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**Datasheet for the decision
of 20 September 2017**

Case Number: T 1607/16 - 3.5.07

Application Number: 05111554.1

Publication Number: 1677214

IPC: G06F17/30

Language of the proceedings: EN

Title of invention:

Extensible file system

Patent Proprietor:

Microsoft Corporation

Opponent:

Borchert, Uwe Rudolf

Headword:

Extensible file system II/MICROSOFT

Relevant legal provisions:

EPC Art. 83, 100, 111(1), 112(1), 123(2)
RPBA Art. 13(1), 13(3)

Keyword:

Sufficiency of disclosure - (yes)
Amendments - added subject-matter (no)
Referral to the Enlarged Board of Appeal - (no)
Late-filed arguments - admitted (partly)

Decisions cited:

German Federal Court of Justice: BGH, 2 June 2015, X ZR 103/13
"Kreuzgestänge"

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

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Case Number: T 1607/16 - 3.5.07

D E C I S I O N
of Technical Board of Appeal 3.5.07
of 20 September 2017

Appellant: Microsoft Corporation
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted on 26 April 2016
revoking European patent No. 1677214 pursuant to
Article 101(2) and 101(3)(b) EPC.

Composition of the Board:

Chairman R. Moufang
Members: M. Jaedicke
P. San-Bento Furtado

Summary of Facts and Submissions

- I. The patent proprietor (appellant) appealed against the decision of the Opposition Division to revoke European patent no. 1 677 214.
- II. A notice of opposition had been filed by the opponent (respondent) within the opposition period on the grounds that the claimed subject-matter did not involve an inventive step (Articles 100(a) and 56 EPC), lacked sufficient disclosure (Articles 100(b) and 83 EPC) and contained added subject-matter (Articles 100(c) and 123(2) EPC). The following prior-art document was among those cited:

D5: EP 0 618 540 A2, published on 5 October 1994.

The contested decision referred to that document and also to the expert opinion of Professor Polze and a written statement by the co-inventor Mr Pudipeddi, both filed by the appellant during the proceedings before the Opposition Division. The decision used an itemised feature analysis of claim 1 of the patent as granted (see pages 5 and 6 of the decision).

- III. In its decision the Opposition Division essentially came to the conclusion that the invention according to the claims as granted (main request) and according to auxiliary requests 1a and 2 to 23 was not disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Articles 100(b) and 83 EPC). Moreover, it decided not to admit auxiliary request 1 filed during the oral proceedings under Rule 116(1) and (2) EPC. It did not decide on the opposition grounds of added subject-matter and lack of

inventive step.

- IV. In the statement of grounds of appeal, the appellant requested that the Opposition Division's decision be set aside, that the opposition be rejected and that the European patent be maintained on the basis of the main request, i.e. the patent as granted, or, in the alternative, on the basis of one of auxiliary requests 1 and 1a to 23. Moreover, the appellant argued why the Opposition Division's decision and the objection the Opposition Division had provisionally raised against feature d.1 of independent claim 1 under Article 100(c) EPC were in its view not correct. Moreover, it summarised the arguments for patentability in the statement of grounds of appeal.
- V. With its letter of reply of 22 November 2016, the respondent requested that the appeal be dismissed and that the Opposition Division's decision be maintained. He argued that the reasoning of the Opposition Division's decision was correct. Moreover, he referred *inter alia* to his arguments presented in the first-instance proceedings with respect to the objection against feature d.1 of claim 1 under Article 100(c) EPC and with respect to the objections under Article 100(b) EPC.
- VI. In response, the appellant submitted further arguments.
- VII. The parties were summoned to oral proceedings. In the annex to the summons, the Board expressed its provisional opinion on the ground for opposition under Article 100(b) EPC. Moreover, it indicated that further grounds for opposition, in particular added subject-matter, could be discussed during the oral proceedings.

VIII. With its letter of reply dated 18 August 2017, the respondent submitted the following two documents together with additional arguments concerning the ground for opposition under Article 100(b) EPC:

D7: US 2009/0164440 A1, filed on 20 February 2009;

D8: US 2017/0132246 A1, filed on 3 January 2017.

Documents D7 and D8 had been filed as "continuation-in-part" (D7) or as "continuation" (D8) of US application 11/229,485, whose priority is claimed in the contested patent.

IX. On 20 September 2017, oral proceedings were held as scheduled before the Board. During these proceedings, the respondent submitted four questions to be referred to the Enlarged Board of Appeal and requested that further submissions concerning objections under Article 100(c) EPC with respect to features c.3, c.3.1, c.3.2, c.3.3 and e.1 of independent claim 1 be admitted into the proceedings. At the end of the proceedings, the Chairman pronounced the Board's decision.

X. The appellant's final requests were that the decision under appeal be set aside and that the patent be maintained as granted or in amended form on the basis of auxiliary request 1 filed during oral proceedings before the first-instance department or of one of auxiliary requests 1a to 23 filed or specified with the letter dated 11 February 2016.

XI. The respondent requested that the appeal be dismissed, that further submissions concerning objections under Article 100(c) EPC with respect to features c.3, c.3.1, c.3.2, c.3.3 and e.1 of independent claim 1 be admitted and that the following questions (submitted in German)

be referred to the Enlarged Board of Appeal:

"1. Ist es zulässig, die Ausführbarkeit zu bejahen, wenn der allein mittels des Fachwissens und ohne Berücksichtigung der Beschreibung ausgelegte Anspruch - ohne erfinderische Tätigkeit des Fachmanns - eine ausführbare Lehre zum technischen Handeln darstellt.

2. Wie verhält sich dies (Ziffer 1) mit dem Erfordernis, daß der durch Auslegung gewonnene Gegenstand des Anspruchs von der Beschreibung gestützt sein muß.

3. Wie verhält sich dies (Ziffer 1) mit Regel 42 EPÜ, wonach in der Beschreibung ein Weg zur Ausführung der Erfindung anzugeben ist.

4. Ist das Erfordernis der Ausführbarkeit des Anspruchs in seiner gesamten Breite erfüllt, wenn ein in der Patentschrift genanntes Beispiel mit dem Wissen des Fachmanns nicht ausführbar ist."

These questions may be translated as follows:

"1. May an invention be deemed reproducible if the claim, interpreted solely on the basis of the common general knowledge and without consideration of the description, constitutes reproducible technical teaching, without requiring the skilled person to be inventive?

2. How does this (point 1) relate to the requirement for the subject-matter of the claim, as understood through interpretation, to be supported by the description?

3. How does this (point 1) relate to Rule 42 EPC, which requires the description to give details of one way of carrying out the invention?

4. Is the requirement for the invention to be reproducible over the whole scope of the claim met if an example given in the patent specification cannot be reproduced by the skilled person using his common general knowledge?"

XII. Claim 1 of the patent as granted (main request) reads as follows:

"A computing device comprising a file system and a computer readable storage medium that stores information within a volume on the computer readable storage medium, the volume comprising:

 a boot parameters component that specifies boot parameters for use by the file system;

 a file allocation table component containing a file allocation table for use by the file system; and

 a plurality of directory entries, each of the plurality of directory entries are either a primary directory entry or a secondary directory entry, wherein primary directory entries define potentially different formats,

 each secondary directory entry being associated with a primary directory entry and defining metadata extending the metadata of the associated primary directory entry, each primary directory entry being classified as either a critical primary directory entry or a benign primary directory entry, and each secondary directory entry being classified as either a critical secondary directory entry or a benign secondary directory entry, said secondary directory entries follow a primary directory entry;

the file system ignores a benign primary directory entry, if it is not understood, and, when enumerating directory entries during a process of mounting the volume:

prevents the volume from being mounted if the file system does not recognize a critical primary directory entry; and

thereafter, when performing user-initiated processes, enumerating the secondary directory entries, wherein

the file system ignores a critical secondary directory entry and the primary directory entry with which it is associated if the file system does not recognize the critical secondary directory entry, and

the file system ignores a benign secondary directory entry if the file system does not recognize the benign secondary directory entry."

Claims 2 to 6 are dependent on claim 1. The appellant's auxiliary requests 1, 1a and 2 to 23 are not relevant to the Board's decision.

XIII. The appellant's arguments, as far as relevant to this decision, may be summarised as follows:

Insufficient disclosure (Article 100(b) EPC)

(a) The interpretation applied by the Opposition Division in its decision was not based on the wording of claim 1, was inconsistent with the understanding of a person skilled in the art and was inconsistent with the prior art considered. Certain embodiments and ranges mentioned in the description were merely examples and did not limit claim 1, which did not define features directed to

these specific embodiments.

The skilled person could carry out the claimed invention in at least one way based on his common general knowledge by introducing a further field for the classification information, as explained *inter alia* in the expert opinion by Professor Polze. This was sufficient to meet the requirements of Article 83 EPC in the present case. Moreover, the TYPE field could be divided into 2 and 5 bits to code the classification (2 bits for 4 classes) and type information (5 bits for 32 type values).

- (b) Documents D7 and D8 were not relevant and had been filed too late. Hence they should not be admitted. They were not prior art and hence not relevant. Even if they were considered, they could not support the respondent's arguments in favour of insufficient disclosure. In particular, D7 disclosed an implementation having 32 type values for each class, not one with 255 type values as disclosed in the patent (see column 5, lines 4 to 7).

- (c) New arguments concerning lack of sufficient disclosure that were first introduced into the appeal proceedings with the respondent's reply to the summons had been filed too late and should not be admitted. Moreover, these new arguments were not convincing. The file system operated as follows: First, a volume was mounted. Second, after the mounting, the file data could be provided. It was clear what was meant by "ignoring" in feature d of claim 1: a benign primary directory entry had to be ignored if it was not understood, independently of the context when it was accessed. Hence, it was

clear how to implement this feature. With respect to feature e.1, it was clearly specified in the claim that the secondary directory entry was associated with a primary directory entry. Hence, it was clear that the associated primary directory entry could be determined.

Referral of questions to the Enlarged Board of Appeal

- (d) There was no need to refer any questions to the Enlarged Board of Appeal, as it was apparent that there was no open point of law and that the Board was in a position to decide on the respondent's objections under Article 100(b) EPC. Moreover, in the present case, there was no important point of law that needed any clarification by the Enlarged Board of Appeal, as the entire discussion concerned factual and technical issues.

Added subject-matter (Article 100(c) EPC)

- (e) New lines of attack under Article 100(c) EPC (Article 123(2) EPC) could already have been presented in the proceedings before the Opposition Division. However, they had been submitted only during the oral proceedings before the Board and thus should not be admitted, due to being late-filed.
- (f) The respondent's interpretation of feature d.1 of claim 1 was against the wording of this feature and made no technical sense.

Remittal

(g) The Board should not exercise its discretion under Article 111(1) EPC to remit the case to the Opposition Division for examination of the grounds for opposition under Article 100(a) and (c) EPC. This was already the second appeal for the appellant in the present case: The first appeal had come after a refusal by the Examining Division, the second after the revocation by the Opposition Division. A third appeal was also not appropriate, as the documents that needed to be considered for the assessment of inventive step had already been discussed and the issues of added subject-matter and inventive step had already been decided in the first appeal.

Further arguments by the appellant are referred to in the reasons for the decision below.

XIV. Apart from endorsing the reasons given by the Opposition Division in the contested decision, the respondent argued essentially as follows:

Insufficient disclosure (Article 100(b) EPC)

(a) As an extensible file system format was not known from the prior art, the skilled person had only the description of the patent itself as guidance for an implementation of the claimed invention. The only disclosed embodiment described consistently that the type and classification information was stored in the TYPE field of the directory entries, which was a field with a length of 7 bits, as shown throughout Figures 5 to 10 of the patent. As the TYPE field of a directory entry had to be readable

by the file system in order to access the classification information, it was not possible that the type information could not be determined from the same field. Hence, the patent did not sufficiently disclose how the skilled person could implement the features relating to "not understanding" or "not recognising" of directory entries in features d to e.2 of claim 1.

Moreover, it was not possible to obtain any guidance from the prior art. Document D5, which disclosed different directory entries that could be identified as primary and secondary directory entries, either did or did not recognise a data stream as a directory entry. Partial recognition of a directory entry (recognising the class, but not the type) was not disclosed. The skilled person could also not rely on his common general knowledge to arrive at an implementation: according to the expert opinion of Professor Polze, the straightforward solution was to add a further field consisting of 2 bits to implement the classification information. However, such an implementation was not covered by Figures 5 to 10, and the patent neither disclosed nor hinted at this solution. Hence, the Opposition Division's decision was justified.

- (b) Moreover, the patent disclosed in the description, column 5, lines 4 to 7, a range for the type values that needed to be stored in the TYPE field. This range was the sole disclosure of a range in the patent and it was relevant for the sole embodiment disclosed. The patent however disclosed no guidance for the skilled person on how to implement this TYPE field. Hence, the skilled person was not able

to directly arrive at an implementation of the invention with the given constraints for the TYPE field: a 7-bit field storing classification and type information and supporting a range of 1 to 255 for the type values for the primary and secondary directory entries. The appellant's argument that the skilled person could subdivide the 7 bits of the TYPE field into 2 bits for the classification information and 5 bits for the type information was incorrect, as the description of the patent disclosed in column 5, lines 4 to 7, that all bits of the TYPE field were reserved for the type information. The subdivision of the 7 bits into 2 bits for the classification and 5 bits for the type value contradicted the disclosed 255 values for the type field. Hence, this solution was neither disclosed nor suggested by the description.

- (c) A technically meaningful interpretation of claim 1 should consider the description and should interpret this claim so that its scope at least encompassed the only detailed embodiment disclosed. The respondent also referred to a decision of the German Federal Court of Justice (BGH decision X ZR 103/13 - Kreuzgestänge), according to which in case of doubt a claim had to be interpreted in such a manner that its scope covered all embodiments. As Article 83 EPC required that the invention could be carried out over the whole scope claimed and as the patent did not disclose how the only embodiment could be implemented, the requirements of Article 83 EPC were not met.
- (d) Documents D7 and D8 had been introduced into the proceedings to demonstrate that the respondent's interpretation of claim 1 was justified. Both of

these documents were not available at the date of priority, but were from the appellant. Hence, it had to be concluded that the appellant itself did not know how to carry out the invention at the priority date. Hence, these documents and the corresponding arguments should be admitted into the appeal proceedings.

Document D7 disclosed the only solution for the implementation of the TYPE field that complied in all respects with the detailed embodiment as disclosed in the contested patent: it explained that the IN USE bit and the 7 bits of the TYPE field were considered together as 1 byte (see Tables 12 and 13 on page 15). Hence, the range 1 to 255 made sense, since the value of zero corresponded to an all-zero field: the end-of-directory marker. Moreover, D7 implemented the 7-bit TYPE field with a TypeImportance bit and a TypeCategory bit that together coded the classification information and a 5-bit TypeCode field. However, this implementation was neither disclosed nor suggested by the contested patent. This conclusion was also supported by the expert opinion of Professor Polze: It proposed additional storage space in the form of a second field for the classification information, as Professor Polze was not aware of the solution disclosed in document D7. While a skilled person could complete information missing in the disclosure based on his common general knowledge (for which evidence was needed as proof), there had to be a clear and direct way leading to an implementation. In the present case, the description of the contested patent led the skilled person in a specific direction, but the skilled person could not find the solution without

additional information. The necessary additional information could be found in D7, but it was considered by the appellant to be inventive, as it was itself claimed as an invention in claims 15 and 16 of D7.

Document D8 demonstrated that the range of 1 to 255 for the type values (see paragraph [0018] of the contested patent: "1-255") was not merely a typing error, as it was still present in D8 (see D8, description, paragraph [0025]: "1 255" [*sic*]).

Hence, the overall conclusion could only be that the patent was insufficiently disclosed.

- (e) The new arguments under Article 83 EPC raised for the first time in section E of the respondent's reply to the Board's summons should be admitted. These arguments concerned the wording of the claim and were *prima facie* relevant. It was possible to add such arguments concerning points that were left open in the first-instance proceedings.

The first argument was that it was known from prior art D5 that directory entries could be ignored under specific conditions. For this purpose, specific attributes (the "RHSV" bits in document D5) such as the "hidden" attribute could be tested in D5 when the directory entries were enumerated. However, the ignoring operation of feature d of claim 1 was a "global" ignoring which was not in the context of an operation such as the enumeration of directory entries. Hence, this feature was unclear and could not be implemented by the skilled person.

The second argument was that feature e.1 of claim 1 required that for an unknown critical secondary directory entry the associated primary directory entry was ignored. According to the description, paragraph [0021], of the contested patent, "the entire directory entry" was "skipped". The technical meaning of this passage of the description was unclear, so that the skilled person had to rely on the wording of the claim. It was not clear how the directory entry could be ignored after it had been accessed for performing a user-initiated operation (feature e of claim 1) such as "file open". Moreover, as the critical secondary directory entry was ignored, it was not clear how the associated primary directory entry could be determined. Again, only D7 provided the skilled person with the necessary details to fill the gaps in the disclosure of the contested patent.

Referral of questions to the Enlarged Board of Appeal

- (f) According to the case law, at least one way to carry out the invention had to be sufficiently disclosed. This was at least accepted for inventions in the field of chemistry. There was however no case law on this issue for computer-implemented inventions. Hence, a referral to the Enlarged Board of Appeal was justified to clarify the requirements of Article 83 EPC for computer-implemented inventions.

Added subject-matter (Article 100(c) EPC)

- (g) Feature d.1 of the contested patent had been correctly interpreted by the Opposition Division in its summons: The feature had the meaning that the

file system prevented a volume from being mounted if no critical primary directory entry was recognised by the file system, i.e. if all critical primary directory entries were unknown. Hence, the volume was mounted if at least one primary directory entry was recognised. If the file system did not recognise further primary critical directory entries, the mounting was not prevented. A specific interpretation of this feature was also not necessary, as the claim specified in essence a truth table for the condition of feature d.1. The problem was, however, that the originally filed description (see paragraphs [0006], [0015] and [0017] of the A2 publication) disclosed a different condition (truth table) for the mounting of a volume: If at least one critical primary directory entry was unknown, i.e. not recognised, the mounting of the volume was prevented. As feature d.1 of claim 1 had no basis in the original application, claim 1 violated Article 123(2) EPC.

- (h) The Board should admit new objections under Article 100(c) EPC, as the respondent became aware of these objections for the first time during its preparations for the oral proceedings before the Opposition Division. However, in the oral proceedings before the Opposition Division, the issue of added subject-matter had not been discussed. Hence, the respondent had lacked an opportunity to submit these objections in the first-instance proceedings.

Remittal

- (i) Article 111(1) EPC left it to the discretion of the Board whether it wished to remit the case for

further prosecution or to exercise any power within the competence of the Opposition Division. In the present case, the facts and arguments presented at first instance were not sufficient to allow the Board itself to deal with the further grounds for opposition. As the purpose of the appeal proceedings was to review the contested decision, the Board should not decide for the first time on any further grounds for opposition, but rather should remit the case to the Opposition Division.

Further relevant arguments submitted by the respondent are referred to in the reasons for the decision below.

Reasons for the Decision

1. The appeal complies with the provisions referred to in Rule 101 EPC and is therefore admissible.

The invention

2. The invention provides an extensible file system format for storage media including hard drives and flash media. Such storage media can be used in computing devices such as digital cameras, media players, mobile phones or mobile computing devices (see paragraphs [0001], [0007] and [0015] of the patent).

File systems with directory entries describing metadata about the files managed by the file system are known from the prior art. Such known file systems contain only a built-in set of directory entry types. For example, prior art D5 describes directory entry types for files with short and long file names (see paragraphs [0001] to [0003]).

The extensible file system format proposed by the invention provides directory entry types which may be custom-defined in order to achieve the aim of extensibility (see paragraph [0007]). To implement custom-defined directory types, the file system defines the following four classes of directory entry types: critical and benign primary directory entries and critical and benign secondary directory entries (see paragraph [0007]). As the file system format is extensible, it is possible that the file system does not recognise/understand the (custom-defined) type of a directory entry. In order to enable the extensible file system to correctly deal with such "unknown" (custom-defined) directory entries, the invention defines specific operations for each of the four classes of directory entries. For example, unknown benign primary directory entries are ignored by the file system. As a further example of an operation, during a volume mounting process, the file system prevents the volume from being mounted if it does not recognise a critical primary directory entry (see Figure 3 and paragraphs [0010], [0018] to [0021]). Figures 5 to 10 describe data components of various exemplary directory entries (see paragraphs [0023] to [0029]). All of these directory entries have an IN USE bit and a 7-bit TYPE field as data components. The different types of directory entry have additional data components that vary between directory entry types.

Main request

3. Claim 1 of the opposed patent relates to a computing device and is itemised by the Board as follows (as in the contested decision and as used by the parties):
 - a A computing device comprising
 - b a file system and
 - c a computer readable storage medium that stores information within a volume on the computer readable storage medium, the volume comprising:
 - c.1 a boot parameters component that specifies boot parameters for use by the file system;
 - c.2 a file allocation table component containing a file allocation table for use by the file system; and
 - c.3 a plurality of directory entries,
 - c.3.1 each of the plurality of directory entries are either a primary directory entry or a secondary directory entry, wherein
 - c.3.2 primary directory entries define potentially different formats,
 - c.3.3 each secondary directory entry being associated with a primary directory entry and defining metadata extending the metadata of the associated primary directory entry,
 - c.3.4 each primary directory entry being classified as either a critical primary directory entry or a benign primary directory entry, and
 - c.3.5 each secondary directory entry being classified as either a critical secondary directory entry or a benign secondary directory entry,
 - c.3.6 said secondary directory entries follow a primary directory entry;
 - d the file system ignores a benign primary directory entry, if it is not understood, and,

- d.1 when enumerating directory entries during a process of mounting the volume:
 - prevents the volume from being mounted if the file system does not recognise a critical primary directory entry; and
- e thereafter, when performing user-initiated processes, enumerating the secondary directory entries, wherein
 - e.1 the file system ignores a critical secondary directory entry and the primary directory entry with which it is associated if the file system does not recognise the critical secondary directory entry, and
 - e.2 the file system ignores a benign secondary directory entry if the file system does not recognise the benign secondary directory entry.

The contested decision of the Opposition Division

4. According to point 18 of the contested decision of the Opposition Division, features d, d.1, e.1 and e.2 of claim 1 of the patent as granted are not sufficiently disclosed. The Opposition Division argued that the classification of directory entries into critical and benign primary or secondary directory entries was specified in the type designation component and that no other possibility was provided for. In support of this argument it referred to Figures 8 (see reference sign 804) and 9 (see reference sign 904) and the patent specification, column 8, lines 1 to 3 and 22 to 25.

As to the interpretation of features d, d.1, e.1 and e.2, the contested decision stated that "the description of the patent in suit indicates on column 7, lines 46-50, that what is not recognized / not understood is in actual fact the type of the benign/critical primary/

secondary directory entry". In view of figures 5, 6, 7 and 10, type designation components 504, 604, 704 and 1004 and paragraphs 23, 24, 25 and 29 of the description, it was evident that the directory entry type was specified in the type designation component. The Opposition Division was of the opinion that this interpretation was similar to the conclusions of Professor Polze in his expert opinion.

Consequently, there was "a contradiction in the teaching of claim 1 between understanding the classification of a directory entry which is specified in the type designation component and, at the same time, not understanding / not recognizing the type of the same directory entry, this type being specified in the same type designation component". Due to this contradiction, the skilled person was not able to carry out the invention as claimed and as interpreted in view of the whole disclosure of the contested patent.

The Opposition Division rejected the proprietor's argument that the classification information could be included in other data fields as well (point 18.7 of the contested decision). Moreover, it agreed with the opponent that the skilled person would not search for ways "to put the invention into praxis, if they are not apparent or hinted at by the patent as a whole" (point 18.8 of the contested decision). The Opposition Division argued further that the possible implementation of directory entry types by way of variant records as known from the Pascal programming language that Professor Polze discussed in his expert opinion was neither disclosed nor hinted at in the contested patent. Moreover, a variant record appeared not to fall under the ambit of claim 1.

Article 100(b) EPC

Admissibility of documents D7 and D8 and the new arguments submitted by the respondent

5. With its reply to the Board's summons, the respondent introduced documents D7 and D8 into the proceedings, arguing that they were relevant as they were from the appellant and showed that the respondent's interpretation of claim 1 was justified. He also submitted new arguments (see section XIV(e)) which, in his view, directly concerned the interpretation of claim 1 and were prima facie relevant to a decision on sufficiency of disclosure.

According to Article 13(1) RPBA any amendments to a party's case after it has filed its grounds of appeal or reply may be admitted and considered at the Board's discretion, which is to be exercised in view of *inter alia* the complexity of the new matter submitted, the current state of the proceedings and the need for procedural economy.

The Board considers that, in the present case, the introduction of documents D7 and D8 allowed the respondent merely to refine its arguments. Documents D7 and D8 are not prior art and contain, as "continuation-in-part" and "continuation" of the second priority application of the contested patent, some additional details which are not present in that priority application and which directly concern an important point of dispute between the parties.

The new arguments introduced in section E of the respondent's reply to the Board's summons concern the features of claim 1 already objected to under

Article 83 EPC and are of low complexity. As the complexity of the new matter is limited and as the appellant and the Board were in a position to deal with the new matter without difficulty in the oral proceedings (the new arguments and documents D7 and D8 had been communicated in reply to the summons), the Board admits the late-filed arguments and documents D7 and D8 into the proceedings.

Insufficiency of disclosure - Articles 100(b) and 83 EPC

6. According to Article 100(b) EPC, an opposition may be based on the ground that the European patent does not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

It is established case law (see Case Law of the Boards of Appeal of the EPO, 8th edition 2016, section II.C. 4.4) that the disclosure of one way of performing an invention is only sufficient if it allows the invention to be performed in the whole range claimed.

7. The respondent's main argument is essentially that the patent did not sufficiently disclose the implementation of the invention in the context of the only detailed embodiment, according to which directory entries having a (TYPE) field of 7 bits should comprise the classification and type information (see Figures 5 to 10 in combination with column 8, lines 1 to 3 and 22 to 25, of the patent specification), with type values in a range of 1 to 255 (column 5, lines 4 to 7, of the patent specification). A viable implementation was only disclosed by the appellant long after the relevant date in Appendix A of D7 (see D7, page 7, starting from

paragraph [0061]).

8. The patent in column 5, lines 3 to 7, discloses the following (underlining added by the Board):

"Each directory entry in the primary and secondary entries is typed. For example, in an illustrative embodiment, type values for the primary and secondary directory entries can correspond to a range of 1-255."

9. The Board does not consider that this passage of the description, which is in the context of Figure 3 of the patent, imposes a specific constraint on the range of type values in general or with respect to the examples provided in the context of the detailed embodiment according to Figures 5 to 10. The passage states explicitly and unambiguously that the range is merely an example in an illustrative embodiment.

The respondent is right when he argues that the patent discloses no further example of a range for the type values. He is also correct that the skilled person might in this situation consider using the only disclosed range in the context of the embodiment described in relation to Figures 5 to 10. However, should the skilled person indeed attempt to combine this range with the teachings related to the format of the directory entries shown in Figures 5 to 10, he would promptly recognise the following inconsistency: a range of 1 to 255 implies the use of at least 8 bits, whereas the TYPE field consists of only 7 bits. Hence, the skilled person would immediately realise that the exemplary range is not compatible with the exemplary TYPE field of Figures 5 to 10 of the patent. The respondent did not argue that this specific combination

of features would be required by the invention, for example to produce a certain technical effect, and the Board sees no reason why this specific combination of features would be desirable or even required. Hence, the respondent's arguments are not convincing as they start from an incorrect understanding of the description. In particular, the contested patent does not disclose an embodiment which combines the range 1 to 255 for the type value with any of the directory entries of Figures 5 to 10. Consequently, there is no need for an interpretation of the claim in the light of this allegedly disclosed embodiment, and the BGH decision cited by the respondent (BGH X ZR 103/13 of 2 June 2015 - Kreuzgestänge; see section XIV(c) above) is not relevant to the Board's decision.

10. This conclusion is also not called into question by the respondent's further arguments based on documents D7 and D8. It is true that Appendix A of document D7 explains in detail one specific implementation of an extensible file format. However, as the appellant pointed out during the oral proceedings, this specific implementation uses only 5 bits for the type values and 2 bits for the classification information. Hence, it is limited to 7 bits and cannot implement the disclosed range of 1 to 255 for the type value. In fact, for each class of directory entries (e.g. critical primary directory entries) only 32 type values can be represented by means of the 5 bits for the type values. Hence, the Board concurs with the appellant that documents D7 and D8 (the latter document having been cited by the respondent mainly in order to demonstrate that the range 1 to 255 was not a typing error) do not convincingly support the respondent's case for insufficiency of disclosure.

11. The Board considers that the respondent is right when he argues that, in the present case, a sufficient disclosure should enable a skilled person to implement the embodiment based on Figures 5 to 10. The contested decision concluded that it was not disclosed how to encode the classification and type information in the TYPE field so that the classification could be recognised, while at the same time the type information could not be recognised.

12. Claim 1 specifies that the invention proposes four different classes of directory entries. Claim 1 is entirely silent with respect to how many different types of directory entry are needed. At the relevant date a skilled person using his elementary programming skills would have recognised that the 7 bits of the TYPE field can be used to encode these four classes and a number of types in many different ways. For example, the TYPE field could be divided into 2 bits for the class information and 5 bits for the type value as proposed by D7. Such an encoding of different kinds of information into different subsets of the bits of a field was in the Board's opinion at the relevant date within the general programming skills of a skilled person. The Board can also not follow the respondent's argument that according to the contested patent the TYPE field was limited to storing information about the type and thus could not store classification information, as the patent does not disclose such an inherent limitation of the TYPE field.

13. The respondent's argument that the solution of D7 should not be taken into account as one way of implementing the invention at the relevant date since this solution was only much later proposed by one of the inventors is not convincing: The relevant question

is not who proposed the solution, but whether the additional non-disclosed steps needed to carry out the claimed method were so apparent to the skilled person that, in the light of his common general knowledge, a detailed description of them was superfluous (see Case Law of the Boards of Appeal of the EPO, 8th edition 2016, II.C.5.6.6). Hence, the fact that a co-inventor discloses the division of the TYPE field in D7 as discussed above cannot lead to the conclusion that the use of such a division would require an inventive step.

14. When the type and class information is encoded in the TYPE field, this information can evidently be read by the file system. Reading however does not mean recognising/understanding. As the invention is directed to an extensible file system format, the skilled person understands directly from the wording of claim 1 that recognising the classification information is necessary, since the operations specified in features d to e.2 of claim 1 are dependent on the class of the directory entry. This is consistent with features c.3.4 and c.3.5 of claim 1, which specify that directory entries are classified. Hence, the extensible file system must be able to read and understand/recognise the class of a directory entry.

Extensibility according to the contested patent means also that it is possible to create new (custom-defined) types of directory entry. Hence, it follows that such custom-defined types cannot necessarily be recognised by the file system when it reads the type value of a directory entry stored on a mounted volume. As the type of directory entry can be custom-defined, there is no contradiction in saying that the file system is able to read the type value of a directory entry, but at the same time does not recognise the type of directory

entry defined by the type value.

15. The Board observes that the file system of the claimed invention is not limited to directory entries with a TYPE field as shown in Figures 5 to 10. As argued by the appellant (see statement of grounds of appeal, page 14, first paragraph), a skilled person can implement the claimed file system for example by implementing directory entries having a separate field for storing the classification information.

Hence, the Board sees no reason to doubt that the patent discloses sufficient details on the type and classification information to enable the skilled person to carry out the claimed invention in at least one way over the whole range claimed, which includes one way to carry out the illustrative embodiment of Figures 5 to 10.

16. A further objection of the respondent under Article 100(b) EPC was that the term "ignores" in feature d of claim 1 was not clear and not defined in the patent. In particular, it was not used in the context of a specific operation. Consequently, the skilled person would not know how to implement the features related to ignoring a directory entry.
 - 16.1 In the Board's opinion, "ignoring" a directory entry in the context of claim 1 was interpreted by the skilled person at the relevant date as not using the entry for subsequent processing. Hence, the Board cannot see why the absence of a clear definition of "ignoring" in the contested patent (see paragraphs [0019]: column 5, lines 25 to 28, and [0021]: last sentence) would pose any problems when carrying out the invention: When a directory entry is ignored according to claim 1, this

entry is simply not used by the file system in the further processing steps. For example, an ignored directory entry might not be returned to a program requesting the file system to return a description of the content of a mounted volume.

Hence, the meaning of the term "ignoring" in feature d of claim 1 is easy to grasp: a benign primary directory entry has to be ignored if it is not understood, independently of the context when it is accessed. Consequently, for the skilled person it was clear at the relevant date how to understand and how to implement feature d of claim 1.

17. Finally, the respondent objected that feature e.1 could not be implemented. The patent provided no example of a secondary directory entry, and thus the skilled person could not classify directory entries in the proposed categories. Moreover, the patent specified in paragraph [0021] in column 5 that ignoring a critical secondary entry meant that "the entire directory entry will be skipped", but it was not clear how to implement that either. When performing a user-initiated process such as file open, a directory entry was ignored after it was accessed. Hence, "ignoring" could not simply mean not accessing. In addition, the associated primary entry for an unknown secondary entry could not be determined as there was no access path from the secondary entry to its primary entry. D7 disclosed specific details which closed the gaps in the contested patent.

17.1 With respect to feature e.1, claim 1 specifies that the secondary directory entry is associated with a primary directory entry. This requires that the associated primary directory entry can be determined. In the

Board's opinion, the skilled person was at the relevant date aware of many possible implementations of an association between two data entries based on his general programming skills (such as using the same values or pointers to identify associated entries). Consequently, in the present case, it was not necessary to disclose details of such implementations in order to meet the requirements of Article 83 EPC.

It is true that D7 contains more details, but the fact that it is possible to provide more technical details cannot, in the circumstances of the present case, lead to the conclusion that the original disclosure was insufficient. In the Board's view, the alleged gaps (such as finding the associated primary directory entry) could be closed by the skilled person based on his general programming skills. While there is no explicit definition for various terms used in the description (such as "ignoring" or "critical secondary directory entries"), these terms are already sufficiently defined by the claimed functionality, taking into account that a skilled person interprets claim 1 using his common general knowledge about file systems and the technical purpose of providing an extensible file format as defined in the contested patent. It follows that the patent contains an enabling disclosure and that the ground for opposition under Article 100(b) EPC is not justified.

Referral of questions to the Enlarged Board of Appeal

18. According to Article 112(1) EPC a board of appeal is to refer a question to the Enlarged Board of Appeal if this is necessary for ensuring uniform application of the law or if a point of law of fundamental importance arises. The referred point of law has to be relevant

for deciding the case underlying the referral (see Case Law of the Boards of Appeal of the EPO, 8th edition 2016, IV.F.2.3.3).

19. The respondent did not allege that there was diverging jurisprudence relating to the question that it had formulated. In fact, the respondent did not refer to any diverging decisions.
20. The respondent rather argued that the questions to be referred concerned the following point of law of fundamental importance: It was not clear how the case law relating to sufficient disclosure which had been mainly developed in the technical field of chemistry should be applied to computer-implemented inventions, as there was no case law for this technical field (see respondent's reply to the Board's summons, section F, starting on page 35).
21. The first question submitted by the respondent starts from the hypothesis that the claim is interpreted without consideration of the description.
 - 21.1 As is evident from the reasoning provided above, the description has been taken into account in the present case for the Board's interpretation of claim 1. However, the respondent appears to base its arguments on a different understanding of the description. Hence, as correctly argued by the appellant during the oral proceedings before the Board, the dispute in the present case concerns rather the interpretation of the facts (the description) and not a point of law. Hence, the first question submitted by the respondent is irrelevant for the Board's decision. The same applies with respect to the second and third questions, which

refer to the first question.

22. The fourth question asks whether the requirement that the invention can be carried out over the whole scope of the claim is met if an example described in the contested patent cannot be implemented by the skilled person using his common general knowledge.
- 22.1 As the respondent could not convince the Board that an exemplary embodiment disclosed in the contested patent was so insufficiently disclosed that it could not be carried out by the skilled person using his common general knowledge, the fourth question is also irrelevant for the Board's decision in the present case.
23. It follows that there is no need to refer any questions to the Enlarged Board of Appeal and that the respondent's corresponding request has to be rejected under Article 112(1) (a) EPC.

Remittal to the Opposition Division for further prosecution

24. It is established case law that there is no absolute right to have an issue decided upon by two instances. Other criteria, e.g. the general interest that proceedings are brought to a close within an appropriate period of time, have also to be taken into account by the board when deciding whether or not to remit a case (see Case Law of the Boards of Appeal of the EPO, 8th edition 2016, IV.E.7.6.1).
25. The appellant argued that the Board should exercise its discretion under Article 111(1) EPC to decide on all grounds for opposition during the oral proceedings, as a third appeal for the appellant was not acceptable in

view of the overall length of the proceedings.

The Board considers that, since it is currently dealing with the first appeal in opposition proceedings, a possible second appeal, should it be necessary, would still be acceptable in view of the length of the opposition proceedings. The proceedings before the Opposition Division were relatively short, and the Board has prioritised the case in order to accelerate it. Such an acceleration seemed to be appropriate *inter alia* because there was a risk of a remittal.

The respondent argued that the main function of the appeal proceedings was to review a first-instance decision. As not all of the grounds for opposition had been decided on by the Opposition Division, the case should be remitted for further prosecution.

The Board agrees that the appeal proceedings primarily have the function of reviewing the first-instance decision. Nevertheless, it also has to be taken into account that if the Board were to decide only on the ground for opposition under Article 100(b) EPC, after a remittal the Opposition Division might decide only on the ground for opposition under Article 100(c) EPC, but not on the ground for opposition under Article 100(a) EPC. Given the Opposition Division's provisional opinion in its summons, such a further course of action would not be unlikely. This, however, could lead to a second remittal and eventually a third appeal in the opposition proceedings.

Regarding the grounds for opposition under Article 100(a) EPC, the Board notes that the respondent had raised a novelty objection as a further ground for opposition late in the proceedings and that the

procedural constraints with respect to the admission of such a further ground for opposition are different in proceedings before the Opposition Division and the Board.

26. In view of the above considerations for exercising its discretion, the Board takes the view that, in the specific circumstances of the present case, it should deal itself with the ground for opposition under Article 100(c) EPC, but not with the grounds for opposition under Article 100(a) EPC.

Article 100(c) EPC

Added subject-matter - Article 100(c) EPC

27. In the notice of opposition, the respondent argued that feature d.1 of claim 1 extended beyond the content of the original application. This feature specified that the mounting of a volume was prevented if the file system did not recognise a critical primary directory entry. By contrast, the original description disclosed that the mounting of a volume was prevented when an unknown critical primary directory entry was found. Hence, feature d.1 of claim 1 was inconsistent with the original disclosure.
28. The Opposition Division argued in its summons that claim 1 could be interpreted in two ways. In a first possible interpretation, the mounting was prevented by one critical primary directory entry not known to the file system. In a second possible interpretation, the mounting would not be prevented if the file system recognised one critical primary directory entry. However, the second interpretation was not in accordance with the description. Hence, feature d.1 of

claim 1 was not directly and unambiguously derivable from the original application.

In the respondent's view the second interpretation was correct (see the truth tables submitted in the oral proceedings before the Board). This interpretation was clearly supported by the translation of this feature in the German version of the claims of the contested patent.

29. The respondent's objection that feature d.1 of claim 1 comprises added subject-matter hinges on the interpretation of this feature. Its wording is as follows:

"when enumerating directory entries during a process of mounting the volume:
[the file system] prevents the volume from being mounted if the file system does not recognize a critical primary directory entry;"

30. The Board shares the appellant's view that the wording of feature d.1 has to be understood according to the first of the Opposition Division's two interpretations mentioned above. This meaning is consistent with the related passages of the description as filed. The appellant pointed to page 6, lines 9 to 10 and 29 to 30, of the description as originally filed. The relevant passages read as follows (emphasis added by the Board):

"In an illustrative embodiment, **an operating environment will not mount a volume corresponding to the extensible file system format with an unknown critical primary directory entry**, as will be described below." (page 6, lines 8 to 11)

"To mount a corresponding [sic] to the extensible file system format, the file system implements a mount volume procedure. In an illustrative embodiment, the mount volume procedure attempts to a look at a version number for the volume. If the version number is not understood (e.g., the version number is higher), the volume will not be mounted. **During a normal directory enumeration, any critical primary directory entries not known by the file system will prevent the volume from being mounted.**" (page 6, lines 25 to 30)

31. The wording of feature d.1 specifies only the following condition for preventing the mounting of the volume: a critical primary directory entry is not recognised by the file system. Hence, the mounting is already prevented when the file system accesses an unknown critical primary directory entry when enumerating directory entries during the mount process.

32. The Board concludes that the wording of feature d.1 and the corresponding passages of the description express the same concept: if the file system does not recognize at least one critical primary directory entry, i.e. if an unknown critical primary directory entry is enumerated, the volume is not mounted. This is exactly the functionality that a skilled person would expect in view of the technical purpose to implement an extensible file system format and in view of the further features of claim 1: The critical primary directory entries are evidently those which are critical for the success of the volume mount procedure. Hence, it does not make sense from a technical point of view to interpret feature d.1 in a way according to which one or more unknown critical primary directory entries do not prevent the volume from being mounted.

As the text of the European patent in the language of the proceedings is the authentic text in the proceedings before the European Patent Office (Article 70(1) EPC), the German translation of the claims is not relevant for the Board's decision.

Admission of further lines of attack under Article 100(c) EPC

33. During the oral proceedings before the Board, the respondent requested permission to present seven new objections under Article 123(2) EPC against features c.3, c.3.1, c.3.2, c.3.3 and e.1 of claim 1. It submitted that it had become aware of these objections only when preparing for the oral proceedings before the Opposition Division. As the ground for opposition under Article 100(c) EPC had not been discussed during the oral proceedings before the Opposition Division, it had lacked an opportunity to present them earlier in the proceedings. As the Board decided to deal itself for the first time in the proceedings with the ground for opposition under Article 100(c) EPC, which was however contrary to the function of appeal proceedings, the respondent should have the opportunity to present arguments further substantiating the ground for opposition under Article 100(c) EPC. In the present case, this was also appropriate as the amount of material that needed to be covered in the appeal proceedings was limited.

34. The appellant argued that it was too late to admit such submissions. In the first-instance proceedings, none of the parties had known what the decision of the Opposition Division would be, and so the parties had to prepare properly. Hence, the respondent should already have presented its objections in advance of or at least

at the oral proceedings before the Opposition Division.

35. The seven new objections under Article 123(2) EPC against features c.3, c.3.1, c.3.2, c.3.3 and e.1 of claim 1 constitute fresh lines of attack under Article 123(2) EPC and cannot be considered as a refinement of the objections against feature d.1 of claim 1 that were submitted with the respondent's reply to the statement of grounds of appeal. The request to present these fresh lines of attack was submitted only late in the afternoon at the oral proceedings and hence extremely late: The appellant did not even submit that it wished to amend its case when the issue of a possible remittal of the case was discussed in the oral proceedings before the Board. Hence, the respondent tried to present fresh lines of attack at a very late stage during the oral proceedings before the Board which would add substantial complexity to the proceedings. As neither the Board nor the appellant could reasonably be expected to deal with these new lines of attack without adjournment of the oral proceedings, the Board decided not to admit these amendments to the respondent's case (Article 13(3) RPBA).

Concluding remarks

36. For the reasons provided above, the Board concludes that none of the grounds for opposition under Article 100(b) and (c) EPC prejudices the maintenance of the patent. Since the Board is not dealing with the ground for opposition under Article 100(a) EPC, the case is to be remitted to the department of first instance for further prosecution.

In the circumstances of the present case, there is no need to consider the auxiliary requests.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution.

The Registrar:

The Chairman:



I. Aperribay

R. Moufang

Decision electronically authenticated