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**Datasheet for the decision
of 24 July 2013**

Case Number: T 1654/09 - 3.5.06

Application Number: 05103222.5

Publication Number: 1591896

IPC: G06F 9/46

Language of the proceedings: EN

Title of invention:

System applications in a multimedia console

Applicant:

MICROSOFT CORPORATION

Headword:

Video game console/MICROSOFT

Relevant legal provisions (EPC 1973):

EPC Art. 56

Keyword:

"Inventive step - after amendment (yes); documents cited during examination unsuitable to establish lack of an inventive step of amended claims"

"Remittal - subject matter of amended claims may not have been searched and exhaustively discussed during examination"

Decisions cited:

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Catchword:

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Case Number: T 1654/09 - 3.5.06

D E C I S I O N
of the Technical Board of Appeal 3.5.06
of 24 July 2013

Appellant:
(Applicant)

MICROSOFT CORPORATION
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Representative:

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Decision under appeal:

Decision of the Examining Division of the
European Patent Office posted 4 March 2009
refusing European patent application
No. 05103222.5 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman: D. H. Rees
Members: M. Müller
C. Heath

Summary of Facts and Submissions

I. The appeal lies against the decision of the examining division, dispatched on 4 March 2009, to refuse the European patent application 05103222.5. The decision cites *inter alia* the following documents

D1: WO 01/75602 A2,

D2: US 2001/0016879 A1, and

D5: Bollela G. *et al.*, "Support for Real-Time Computing Within General Purpose Operating Systems - Supporting Co-Resident Operating Systems", Proc. of the 1995 Real-Time Technology and Applications Symposium, IEEE Press, pp. 4-14, 1995,

and finds that the claimed matter lacks an inventive step over D1 and D5, Article 56 EPC 1973.

II. A notice of appeal was filed on 14 May 2009, the appeal fee being paid on the same day. A statement of grounds of appeal was received on 14 July 2009, along with three sets of claims according to a main request and first and second auxiliary requests.

III. With a summons to oral proceedings the board introduced an additional document, namely

D6: "Linux Device Drivers", 2nd ed. on Linux 2.4, O'Reilly, Chapter 7, pp. 208-225, 2001,

and informed the appellant of its preliminary opinion according to which the claims according to all requests were unclear, Article 84 EPC 1973, and lacked an inventive step over each of D1 and D2, as regards the second

auxiliary request in view of common knowledge as evident from D6, Article 56 EPC 1973.

IV. In response to the summons, the appellant filed three further sets of claims according to third to fifth auxiliary requests and made reference to the following document which it annexed to its submissions:

D7: "Video game console", wikipedia entry at http://en.wikipedia.org/wiki/Video_game_console, printed on 24 June 2013.

V. During oral proceedings, the appellant filed a new set of claims based on that of the pending third request as its new sole request. The appellant requested that the decision be set aside and a patent be granted based on the following application documents:

claims, no.

1-35 as filed during oral proceedings on
24 July 2013

description, pages

1, 2, 2a-2d, 12 as filed with letter of 23 May 2008
3-11 as originally filed

drawings, sheets

1/6-6/6 as originally filed

VI. Claims 1 and 21 of the sole request reads as follows:

"1. A method for operating a video game console (100) having a central processing unit (101), a graphics

processing unit (108), and a memory (112), the method comprising:

reserving a predetermined amount of hardware resources of the video game console (100);

executing a system application using the reserved predetermined amount of hardware resources; and

executing a video game using hardware resources that are not reserved;

wherein the system application provides the video game with network capability.

21. A video game console (100), comprising:

a central processing unit (101);

a graphics processing unit (108);

a writable memory in communication with the graphics processing unit; and

a second memory in communication with the central processing unit,

wherein:

the second memory contains executable code that performs reserving a predetermined amount of hardware resources of the video game console (100) to execute a system application that provides a system service using the reserved predetermined amount of hardware resources;

the system application runs concurrently with a video game executing on the video game console, the video game using hardware resources that are not reserved by the executable code; and

the system application provides the video game with network capability."

VII. At the end of the oral proceedings, the chairman announced the decision of the board.

Reasons for the Decision

Admissibility of the new request

1. The independent claims 1 and 21 according to the third request filed in response to the summons limited the "multimedia console" and the "multimedia application" to a "video game console" and a "video game", respectively, as well as the "system application" to one "provid[ing] ... network capability". These amendments were in response to clarity concerns of the board raised in the summons (see points 5-5.4 and 9). The reference to a "video game which controls" (or "controlling") "hardware resources" has been replaced by one to a "video game using hardware resources" in response to another clarity objection by the board (see summons, points 6-6.3). Moreover, the additional feature according to which "the system application provides the video game with network capability" is an attempt to establish that D1 and D2 are unsuitable starting points for assessing inventive step of the claimed invention, an argument that had already been

put forward in the grounds of appeal but was dismissed by the board in the annex to the summons. The board therefore deems that the new request constitutes a reasonable reaction of the appellant to the board's preliminary opinion and thus exercises its discretion under Article 13 (1) RPBA to admit it.

Article 123 (2) EPC

2. The description as originally filed consistently discloses that the preferred instances of a multimedia console and a multimedia application are a video game console and a video game, respectively (see e.g. par. [0002] and fig. 4). That the system application provides "network capability" is specified in original claims 6 and 28, and that this service is provided "to" the multimedia application is disclosed in paragraph [0025] of the description. The description discloses the multimedia application to "control" certain hardware resources in the sense of having a consistent view of the available hardware resources when using them (see e.g. pars. [0002] and [0028]). The board thus has no doubt that the subject matter of claims 1 and 21 is disclosed in the application as originally filed and that claims 1 and 21 comply with Article 123 (2) EPC.

Article 84 EPC 1973

3. In the summons, the board objected that the claims were unclear in specifying the multimedia console to "control" its hardware (see points 6-6.3). By replacing the references to "control" by references to "use", this objection has become moot. The board also objected that the terms "multimedia application" and "system applica-

tion" were unclear by themselves as was the difference between them. This objection has been overcome to the board's satisfaction by limiting the "multimedia application" to "video game" and the "system application" to one which "provides the video game network capability".

The invention

4. The application relates to multimedia consoles, especially video game consoles as now claimed, and starts from the observation that the primary application on such a console, in particular a video game, normally has "near total control of the hardware" (see p. 1 of the description as originally filed, par. [0002]). This is explained to mean that an application developer can rely on the relevant hardware resources (esp. memory and processor) to be consistently available for exclusive use by that application. This guarantee is however in conflict with the need to provide additional services on multimedia consoles which need hardware resources themselves (see par. [0004]). The application thus addresses the problem of providing additional system services while maintaining the high level of control the multimedia application has over the required hardware resources (*loc. cit.*). The invention according to claims 1 and 21 relates to a video game console and a method of operating one, arranged to reserve "a predetermined amount of hardware resources", to execute a system application using the reserved hardware resources and a video game using the other, non-reserved hardware resources. The system application is specified to provide a service to the video game, specifically one which "provides the video game with network capability".

The prior art

5. D1 discloses a system running several virtual machines (VM) on the same computer and is concerned with the problem of scheduling their resource requirements in such a way that they can meet real-time deadlines as they arise for instance in multimedia applications (p. 1, 22-33, and p. 3, lines 6-8). To this end, each VM defines *inter alia* its computing requirements (X) as a percentage of the computing resources of the bare machine (p. 5, lines 29-30), and a virtual machine monitor (VMM) schedules the VMs "based, at least in part, on" these resource requirements (p. 6, lines 4-6). D1 also refers to prior art embodiments according to which a VMM schedules the VMs in view of "static or predetermined allocation sequences" in such a way that the VMs do not notice the bare machine resources to be shared (see p. 3, line 22 - p. 4, line 1).

6. D2 relates to the problem of running, on a single computer, several operating systems (OS) side by side (par. [0001]) and proposes a system alternative to - and supposedly simpler than - prior art systems based on virtual machines or on a microkernel (see pars. [0006]-[0014]). According to this system, "external I/O devices" to be used by the OSs are registered during an "initialization stage of the first OS" and devices registered for one OS cannot be reserved by another one (see par. 56, fig. 2). Likewise, "memory areas" are exclusively allocated to individual OSs (see par. 60).

7. D5 discloses support for operating systems which are "co-resident" on the same machine. Specifically, D5 proposes to "partition the central processor and other

system resources into two virtual machines - a machine running a ... general purpose operating system and a machine running a real time kernel" RTK (see p. 4, right col., 2nd par.). The resources are distributed over the two virtual machines either by means of multiplexing or by partitioning (p. 5, right col., 2nd par.; and pp. 5-6, sec. 2.1 and 2.2).

Video game consoles

8. The claims centrally relate to a "video game console". The appellant argues that "the art of video game ... consoles represents a "distinct technology" and that "video game consoles are totally different from conventional all-purpose computer platforms" such as PCs "with regard to the control of the hardware resources" (grounds of appeal, p. 3, last par. - p. 4, 2nd par.). The appellant also argues with reference to D7 that "the art of video game consoles [had] a long and self-dependent history" since the 1950s and that a "video game console" is well-distinguished as "a machine designed for people to buy and use primarily for playing video games on a TV in contrast to arcade machines, handheld game consoles, or home computers." (see appellant's communication dated 24 June 2013, p. 2, penult. par.).

8.1 While the board concedes that the term "video game console" has long been widely used, it disagrees that this term has a clear and established technical meaning in the art.

8.2 The board considers that the term "video game console" refers to a class of computing devices which are dedi-

cated to a single class of applications called video games but which may otherwise differ substantially from each other. Video consoles include recent devices such as Sony's Playstation, Microsoft's Xbox and Nintendo's Wii, but also older examples such as the Atari 2600 or the Sega Mega Drive. D7 cites as the first home video game console the Magnavox Odyssey, released in 1972. In the board's view it cannot be claimed that a video game console from the 1970s has more in common with, say, a Playstation or an Xbox than the latter have with a conventional PC. The board notes that a Linux-based operating system was available for the Playstation 2 (released in 2002) which effectively turned the console into a PC, and that video game emulators, e.g. for "classic games", may be seen to turn a conventional PC into a video game console. The board also notes that, according to D7, the Xbox released in 2002 "was able to attract many PC developers by using the NT kernel and DirectX from [the] Windows operating system".

8.3 The board therefore concludes that the term "video game console" as used in the claims refers broadly to a computing device running a video game application but does not, *per se*, imply any further technical features.

8.4 The board also disagrees with the appellant that the claimed reference to a "video game console" and a "video game" places the invention in a well-defined field of "multimedia" or "video game consoles" which would be sufficient to exclude "the art of virtual machines" or "realtime computing within general purpose operating systems" as relevant prior art (see grounds of appeal, p. 3, penult. par.).

Article 56 EPC 1973

9. In principle, therefore, the board agrees with the examining division that documents D1, D2 and D5 constitute relevant prior art for the present invention and were suitable starting points for an assessment of the invention according to the claims subject to the decision under appeal.

9.1 In the board's view it is obvious within the systems according to D1, D2 and D5 for one VM or OS on a given computer to run a video game. The board notes in this regard that D1 specifically mentions "multimedia applications" (p. 3, line 7). Based on a broad interpretation, this configuration qualifies the computer as a "video game console". It is also obvious for the same computer to run, on another VM or OS, a "system application [which] provides ... network capability", say a Web client.

9.2 The board however shares the appellant's view that the different VMs or OSs in this scenario do not interact with each other in the claimed manner, namely in that one provides the network capability as a system service to an application running on the other one (see the appellant's submission of 24 June 2013, p. 4, penult. par.).

9.3 The board moreover considers that the problem of enabling such interaction does not naturally arise in the context of D1, D2 or D5. The applications running on different virtual machines or different co-resident stems are not normally aware of each other, nor meant to be aware of or directly communicate with each other.

9.4 Therefore, the board considers that documents D1, D2 and D5 are unsuitable starting points for the assessment of inventive step of the invention as now claimed.

9.5 Moreover, the board considers that the skilled person starting from some video game console or, in view of the above discussion (point 8), a conventional PC and addressing the problem of providing, within that device, system services and an application with a reliable access to hardware resources would not normally turn to prior art on scheduling virtual machines or co-resident operating systems for help.

9.6 Therefore, the reasons in the decision under appeal do not support the finding that the subject-matter of claims 1 and 21 lacks an inventive step over these documents. The decision must thus be set aside.

Remittal

10. Claims 6 and 28 as originally filed specified that "the system application provides network capability" but neither these nor any other original claims specify that the system application provides network capability to the multimedia application or video game.

10.1 That is, the feature on which the board's above finding depends to dismiss D1, D2 and D5 as suitable starting points for the assessment of inventive step had not been originally claimed.

10.2 As a consequence, the board has its doubts as to whether the subject matter of amended claims 1 and 21 was covered by the search and discussed during examination.

11. During oral proceedings, the appellant requested that the case be remitted with an order to grant a patent rather than remitted for further prosecution: It argued that the description expressly discloses as the goal of the invention to provide "system services to multimedia applications" (see par. [0004]) and that this issue had been discussed during examination, witness the minutes of the oral proceedings before the examining division, especially points 81, 82 and 112. Thus, even though the appellant had refrained from filing a further auxiliary request in view of the examining division's indication that neither the dependent claims nor the description contained any patentable subject matter (see the minutes, point 118, and the *obiter dictum* in the decision), the subject matter of present claims 1 and 21 had been subject to examination so that a remittal for further prosecution was not appropriate.

12. The board is not convinced by this argument.
 - 12.1 The appellant conceded during the oral proceedings that during examination he had laid particular stress on the fact that there was a distinct technical field of game consoles and that the "idea of the invention was to provide a new functionality in the context of this field" (see also the minutes, point 112).

 - 12.2 In point 81 of the minutes (item 1) the appellant is reported to have argued that "[i]t was not usually possible to provide the user with system functions which were not part of the video game itself". Providing a service to the user of a video game console does not however imply providing that service to the video game itself: It is possible that the video game console

provide network capability *to the user* by, say, running a Web client, without at the same time providing network capability *to the video game*.

12.3 According to point 82 of the minutes the appellant argued that "the idea of the invention was ... to enhance a [multimedia application] MMA or [multimedia console] MMC with system applications, and that the idea should be given due credit". Insofar as enhancement of an MMC with system application is concerned, the previous remark applies. Only the reference in this statement to enhancement of a multimedia application MMA with system applications may support the appellant's position that the subject matter of the present claims was mentioned before the examining division.

12.4 This short reference is insufficient to convince the board that the relevant discussion had actually taken place during examination. Rather, it would appear to the board that the discussion about the relevant technical field of the invention and whether the invention could be considered a contribution to the field of video game consoles dominated the discussion before the examining division.

12.5 Moreover, since amended claims 1 and 21 contain a feature which was neither originally claimed nor contained in any of the claims discussed during examination it would appear possible that the examining division dismissed certain of the appellant's arguments as irrelevant for the then claimed matter.

13. The board therefore deems it appropriate to remit the case to the department of first instance for further

prosecution, during which it would be incumbent on the examining division to consider whether the subject matter of present claims 1 and 21 was covered by the search and, if not, perform a corresponding additional search.

14. For completeness, the board also notes that the description needs to be adapted to the amended claims. In particular, now obligatory features of the claimed invention such as the video game console are described as optional (for instance, see par. [0002]).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted for further prosecution based on the main request as filed during oral proceedings.

The Registrar:

The Chairman:

A. Counillon

D. H. Rees