

<sup>185</sup> Microsoft's fiscal year N runs from 1 July of civil year N-1 to 30 June of civil year N.

<sup>186</sup> See Microsoft's submission of 5 March 2008, page 4, reply to question 1. Source: Microsoft PCMIT team database.

<sup>187</sup> See Microsoft's submission of 5 March 2008, page 4, reply to question 1. Source: Microsoft PCMIT team database.

<sup>188</sup> See Microsoft's submission of 5 March 2008, page 4, reply to question 1. Source: Microsoft PCMIT team database.

Table 5: Market shares of operating systems installed on new PCs worldwide since Microsoft's FY2004 (%)<sup>189</sup>

Operating system	FY2004	FY2005	FY2006	FY2007	FY2008
Windows	68.5	68.0	68.6	69.3	71.9
Linux	2.2	2.9	3.1	3.6	3.7
Apple	2.0	2.2	2.3	2.7	3.1
Unlicensed/Other OS	27.3	26.9	26.0	24.3	21.3

(184) Very large market shares, of over 50%, have been considered in themselves, and but for exceptional circumstances, evidence of the existence of a dominant position.<sup>190</sup> Market shares between 70% and 80% have been held to warrant such a presumption of dominance.<sup>191</sup> Microsoft holds worldwide market shares of around 70% (Microsoft estimates) or 90% (IDC estimates) and market shares of around 80% in Europe (Microsoft estimates).

#### 4.2.2 Continuity of Microsoft's market power

(185) As has been highlighted in paragraphs (179) to (183), Microsoft has held very high market shares in the client PC operating system market for many years.

(186) An analysis which takes into account the dynamic factors at play in the software industry nevertheless needs to be undertaken. Given Microsoft's near-ubiquity in the product market as a whole, any changes that it introduces in a more recent version of its client PC operating system will very soon be the reference standard for the market as users upgrade to newer versions.

(187) In industries exhibiting strong network effects, consumer demand depends critically on expectations about future purchases. If consumers expect a firm with a strong reputation in the current (product) generation to succeed in the next generation, this will tend to be self-fulfilling as the consumers direct their purchases to the product that they believe will yield the greatest network gains.<sup>192</sup> The question for Windows users then is not so much *if* they should migrate to newer versions of Windows, but *when* to do so.<sup>193</sup> Even customers who do not

<sup>189</sup> See Microsoft's submission of 5 March 2008, page 4, reply to question 1. Source: Microsoft PCMIT team database.  
<sup>190</sup> See Case C-62/86 *Akzo v Commission* [1991] ECR I-3359, at paragraph 60 and Case T-228/97, *Irish Sugar v Commission* [1999] ECR II-2969, at paragraph 70.  
<sup>191</sup> Case T-30/89, *Hilti v Commission* [1991] ECR II-1439, at paragraph 89, confirmed by the Court of Justice in Case-53/92 P [1994] ECR I-667.  
<sup>192</sup> See 2004 Decision, at recital (438) and fn. 562.  
<sup>193</sup> See 2004 Decision, at recital (438) and fn. 563.

immediately plan to migrate their client PCs to newer versions of Windows will factor in their anticipated platform in their current purchasing decisions concerning complementary (for example, server-side) software.<sup>194</sup>

- (188) Microsoft uses various levers to favour the migration towards new versions: providing an easy migration path by ensuring "backward-compatibility", which guarantees, for example, that successive versions of Windows retain the ability to run key applications developed for earlier versions; advocating to software developers the use of new features of the Windows platform, which means that, increasingly, the most recent applications will no longer run in fully compatible mode on older versions of Windows, and eventually, discontinuing support for previous versions of the operating system.
- (189) This trend is in line with the data obtained from IDC. Within the Windows range, the increasing take-up of first Windows 2000, and then Windows XP on the PC is clearly demonstrated.

**Table 6: Evolution of new Windows PC licence shipments (in thousands)**

Operating system	2000	2001	2002	2003 <sup>195</sup>
Windows 95	12,685	2,200	200	20
Windows 98	60,088	21,400	9,800	2,017
Windows Me	2,239	26,700	100	1
Windows NT	13,681	4,300	300	101
Windows 2000	9,513	34,100	25,200	8,068
Windows XP	-	14,500	78,200	110,991
<b>Total Windows</b>	<b>98,206</b>	<b>103,200</b>	<b>113,800</b>	<b>121,198</b>
<b>Windows 2000 or XP share</b>	<b>9.7%</b>	<b>47.1%</b>	<b>90.9%</b>	<b>98.2%</b>

Source: IDC Worldwide Windows Client Operating Environments, 2002-2007

- (190) As regards Windows Vista, Microsoft stressed in financial analysts meetings in 2008 that it has:

*"[...] 100 million plus users going up to Windows update on Windows Vista every month" and that it had sold 180 million licenses at the end of FY 2008 "[...] very balanced across both consumer and enterprise".<sup>196</sup>*

Microsoft stopped licensing Windows XP to OEMs and directly through retail on 30 June 2008<sup>197</sup>, and will stop licensing it to system builders on 30 January 2009.<sup>198</sup>

<sup>194</sup> See 2004 Decision, at recital (438) and fn. 564.

<sup>195</sup> The 2003 figures are forecasts.

<sup>196</sup> See <http://www.microsoft.com/msft/speech/FY08/VeghteFAM2008.mspx>, printed on 23 October 2008.

<sup>197</sup> As regards ultra low-cost PCs, this deadline is postponed up to the later of either 30 June 2010 or one year after the general availability of the next version of Windows. See <http://www.microsoft.com/windows/lifecycle/default.mspx>, printed on 23 October 2008.

<sup>198</sup> See <http://www.microsoft.com/windows/lifecycle/default.mspx>, printed on 23 October 2008.

Microsoft thus gradually imposes the take-up of Windows Vista in PC licence shipments.

- (191) In summary, Microsoft has enjoyed an enduring stability and continuity of its market power in the client PC operating system market.

#### 4.2.3 Barriers to entry

- (192) The nature of the barriers to entry in the client PC operating system market serves to reinforce the conclusion that Microsoft holds a dominant position in this market. These barriers to entry derive from the network effects in the market.

- (193) The regular daily use of a client PC involves running applications on it. The overall utility that a consumer derives from a client PC operating system therefore depends on the applications he can use on it and that he expects to be able to use on it in the future. Conversely, Independent Software Vendors ("ISVs") write applications to the client PC operating systems that are most popular among users.<sup>199</sup> In other words, the more popular an operating system is, the more applications will be written to it and the more applications are written to an operating system, the more popular it will be among users.<sup>200</sup>

- (194) This mechanism, which can be formalised in terms of indirect network effects, more generally applies to platform software, that is to say, software that exhibits APIs that can be used by applications. ISVs will develop to the platform that enables them to reach the highest possible number of users. The higher the number of users of a given platform, the greater the number of ISVs that write to that platform. In turn, there will be a greater number of applications available for the platform, and the utility derived by computer users who deploy this platform will be higher.

- (195) In his testimony before the US District Court on 18 April 2002, Microsoft's Chairman Bill Gates described this network effect dynamic:

*"Early on, [Microsoft] recognized that [, as] more products became available and more information could be exchanged, more consumers would be attracted to the platform, which would in turn attract more investment in product development for the platform. Economists call this a 'network effect', but at the time we called it the 'positive feedback loop'."*<sup>201</sup>

<sup>199</sup> This applies to all applications, be it mass-market ones such as word-processing, or more niche-level applications.

<sup>200</sup> See 2004 Decision, at recital (449) and fn. 571.

<sup>201</sup> Direct Testimony of Bill Gates, Civil Action No. 98-1233 (CKK), at paragraph 25. See <http://www.microsoft.com/presspass/download/legal/RemediesTrial/billgates.pdf>, printed on 23 October 2008.

- (196) The degree of ubiquity that Windows has attained on client PCs has been described in paragraphs (178) to (183). The quasi-totality of commercial applications written for client PCs are therefore written to Windows as a platform.<sup>202</sup>
- (197) Although in theory possible, it would be extremely difficult, time-consuming, risky and expensive to develop an alternative client PC operating system, with *a priori* no application able to run on it, because users are very unlikely to buy an operating system without a wide range of applications already available, tested and used by other people. Therefore, for a new operating system product to enter the client PC operating system market, it would be necessary that such a product is either able to support a critical mass of existing Windows-dependent applications, or a comparable critical mass of applications already written for the new platform.
- (198) As regards the Windows-dependent applications, these are applications developed to use and to rely on Windows APIs. As such, it would be necessary to implement the almost complete Windows APIs on the new client PC operating system product. Microsoft does not disclose a specification for its APIs and it would thus be necessary to reverse-engineer the relevant specifications.
- (199) Such an option is not commercially viable. As Sun has previously put it:

*"As testament to the practical impossibility of reverse engineering all of these connections, the market reveals no company which has succeeded in such a reverse engineering effort. The barriers and costs are competitively prohibitive. The Win32 API set alone, for example, includes over 2500 separate interfaces, each of which implicates a series of actions which take place somewhere within the over 40 million lines of compiled source code that makes up the Microsoft Windows operating systems. [...]"*

*Several years ago, Sun embarked on an ambitious program called 'WABI' designed to reverse engineer the then-existing Win32 APIs so that Sun's operating system could serve as a platform for software applications written to the Microsoft Environment. After dedicating millions of dollars and years of engineering to reverse engineer a much less complex version of Microsoft Windows NT, Sun abandoned the project after it became clear that a successful implementation of the APIs was unobtainable and economically unfeasible."<sup>203</sup>*

<sup>202</sup>

See 2004 Decision, at recital (452) and fn. 573.

<sup>203</sup>

See 2004 Decision, at recital (455) and fn. 574. (Sun's submission of 10 November 1999, Case IV/C-3/37.345, p. 3869-3870).

(200) More recently, another attempt was made to reverse-engineer Windows APIs. Wine<sup>204</sup> is an open source implementation of the Windows APIs, entirely made of non-Microsoft code. It can be seen as a new layer on top of the client PC operating system that enables some Windows applications such as Microsoft Office or Windows Media Player to run on top of UNIX-based client PC operating systems (including Mac OS X and Linux).

(201) However, it must be mentioned that Wine was first released in June 2008 after 15 years of development,<sup>205</sup> which corroborates the example of Sun's WABI project with respect to the difficulty of reverse-engineering Windows APIs. Furthermore, being an open source project, Wine is not subject to any commercial constraints.

(202) Both of these examples are echoed by that of IBM, to which the US District Court points in discussing the difficulty of reverse-engineering the Win32 API:

*"in late 1994, [...] IBM introduced its Intel-compatible<sup>206</sup> OS/2 Warp operating system and spent tens of millions of dollars in an effort to attract ISVs to develop applications for OS/2 and in [a failed] attempt to reverse-engineer [...] part of the Windows API set".<sup>207</sup>*

(203) The example of IBM also shows that "breaking" Microsoft's "positive feedback loop" by convincing software developers to develop to an alternative platform is not a viable option either. Following the introduction of its x86-compatible OS/2 Warp operating system product, IBM undertook considerable efforts to convince application developers to adopt this as an alternative platform to Windows. Despite the financial resources and technical ability of IBM, OS/2 never obtained more than 10% of the market and hence never succeeded in effectively challenging Microsoft's leadership in the market for client PC operating systems.<sup>208</sup> IBM no longer markets a client PC operating system.

(204) In essence, the dynamic between the Windows client PC operating system and the large body of applications that is written to it is self-reinforcing. In other words, applications developers have a compelling economic incentive to continue writing applications for the dominant client PC operating system platform (that is to say, Windows) because they know that the potential market will be larger.

<sup>204</sup> See <http://www.winehq.org/>, printed on 12 November 2008.

<sup>205</sup> See <http://www.winehq.org/?announce=1.0>, printed on 12 November 2008.

<sup>206</sup> "Intel-compatible" refers to "x86-compatible"

<sup>207</sup> See Findings of Fact of 5 November 1999, United States District Court for the District of Columbia, *United States v Microsoft Corporation*, Civil Action No. 98-1232 and 1232 (TPJ), at paragraph 46.

<sup>208</sup> See Findings of Fact of 5 November 1999, United States District Court for the District of Columbia, *United States v Microsoft Corporation*, Civil Action No. 98-1232 and 1232 (TPJ), at paragraph 46.

- (205) In conclusion, the "positive feedback loop" protects Microsoft's high market shares in the client PC operating system market from effective competition from a potential new entrant. The term "applications barrier to entry" has been coined to describe this phenomenon.<sup>209</sup>
- (206) Microsoft considers that "[...] *the necessary investment to become an entrant in the business of providing operating systems running on Intel-compatible PCs is minimal*"<sup>210</sup>, given that Linux products are open source software products and can thus be copied and modified at no charge. Microsoft estimates that several hundred new operating system products were offered on the market during the last ten years.
- (207) Nevertheless, the fringe competition constituted by Linux is a case in point. Linux, which has been developed under the open source model, can be technically pre-installed on PCs at virtually no cost by OEMs. Whilst the first versions of Linux were fairly difficult to use for non-technicians, the product is widely considered to have matured at the end of the 1990s<sup>211</sup> and now there is no significant difference in terms of ease of use between Windows and most commercial Linux operating systems.<sup>212</sup> Microsoft's financial performance on the market, however, does not seem to have been affected by the emergence of such a rival. Microsoft has not substantially altered its pricing policy and business model, and it has remained very successful. According to Microsoft, more than half of the Linux operating systems that entered the market during the last 10 year are not maintained any more today.<sup>213</sup>
- (208) To assess the competitive constraints exerted on a given product, it must be assessed whether competitors could enter the market in a sufficient manner, that is to say that they are not limited to niche-markets. Only one of the seven major OEMs ships a non-insignificant proportion (over 5%) of PCs with a non-Windows operating system preinstalled.<sup>214</sup> Microsoft's competitors thus only

<sup>209</sup> See Findings of Fact of 5 November 1999, United States District Court for the District of Columbia, *United States v Microsoft Corporation*, Civil Action No. 98-1232 and 1232 (TPJ), at paragraph 37 *et seq.*

<sup>210</sup> See Microsoft's submission of 5 March 2008, page 4, reply to question 2.

<sup>211</sup> See for example [http://www.livinginternet.com/i/iw\\_unix\\_gnulinix.htm](http://www.livinginternet.com/i/iw_unix_gnulinix.htm), printed on 7 January 2009.

<sup>212</sup> See for example <http://www.theage.com.au/news/Breaking/Ease-of-use-Linux-not-far-behind-Mac-Windows/2005/02/03/1107228811604.html>, printed on 7 January 2009.

<sup>213</sup> See Microsoft's submission of 5 March 2008, page 4, reply to question 2: "*a check of the linux.org website for Linux distributions that run on Intel-compatible PCs listed 424 entrants in the business of providing operating systems running on Intel-compatible PCs, 208 of which are being currently maintained*".

<sup>214</sup> Lenovo, which used to sell some PCs with Linux pre-installed, confirmed that it was ending this offer as regards the consumer segment. See <http://practical-tech.com/infrastructure/lenovo-exits-pre-installed-linux-desktop-business/>, printed on 23 October 2008.

have a very limited access to the main distribution channel for operating systems.<sup>215</sup>

- (209) Even if the development costs in order to enter the market of operating systems were minimal (*quod non*), other barriers to entry, such as the network effect would therefore deter potential entrants.
- (210) There is significant evidence that the protection granted by the applications barrier to entry enables Microsoft to behave to a very large extent independently of its competitors, its customers and ultimately of consumers.
- (211) Microsoft can indeed behave independently of its direct customers, the OEMs. Windows appears as a must-have product for a client PC vendor. It has to be recalled that Microsoft enjoys extremely high market shares. During Microsoft's fiscal year 2008, 71.9% of new client PCs worldwide were shipped with a Windows operating system, 3.1% with an Apple operating system and 3.7% with a Linux-based operating system.<sup>216</sup> Microsoft only faces fringe competition.
- (212) One of the most striking examples of the existence of high barriers to entry into that market is IBM at the time it was a PC OEM. Although IBM developed its own operating system for client PCs, it was nevertheless obliged to offer its own PCs equipped with the operating system of its direct competitor, Microsoft.
- (213) In fact, Microsoft can behave independently of its customers. Microsoft is fully aware of this, as is shown by the following excerpts from Microsoft's internal communication:

*"The Windows API is so broad, so deep, and so functional that most ISVs would be crazy not to use it. And it is so deeply embedded in the source code of many Windows apps that there is a huge switching cost to using a different operating system instead. [...]"*

*It is this switching cost that has given customers the patience to stick with Windows through all our mistakes, our buggy drivers, our high TCO [total cost of ownership], our lack of a sexy vision at times, and many other difficulties. [...] Customers constantly evaluate other desktop platforms, [but] it would be so much work to move over that they hope we just improve Windows rather than force them to move.*

<sup>215</sup> As the Court of First Instance noted in *Microsoft* "[...] the vast majority of sales of Windows client PC operating systems are made through OEMs, that is to say, by means of licences purchased when a client PC is purchased, while only 10% of sales of those systems are generated by the sale of individual Windows licences.", Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, at paragraph 962.

<sup>216</sup> See Microsoft's submission of 5 March 2008, page 4, reply to question 1. Source: Microsoft PCMIT team database.



*In short, without this exclusive franchise called the Windows API, we would have been dead a long time ago.*<sup>217</sup>

*"The Windows franchise is fueled by application development which is focused on our core APIs"*<sup>218</sup>

- (214) Microsoft's financial performance is consistent with its near-monopoly position in the client PC operating system market. Since 2002, Microsoft has been splitting its turnover and profit figures into product segments. With respect to the US fiscal year 2008 (year ending 30 June 2008), Microsoft generated revenues of USD 16,865 billion, resulting in an operating income of USD 13,052 billion for its Windows PC client operating system range of products (which essentially makes up the Microsoft's "Client" product segment).<sup>219</sup> This means that for its client PC operating system product, Microsoft operated on a profit margin<sup>220</sup> of approximately 77%.<sup>221</sup> This is high by any measure.

#### 4.2.4 Conclusion

- (215) In the light of Microsoft's very high market shares, and the high barriers to entry in the market, the Commission preliminarily concludes that at least since 1996, Microsoft has a dominant position within the meaning of Article 82 EC on the market for operating systems for client PCs. An alternative market definition, excluding non-x86-compatible operating systems, leads *a fortiori* to the same result, as the relevant market shares are even higher.
- (216) Microsoft has been dominant in this relevant market since at least 1996 when it held a market share of 76.4%.<sup>222</sup> Its market share was already at a high level prior to that date and has consistently grown since then. Microsoft's dominance has therefore been strong and durable. Microsoft's dominance presents extraordinary features in that Windows (in its successive forms) is not only a dominant product on the relevant market for client PC operating systems, but it is the *de facto* standard operating system product for client PCs.<sup>223</sup> Microsoft has not contested

<sup>217</sup> See 2004 Decision, at recital (463) and fn. 579. (Internal Microsoft memo drafted for Bill Gates by C++ General Manager Aaron Contorer dated 21/02/97 - see Sun's submission on evidentiary material dated 11 August 1999 at Tab. 2. (Case IV/C-3/37.345 page 3704).

<sup>218</sup> See 2004 Decision, at recital (463) and fn. 580. (Internal memo from Senior Vice President Bob Muglia to Developer Tools Division dated 16 August 1996. See Sun's submission on evidentiary material dated 11 August 1999 at Tab. 4 (case IV/C-3/37.345 pages 3657-3660).

<sup>219</sup> See [http://www.microsoft.com/msft/earnings/FY08/earn\\_rel\\_q4\\_08.msp](http://www.microsoft.com/msft/earnings/FY08/earn_rel_q4_08.msp), printed on 23 October 2008.

<sup>220</sup> Profits as a percentage of revenues.

<sup>221</sup> In other words, Microsoft recouped its costs to the tune of 521% (revenues as a percentage of costs).

<sup>222</sup> See 2004 Decision, at recital (472) and fn. 590.

<sup>223</sup> See 2004 Decision, at recital (472) and fn. 591.

that it has a dominant position on the market for operating systems for client PCs in the case leading to the 2004 Decision.<sup>224</sup>

### 4.3 Abuse

(217) The fact that an undertaking holds a dominant position is not in itself contrary to the competition rules. However, an undertaking enjoying a dominant position is under a special responsibility not to engage in conduct that may distort competition.<sup>225</sup>

(218) The Court of Justice defined the concept of abuse under Article 82 EC in the following terms:

*"The concept of abuse is an objective concept relating to the behaviour of an undertaking in a dominant position which is such as to influence the structure of a market where, as a result of the very presence of the undertaking in question, the degree of competition is weakened and which, through recourse to methods different from those which condition normal competition in products or services on the basis of the transactions of commercial operators, has the effect of hindering the maintenance of the degree of competition still existing in the market or the growth of that competition."*<sup>226</sup>

(219) In *Tetra Pak II*, the Court of Justice highlighted that the fact that a dominant company's abusive conduct has its adverse effects on a market distinct from the dominated one does not detract from the applicability of Article 82 EC.<sup>227</sup>

(220) In the following, Microsoft's tying of Internet Explorer with the Windows client PC operating system will be assessed pursuant to Article 82 EC.

#### 4.3.1 Tying of Internet Explorer with Windows

(221) The Commission's preliminary conclusion that Microsoft infringes Article 82 EC, in particular paragraph (d) thereof, by tying (or bundling) Internet Explorer with the Windows client PC operating system will be outlined in the following paragraphs (paragraphs (223) to (409)).

(222) Article 82 (d) EC provides that an abuse as prohibited by that Article may consist in making the conclusion of contracts subject to acceptance by the other parties

<sup>224</sup> Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, at paragraphs 854 and 870.

<sup>225</sup> See Case 322/81 *Michelin v Commission* [1983] ECR 3461, at paragraph 57; Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, at paragraph 229.

<sup>226</sup> Case 85/76 *Hoffmann-La Roche v Commission* [1979] ECR 461, at paragraph 91.

<sup>227</sup> Case C-333/94 P *Tetra Pak v Commission* ("Tetra Pak II") [1996] ECR I-5951, at paragraph 25.

of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts. Microsoft uses its dominance in the client PC operating systems market insofar as it ties Internet Explorer with Windows, that is, distributes Windows (the "tying" product) only together with Internet Explorer (the "tied" product).

4.3.1.1 Microsoft's conduct fulfils the constituent elements of a tying abuse under Article 82 EC

(223) Tying prohibited under Article 82 EC requires the presence of the following elements:

- (i) the tying and tied goods are two separate products;
- (ii) the undertaking concerned is dominant in the tying product market;
- (iii) the undertaking concerned does not give customers a choice to obtain the tying product without the tied product.
- (iv) the tying is liable to foreclose competition.<sup>228</sup>

(224) While according to the case-law the Commission can normally assume that the tying of a specific product and a dominant product has by its nature a foreclosure effect<sup>229</sup>, in this case, the Commission will examine more closely such effects.

(225) It will be shown in paragraphs (226) to (379) that Microsoft's conduct fulfils these constituent elements of tying. Furthermore, it will be shown at paragraphs (380) to (409) that the justifications brought forward by Microsoft so far for the tying of Internet Explorer cannot be accepted.

4.3.1.1.1 Microsoft is dominant in the client PC operating system market

(226) Microsoft's dominance in the market for client PC operating systems has been established above in Section 4.2.

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<sup>228</sup> Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, at paragraphs 842, 869 and 1058.  
<sup>229</sup> Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, at paragraph 868. See, to that effect, Commission Decision 88/138/EEC of 22 December 1987 relating to a proceeding under Article 86 of the EEC Treaty (IV/30.787 and 31.488 - Eurofix-Bauco v. Hilti) (OJ L 65, 11.3.1988, p. 19), upheld in Case T-30/89, *Hilti v Commission* [1991] ECR II-1439, itself confirmed by the Court of Justice in Case-53/92 P *Hilti v Commission* [1994] ECR I-667. See also Commission Decision 92/163/EEC of 24 July 1991 relating to a proceeding pursuant to Article 86 of the EEC Treaty (IV/31043 - Tetra Pak II) (OJ L 72, 18.3.1992, p. 1), upheld in Case T-83/91 *Tetra Pak v Commission* [1994] ECR II-755, itself confirmed by the Court of Justice in Case C-333/94 P *Tetra Pak v Commission* [1996] ECR I-5951.

#### 4.3.1.1.2 Web browsers and client PC operating systems are two distinct products

(227) The existence of distinct products is the second precondition for tying. Products that are not distinct cannot be tied in a way that is contrary to Article 82 EC.

(228) Microsoft argues that Internet Explorer is an integral part of Windows and not a product distinct from Windows.<sup>230</sup> Microsoft also contends that the existence of a separate demand for the tied product does not prove that the products are distinct.<sup>231</sup>

##### 4.3.1.1.2.1 There is separate customer demand for web browsers

(229) In *Microsoft*, the Court of First Instance held that the distinctness of products for the purpose of an analysis under Article 82 EC has to be assessed by reference to customer demand.<sup>232</sup> If there is no independent demand for an allegedly "tied" product, then the products at issue are not distinct and a tying charge will be to no avail.

(230) A series of factors based on the nature and technical features of the products concerned, the facts observed on the market, the history of the development of the products concerned and Microsoft's commercial practice show that there is separate consumer demand for web browsers, distinguishable from the demand for client PC operating systems.

(231) The fact that web browsers are made available separately from client PC operating systems is evidence for such separate consumer demand. There are vendors who develop and supply web browsers on a stand-alone basis, separate from PC operating systems.

(232) In the first place, as shown at paragraphs (41) to (56), the main suppliers of client PC operating systems are Microsoft, Apple and Linux products suppliers. Unlike Microsoft and Apple, Linux product suppliers typically do not develop and sell web browsers themselves. Nevertheless, since there is little end consumer demand for a PC with an operating system without a web browser, these suppliers generally include one or more of the web browsers available for the Linux platform in their "distribution" of Linux (this normally concerns only open source web browsers). In addition, OEMs can add other open source browsers or

<sup>230</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 systems [...]."

<sup>231</sup> See Microsoft's submission of 5 March 2008, page 13, reply to question 7a: "Even when all operating systems include a function, frequently third-party vendors continue to offer similar functionality in standalone products and as part of multifunction software other than operating systems."

<sup>232</sup> Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, at paragraph 917.

proprietary web browsers to a Linux operating system before the PC is sold to the customer.

- (233) In the second place, not all web browser suppliers develop operating systems. Firefox or Opera, for example, only develop and distribute web browsers which can run on top of various third party operating systems. These web browsers are reported to work properly when used on the most widespread operating systems.<sup>233</sup> An "external" web browser can thus achieve the same performance as a bundled web browser without being "integrated" with the operating system. Therefore, operating systems and web browsers can be sold in various combinations as long as the given web browser can run on top of the given operating system.
- (234) In the third place, Apple, an operating system supplier, offers its web browser Safari not only for the Mac OS X operating system, but also for Windows operating systems. Safari for Windows can be downloaded on a stand-alone basis from Apple's website. Microsoft also used to develop and distribute a web browser for non-Windows operating systems, such as Internet Explorer 5 for Solaris and Internet Explorer 5.2 for Mac OS X.<sup>234</sup> This project has in the meantime been abandoned. Apple's current practice as well as Microsoft's own former practice further indicate that operating systems and web browsers are two distinct products rather than parts of the same product.
- (235) In the fourth place, Internet Explorer can be downloaded from Microsoft's web site independently of the version of Windows a user runs on his computer. Internet Explorer can thus be installed or upgraded no matter which version of Windows is installed on the user's PC, subject to certain minimal system requirements. It is thus often possible to upgrade the web browser without upgrading the operating system and *vice versa*. Correspondingly, Microsoft releases upgrades of Internet Explorer, distinct from Windows client PC operating system releases or upgrades, as was the case with Microsoft's current Internet Explorer 7 (available since 18 October 2006<sup>235</sup>, while the latest operating

<sup>233</sup> See for example [http://browsers.suite101.com/article.cfm/choosing\\_a\\_web\\_browser](http://browsers.suite101.com/article.cfm/choosing_a_web_browser), printed on 18 November 2008.

<sup>234</sup> See Microsoft's press release *Microsoft Internet Explorer 5.2 for Mac OS X now available*, printed from <http://www.microsoft.com/presspass/press/2002/jun02/06-17IEMACPR.msp> on 23 October 2008. See also <http://support.microsoft.com/kb/222563>, printed on 23 October 2008.

<sup>235</sup> See Microsoft's press release *Microsoft Releases Internet Explorer 7 for Windows XP*, printed from <http://www.microsoft.com/presspass/press/2006/Oct06/10-18IE7WinXPPR.msp> on 23 October 2008.

system release - Windows Vista - was made available on 30 November 2006 for the business segment and on 30 January 2007 for consumers).<sup>236</sup>

(236) In the fifth place, downloading figures prove the existence of separate user demand for web browsers independent from demand for client PC operating systems.

(237) Finally, a web browser and a client PC operating system provide distinct functionalities to the user. As shown at paragraph (26), operating systems are "system software" in that an operating system controls the basic functions of a computer and enables the user to make use of it by running application software. The purpose of web browsers is to provide the user with an interface that enables him to see web pages accessible through a network such as a company intranet or the internet. A web browser therefore is "application software" that runs on top of the operating system. Due to the fact that Microsoft has been tying Internet Explorer to Windows for several years, and that it has integrated it into Windows, some part of the source code of the web browser might be relied upon by other software products including the operating system. However, the technical architecture of the bundle, which is the result of Microsoft's strategy, does not alter the fact that the functionalities provided by the operating system and the web browser are distinct. Third-party products may rely on functionalities provided by Internet Explorer, but this is the consequence of Microsoft bundling Internet Explorer with Windows and mingling the distinct code bases of both and does not imply that Internet Explorer is an integral part of the operating system.

#### 4.3.1.1.2.2 Complementary products can constitute separate products

(238) The fact that products such as client PC operating systems and web browsers are normally used in conjunction does not imply that they are not distinct products. In *Tetra Pak II*, Tetra Pak claimed that there was a natural link between the products it sold to its customers in combination (machines and cartons). The consequence in Tetra Pak's view was that it could lawfully combine the two products through contract. In *Hilti*, the producer of nail guns argued that the guns, cartridge strips and nails had to be regarded as belonging to one and the same relevant market.<sup>237</sup> In *Microsoft*, Microsoft argued that there was no demand for a Windows client PC operating system without a streaming media player and that the two were therefore not distinct products.

<sup>236</sup> See Microsoft's press release *Microsoft Launches Windows Vista and Microsoft Office 2007 to Consumers Worldwide*, printed from <http://www.microsoft.com/Presspass/press/2007/jan07/01-29VistaLaunchPR.msp>, on 23 October 2008.

<sup>237</sup> Case T-30/89, *Hilti* [1991] ECR II-1439.

(239) The Community Courts have rejected these arguments. In all three cases, it was pointed out that there existed independent manufacturers which specialised in the manufacture of the tied product, a fact which indicated that there was separate consumer demand and hence a distinct market for the tied product.<sup>238</sup> In *Microsoft*, the Court of First Instance made very clear that complementary products may very well be separate products because it is "[...] quite possible that customers will wish to obtain the products together, but from different sources".<sup>239</sup>

#### 4.3.1.1.2.3 The relevant timeframe for the assessment of the separate product criterion

(240) In *Microsoft*, the Court of First Instance stated that:

*"[i]t is by reference to the factual and technical situation that existed at the time when, according to the Commission, the impugned conduct became harmful, [...] that the Court must assess whether the Commission was correct to find that streaming media players and client PC operating system constituted two separate products".*<sup>240</sup>

(241) As mentioned at paragraph (122), Microsoft bundled its web browser Internet Explorer to Windows for the first time in December 1995.

(242) The observations in paragraphs (226) to (239) apply at least since 1996. First, already in 1996, there was a demand for web browsers separate from the demand for operating systems. Indeed, even if the overall usage of web browsers was much less widespread in 1996 than today, Netscape Navigator enjoyed a significant market share (around 80%)<sup>241</sup> without being bundled with any operating system.

(243) Second, an operating system and a web browser already in 1996 provided distinct functionalities since an operating system was – and still is – system software whereas a web browser was – and still is – application software.

(244) Third, Microsoft itself acknowledged that the predominant view in the market was that Internet Explorer was a separate product from the Windows client PC operating system. A Microsoft internal document from 1998 stresses that

<sup>238</sup> Judgment of the Court of Justice in *Tetra Pak II*, at paragraph 36 and Case T-30/89, *Hilti* [1991] ECR II-1439, at paragraphs 66 and 67, Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, at paragraphs 921 and 922.

<sup>239</sup> Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, at paragraph 922.

<sup>240</sup> Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, at paragraph 914.

<sup>241</sup> See paragraph (97).