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**Datasheet for the decision  
of 7 September 2016**

**Case Number:** T 2172/13 - 3.2.04

**Application Number:** 06759706.2

**Publication Number:** 1871498

**IPC:** A63F13/00

**Language of the proceedings:** EN

**Title of invention:**

REAL-TIME HD TV/VIDEO IP STREAMING TO A GAME CONSOLE

**Applicant:**

Microsoft Technology Licensing, LLC

**Headword:**

**Relevant legal provisions:**

EPC Art. 54, 56, 84, 123(2)

**Keyword:**

Amendments - added subject-matter (no)  
Claims - clarity (yes)  
Novelty - (yes)  
Inventive step - (yes)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
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Case Number: T 2172/13 - 3.2.04

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.04**  
**of 7 September 2016**

**Appellant:** Microsoft Technology Licensing, LLC  
(Applicant) One Microsoft Way  
Redmond, WA 98052 (US)

**Representative:** Fischer, Michael Maria  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted on 24 May 2013  
refusing European patent application No.  
06759706.2 pursuant to Article 97(2) EPC.

**Composition of the Board:**

**Chairman** A. de Vries  
**Members:** J. Wright  
C. Schmidt

## **Summary of Facts and Submissions**

- I. On 4 July 2013 the appellant-applicant lodged an appeal against the examining division's decision of 24 May 2013 refusing the European patent application No. 06759706.2 and paid the prescribed fee simultaneously. The statement of grounds of appeal was received on 2 October 2013.
- II. The division held that the claimed subject matter according to requests then on file did not meet the requirements of Article 123(2) EPC, because claim 1 contained amendments extending beyond the content of the application as filed, that it did not meet the requirements of Article 84 EPC because claim 1 lacked clarity and that it did not meet the requirements of Article 52(1) with 56 EPC because the subject matter of claim 1 lacked an inventive step. In its decision the examining division considered the document D1: WO02/19249 A.
- III. In the appeal proceedings, the Board considered the following further documents, cited in the search report:  
D2: US 2004/0255326 A  
D3: WO 02/27491 A.
- Oral proceedings were duly held before the Board on 7 September 2016.
- IV. The appellant requests that the decision be set aside and a patent be granted on the basis of a main request filed at the oral proceedings before the Board.
- V. The independent claims according to the appellant's main request read as follows:

1. "A computer system for communicating high definition transmissions to a game console (120) comprising:  
a remote computer-readable medium (206);  
a tuner (202) to receive high definition content transmissions; and a game console (120) communicatively coupled, by a network, to the tuner (202), the game console (120) being configured to retrieve and execute program code (208) from the remote computer-readable medium (206), the program code (208) enabling the game console (120) to receive high definition content (402) streamed from the tuner (202) in real-time; and the program code (208) enabling the game console (120) to play high definition content received by the tuner (202), wherein the program code (208), when executed, comprises:  
performing a test to evaluate (504) the available bandwidth of the network coupling the game console (120) to the tuner (202) and, in response to the network bandwidth being insufficient to support the real-time streaming of high definition content:  
informing (510) a user of possibility of network performance issues;  
starting (512) continuous network throughput monitoring;  
measuring (514) network throughput;  
displaying (516) current network throughput at a network performance monitor user interface (600, 700);  
displaying (518) one or more suggestions for improving network throughput; and  
looping back (520) to the starting (512) continuous network monitoring until the user terminates the loop or a timeout occurs or an adequate bandwidth is achieved".

8. "A game console (120) comprising: memory (206); program code (208) stored in the memory (206); and bootloader program code (204) stored in the memory, the bootloader program code (204) being configured to load the program code (208) to the memory (206) so that once loaded the program code (208) enables the game console (120) to stream high definition content (402) from the tuner (202) in real-time and enables the game console (120) to receive transmissions of high definition content and store the transmissions of high definition content in the memory (206); wherein the program code (208), when executed, performs a test to evaluate (514) the available bandwidth of the network coupling the game console (120) to the tuner (202) and, in response to the network bandwidth being insufficient to support the real-time streaming of high definition content, the program code (208): informs (510) a user of a possibility of network performance issues; starts (512) continuous network throughput monitoring; measures (514) network throughput; displays (516) current network throughput at a network performance monitor user interface (600, 700); displays (518) one or more suggestions for improving network throughput; and loops back (520) to the start of continuous network throughput monitoring until the user terminates the loop or a timeout occurs or an adequate bandwidth is achieved."

13. "A method performed by a first set of computer-readable instruction on a computer-readable medium residing on a game console, the method comprising: calling a second set of computer-readable instructions residing on a remote device, the second set configured

to evaluate the adequacy of a network connection to transmit high definition content; and loading a third set of computer-readable instructions to the game console (120), the third set of computer-readable instructions configured to enable the receipt of high definition transmissions; and wherein the third set of computer readable instructions when executed, reconfigures (308) the game console (120), enabling the game console (120) to receive high definition content (402) streamed from the tuner (202) in real-time; and wherein the second set of computer readable instructions comprises: running of a network performance tuning program performing a test to evaluate (514) the available bandwidth of the network coupling the game console (120) to the tuner (202) and, in response to the network bandwidth being insufficient to support the real-time streaming of high definition content: the program informs (510) a user of possibility of network performance issues; the program starts (512) continuous network throughput monitoring; the program displays (516) the current network throughput at a network performance monitor user interface (600, 700); the program displays (518) one or more suggestions for improving network throughput; the program loops back (520) to the start (512) of continuous network monitoring until the user terminates the continuous monitoring (514) or a timeout occurs or an adequate bandwidth is achieved."

VI. The appellant argued as follows:

The application as amended overcomes all the objections raised in the impugned decision and during the course

of the appeal proceedings. Therefore a patent can now be granted.

### **Reasons for the Decision**

1. The appeal is admissible.
2. Background

The application relates to a home entertainment network with a game console, that can also be used for streaming video over a home network (see published application, paragraph [0003]).

The underlying idea of the application is to enable the game console, by retrieving and executing program code, to receive High Definition (HD) content streamed in real-time from an HD tuner, whilst ensuring that sufficient bandwidth exists on the network between the game console and the HD tuner (cf. published application, paragraphs [0004] and [0005]).

3. Amendments
  - 3.1 Claim 1 of the sole request is based on claim 1 as filed (see published application), whereby the following amendments have been carried out:
    - (1) the remote computer-readable medium 206 is defined as part of the computer system;
    - (2) The term "high definition transmission enabling program code" has been replaced by "program code...enabling the game console to receive high definition content streamed from the tuner in real time...";
    - (3) Various steps performed by the program code when executed have been added to original claim 1.



- 3.2 Regarding the first amendment, the Board notes that in original claim 1 the remote computer-readable medium was referred to in the claim but not claimed as being part of the system. Now the system defined in claim 1 is further limited to a system comprising the computer-readable medium 206 as is shown and described in the application as filed (see published application, figure 2, and paragraphs [0015] and [0016]).
- 3.3 The second amendment defines the program code and what that code enables the game console to do. In the Board's opinion, a basis for the amendment is found in original claim 8, which discloses the program code to enable the game console to receive high definition (HD) transmissions and from paragraph [0016], which explains that the same code, "reconfigures the game console, enabling the tuner to stream HD content to the game console in real time".
- 3.4 The skilled person, with their mind willing to understand, gleans from paragraph [0016] and original claim 8 that the the program code, being stored on the game console, and reconfiguring the game console (published application, page 7, lines 16 to 19), can but enable the game console to receive HD code, rather than enabling the tuner to stream HD code as a reading of published application, page 7, line 20, in isolation might suggest (cf. impugned decision, point 2.1.1, point 1). This streaming takes place in real time, as is disclosed throughout the application (see for example published application, paragraphs [0016] and [0023]).
- 3.5 Regarding the program steps set out in the second amendment, all appear to have a basis in figure 5 and

the published application, paragraphs [0037] to [0046]. In particular, in addition to the claim wording taken directly from figure 5, the test of step 504 is a test of available bandwidth (see paragraph [0038]). In figure 5, step 516, nothing suggests a functional or structural relationship between displaying network through-put on a monitor and the same monitor displaying an acceptable level of performance indicator, a feature not included in claim 1. The description also discloses displaying network throughput independent of a performance indicator (see published application, paragraph [0046]).

Thus claim 1 would appear to have a basis in the application as filed.

- 3.6 Independent claim 8 corresponds to original claim 8 with the following additional features:
1. the game console comprises program code 208 stored in the memory 206;
  2. The game console is enabled to stream high definition content from the tuner *in real time* (added text highlighted in *italics* by the Board);
  3. The various steps performed by the program code when executed, as also defined in claim 1, have been added to original claim 8.
- 3.7 Regarding the first amendment, the claim now defines the game console in the state in which it has been programmed by the program code, rather than merely in the state where it has the potential to be programmed therewith. A basis for this amendment can be found in the description where it is stated that, in operation, the program code 208 is loaded onto the game console (see paragraph [0016], first three lines).

3.8 With respect to the second (real-time HD streaming) and third (steps of the program code) these amendments have a basis for the same reasons discussed for claim 1 (see above, points 3.4 and 3.5).

3.9 Claim 13 is based on original claim 13 but has been amended by a change in category from a device (computer-readable medium residing on a game console) to a method. The Board notes that, although original claim 13 defined a computer readable medium, it attempted to define a set of procedural steps that software on the medium should carry out (calling instructions, loading instructions). Thus, in the Board's opinion, the change in claim category is a clarification that, rather than adding subject matter, merely renders explicit that the underlying procedural steps of original claim 13 are none other than method steps.

3.10 Claim 13 has been furthermore amended in that the wording "high definition transmissions" is replaced with "high definition *content*" (emphasised added). This has a basis throughout the application (see for example published application paragraph [0023]). Furthermore, the various detailed steps performed by the program code when executed, as in claim 1, have been added. As explained above (see point 3.5), the Board considers that this latter amendment also has a basis in the application as filed.

3.11 Dependent claims

claims 2 to 5, 7, 10 to 12 are the same as originally filed claims bearing the same numbers, except for the term program code, replacing "high definition transmission enabling program code" (see point 1.1

above). Claim 6 has a basis in the original description, where a display presents the user with bandwidth alerts (published application, page 10, lines 13 to 21). Claims 14 to 19 are merely reformulated as dependent method claims in line with amended independent claim 13. Therefore the Board is satisfied that the dependent claims have a basis in the application as filed.

3.12 Description

The amendments in the description, pages 2 and 2a, add references to prior art and the present independent claims, and are therefore unobjectionable.

4. Clarity

The Board is also of the opinion that the claims are clear and supported by the description. The features of claim 1 objected to in the impugned decision as being unclear (see point 2.1.2) are not present in amended claim 1. Furthermore, the back references of claim 11 is to independent claim 8 (cf. original claim 11). As explained above, claim 13 makes clear that the steps described therein are method steps. Lastly the description, page 2a, first paragraph, refers to the invention in a way that supports the amended independent claims.

5. Following from the above, the Board holds that the subject-matter of the claims of the sole request is both originally disclosed, clear and supported by the description. The application therefore complies with the requirements of Articles 123(2) and 84 EPC.

6. Novelty

6.1 The Board considers that the subject matter of claim 1 is novel vis-à-vis document D1.

D1 discloses a networked computer system (figure 1). The network can transmit high definition content (paragraph bridging pages 10 and 11). Thus it is (suitable) for communicating high-definition content to a game console. The system comprises a remote computer-readable medium, namely the network operation center (NOC) 180 (see page 13, second complete paragraph and 14, third complete paragraph, first three lines). Furthermore, the system comprises a tuner 110 to receive high definition content (page 9, last three lines, and figure 1 "home media server 110").

The tuner is coupled via a network 140 to, inter alia, a PC 160 (page 9, 3rd complete paragraph and figure 1; page 10, first complete paragraph, home media network 140). In the Board's opinion, the networked PC 160, with its user interface screen and input keyboard can be programmed for playing games and is therefore a game console (cf. published application, paragraph [0011]). Furthermore the game console (PC 160) is configured to retrieve and execute program code from the remote computer readable medium (page 14, last paragraph, first two lines).

In the Board's view, D1 does not disclose the remaining features of claim 1. These define the program code on the remote computer-readable medium, a part of the claimed system, in terms of its functions.

The claimed program code defines a sequence routine. When executed on the game console, in summary, this routine: performs a bandwidth test; informs the user of

network performance issues; starts continuous monitoring by measuring network throughput and displays it at a user interface; displays one or more suggestions for improving network throughput and loops back to the start of the sequence. The routine may be terminated by the user, by timing out or when adequate bandwidth is achieved.

By contrast, D1 discloses no such program code. Rather, the system comprises remotely stored driver software for retrieval by the PC 160 (page 14, last paragraph, first two lines). Whether or not contained in program code retrieved from the remote computer-readable medium 180, D1 also discloses using intelligent buffering and bandwidth allocation techniques (paragraph bridging pages 28 and 29; page 29, last paragraph and figure 9b). This is done to meet the higher bandwidth requirements necessary for smooth playback of high quality audio signal transmissions.

6.2 In the Board's view, the subject matter of claim 1 is also new with respect to the remaining prior art, documents D2 and D3.

D2 also discloses a computer system having a remote computer-readable medium (abstract, paragraph [0038] and figure 1). The system may stream music from a remote source (see paragraph [0028]). Similar to D1, it uses logic to make the best use of available bandwidth, for example by streaming downloads at optimal times of day (see paragraphs [0053] and [0071]). However, D2 does not hint at making more bandwidth available, let alone by, inter alia, presenting the user with a display of current network throughput or displaying possible actions for improving it as the claimed program code does.

D3 discloses a computer system comprising remote computer readable medium to monitor a network to detect changes such as adding or removing of elements and may automatically retrieving appropriate software (see page 1, lines 20 to 24, figures 1 and 2, page 15, lines 9 to 21; page 20, lines 19 to 28 and figure 6B). However D3 makes no mention of bandwidth, let alone how it might be optimised, or presenting the user with measured network throughput or suggestions for improving it as the claimed program code does.

6.3 From the above, the Board finds that the subject matter of claim 1 is novel vis-à-vis D1, D2 and D3.

6.4 Independent claims 8 and 13

Independent claim 8 to a game console also defines a memory with the program code defined in claim 1. By the same token independent method claim 13 comprises the step of calling a set of computer readable instructions which set out the features of the program code of claim 1. Since, as explained for claim 1, the program code features are not known from the available prior art D1, D2 or D3, the Board considers the subject matter of these claims to be likewise new.

7. Inventive step, claim 1

7.1 The Board considers D1 to be the most relevant of the available prior art. Following on from the discussion of novelty, the identified differences of the system including a medium carrying program code that, when executed on the game console of the system, evaluates bandwidth, and in the case of insufficiency thereof, inter alia informs the user of bandwidth issues,

displays throughput, displays suggestions for improving network throughput. In the Board's opinion, the problem associated with this difference is to modify the computer system of D1 to improve reliability of high-definition transmissions within the system.

- 7.2 Nothing in D1 itself suggests the claimed solution, nor does the Board consider it would belong to the skilled person's general knowledge. Whether or not it might be obvious to modify the system of D1 to continuously monitor available bandwidth, the disclosure of D1 focuses on making the best use of shared bandwidth by allocating different amounts to different tasks, rather than extending the total available bandwidth (see paragraph bridging pages 28 and 29).

In this respect the Board does not consider it would be obvious for the skilled person to solve the above problem by modifying D1 to inform the user of a bandwidth issue, nor by introducing the technical features, involving technical display means, of displaying actual network throughput and suggestions for improving network throughput. This is because the thrust of D1, with its optimised allocation of shared bandwidth, is to mitigate any effects of a bandwidth issue, so that the user need never be aware of the issue, let alone be presented with suggestions for network throughput improvement on a display (cf. impugned decision page 8, third from last paragraph).

At best the objective problem might prompt the skilled person to further optimise the existing scheme of bandwidth allocation to make even better use of available network throughput, but not to arrive at program code informing the user of network throughput and empowering them to extend it as claimed.



7.3 As also explained above (see point 6.2), neither D2 nor D3 give any hint to the program code features. Therefore, the combination of the teachings of D1 and either of these documents (whether that combination is obvious or not) would not result in the program code features claimed.

7.4 Independent claims 8 and 13

In the Board's opinion the above reasoning regarding inventive step of claim 1 also applies to the independent claims 8 and 13. As explained above these claims likewise define the program code features of claim 1, in the case of claim 13, in terms of the method step of calling computer readable instructions in accordance with this code. Since, as explained for claim 1, the steps defined in this program code are considered by the Board not to be obvious in the context of a game console in a computer system of claim 1, the same conclusion applies mutatis mutandis to the game console of claim 8 and the method of claim 13.

8. In summary, the Board finds that the application according to the appellant's sole request meets the requirements of the EPC, in particular with regard to extension of subject matter, Article 123(2) EPC, clarity, Article 84 EPC, novelty, Articles 52(1) with 54 EPC and inventive step, Articles 52(1) with 56 EPC.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to grant a patent in the following version:

#### **Description:**

Page 2a as filed at the oral proceedings before the Board,

Page 2 as filed with letter dated 7 September 2011

Pages 1, 3 to 27 as published in the international application,

#### **Claims**

No. 1 to 19 of the main request as filed at the oral proceedings before the Board,

#### **Drawings:**

Figures 1/12 to 12/12 as published in the international application.

The Registrar:

The Chairman:



G. Magouliotis

A. de Vries

Decision electronically authenticated