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**Datasheet for the decision  
of 30 March 2021**

**Case Number:** T 0266/18 - 3.5.05

**Application Number:** 12768927.1

**Publication Number:** 2715511

**IPC:** G06F3/06

**Language of the proceedings:** EN

**Title of invention:**

DATA STORAGE SYSTEM EXPORTING LOGICAL VOLUMES AS STORAGE  
OBJECTS

**Applicant:**

VMWare, Inc.

**Headword:**

DATA STORAGE SYSTEM EXPORTING LOGICAL VOLUMES AS STORAGE  
OBJECTS / VMWare

**Relevant legal provisions:**

EPC Art. 113(1), 111(1)

EPC R. 71(6), 103(1)(a)

RPBA 2020 Art. 11

**Keyword:**

Right to be heard - substantial procedural violation (yes) -  
opportunity to comment (no)

Remittal to the department of first instance - fundamental  
deficiency in first instance proceedings (yes)

Appealed decision - reasoned (no)

Reimbursement of appeal fee - equitable by reason of a  
substantial procedural violation



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Case Number: T 0266/18 - 3.5.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.05**  
**of 30 March 2021**

**Appellant:** VMWare, Inc.  
(Applicant) 3401 Hillview Avenue  
Palo Alto, CA 94304 (US)

**Representative:** Appleyard Lees IP LLP  
15 Clare Road  
Halifax HX1 2HY (GB)

**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 8 September  
2017 refusing European patent application No.  
12768927.1 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chair** A. Ritzka  
**Members:** N. H. Uhlmann  
F. Blumer

## **Summary of Facts and Submissions**

- I. The appellant appealed against the decision of the examining division refusing European patent application No. 12768927.1, which was filed on 20 August 2012.
- II. The examining division made reference to the following documents:  
  
D1 US 2010/115222  
D2 WO 2010/087803
- III. The examining division decided that the main request and the auxiliary request did not satisfy the requirements of Article 56 EPC and that the auxiliary request did not meet the provisions of Article 84 EPC.
- IV. In its statement setting out the grounds of appeal, the appellant maintained the main request and submitted new first and second auxiliary requests.
- V. The board summoned the appellant to oral proceedings.
- VI. In a communication pursuant to Article 15(1) RPBA 2020, the board set out its provisional view of the case. The board considered that the first-instance proceedings appeared to be tainted by a substantial procedural violation.
- VII. The appellant withdrew its request for oral proceedings on the condition that the board remit the case for further prosecution in a written procedure.
- VIII. The appellant's requests are that the decision under appeal be set aside and a patent be granted based on the claims of the main request, filed with a letter dated 28 June 2017 (Rule 71(6) EPC), or the first or

second auxiliary request, filed with the statement setting out the grounds of appeal.

IX. Claim 1 of the main request reads as follows:

"A method of creating a logical storage volume (151) from a storage system (130) that includes physical data storage units, DSUs, (141), the method comprising:

creating a logical storage container (142) having an address space that maps to storage locations of the DSUs (141),

creating a plurality of logical storage volumes (151, 152), each having an address space that maps to the address space of the logical storage container (142), and each of which is a storage object to which input-output commands, IOs, are directed;

characterized by :

configuring a protocol endpoint (161) comprising a logical endpoint for protocol traffic in the storage system through which the IOs to the logical storage volumes are received;

maintaining a connection database (312) that stores currently valid IO connection paths between the protocol endpoints and the logical storage volumes, and identifiers for the protocol endpoints are contained in the IOs,

when an IO is received at one of the protocol endpoints (161), parsing the IO to determine the logical storage volume (151, 152) for which the IO is intended by accessing the connection database (312), and

wherein each said currently valid IO connection path is established in response to a bind request issued by a computer system (103)."

- X. In view of the board's decision, the wording of the claims of the auxiliary requests does not play any role.

### **Reasons for the Decision**

1. The present application pertains to a computer storage system. The system creates and provides access to logical storage volumes. These volumes are addressed by and accessed from computer systems via protocol endpoints comprised in the computer storage system.
2. Document D1 discloses a storage system comprising virtual volumes which can be directly accessed from computer systems.
3. Main request - patentability

The examining division argued (decision under appeal, page 6, last paragraph) that, because in D1 all input-output commands sent by a host were implicitly received by the storage system in queues, D1's queues were protocol endpoints, as claimed.

In the following paragraph (on page 7) the division argued that further features of claim 1, referring to the same protocol endpoints, were implicitly disclosed in D1. However, these arguments do not relate to any queues in D1, i.e. they are at odds with the finding of the division that D1's queues anticipate, albeit implicitly, the protocol endpoints.

For these reasons, crucial parts of the feature mapping set out in section 3.1.1 of the decision under appeal are not correct. Thus, the inventive-step analysis is not convincing.

4. Procedural issues

The board notes that the appellant was not given any opportunity to comment on the grounds for refusal and on the crucial arguments set out in the decision under appeal.

4.1 The argument of the examining division that D1's queues (implicitly) anticipated the claimed protocol endpoints (last paragraph of the Reasons on page 6) was presented for the first time in the decision under appeal.

In the form 2906 annexed to the communication about intention to grant a European patent (dated 6 March 2017), the division argued differently that D1 "implicitly discloses protocol endpoints ('storage system 3' in fig. 2 of D1 has I/O ports)".

Yet another argument is given in the minutes of the oral proceedings: "it is even more clear that D1 discloses the claimed 'protocol endpoints' because the system of D1 is connected to external entities and uses some protocols for I/O access" (section 8 on page 1).

4.2 With regard to the claimed feature "maintaining a connection database (312) that stores currently valid IO connection paths between the protocol endpoints and the logical storage volumes", the division referred in the decision under appeal (first paragraph on page 7) to Figure 2 of D1 and argued that "STORAGE SYSTEM 3 implicitly keeps track of valid input-output connection paths to all its instances of VIRTUAL VOL 41 as it needs to route I/O requests to/from said instances".

This reasoning was never presented before in the course of the substantive examination of the application in suit. Instead, the division argued that "storage system 3 in fig. 2 of D1 must keep track of all connections

with host 1" (in the above-mentioned form 2906 and in the minutes of consultation by telephone dated 14 February 2017).

According to the minutes of the oral proceedings (first two paragraphs on page 2), the following different arguments were stated by the examining division:

"Regarding the claimed database, the first examiner stated that it is implicitly disclosed, fig. 10 of D1 being one example of it. In D1, as a whole, other hints toward the usage of a database are also disclosed. Regarding the 'currently valid I/O paths', the first examiner argued that because D1 discloses multiple hosts, there must be a tracking entity that checks the validity of established I/O paths."

- 4.3 The decision (last sentence of the first paragraph on page 7) stated that "I/O requests implicitly identify these connection paths such that STORAGE SYSTEM 3 knows how to route said requests". This explanation relates to the feature in claim 1 "identifiers for the protocol endpoints are contained in the IOs".

This explanation was provided for the first time in the decision under appeal and the examining division never specifically addressed this feature in claim 1 before.

- 4.4 In its letter under Rule 71(6) EPC dated 28 June 2017, the appellant argued that "[t]here is no disclosure in D1 of configuring the claimed type of protocol endpoint. In D1 the host 1 issues read or write data requests that refer to a virtual page 51 in the virtual VOL 41 using an address in IOs that directly specifies the Logical Block Address of the target virtual page 51; see paragraphs 63 - 64. Thus, there is no protocol endpoint (included in IO commands or anywhere else) comprising a logical endpoint for protocol traffic in the storage system through which the IOs to the logical



storage volumes (virtual page) are received" (first paragraph on page 3, emphasis in the original).

This crucial argument was not mentioned or rebutted in the grounds of the decision under appeal.

4.5 The board notes that, according to the settled jurisprudence of the boards of appeal of the EPO, the refusal of an application based on a reasoning expressed for the first time in the decision constitutes a violation of the applicant's right to be heard and, therefore, a substantial procedural violation (see the Case Law of the Boards of Appeal of the European Patent Office, 9th edition 2019, chapter III.B.2.3.1). Furthermore, the right to be heard under Article 113(1) EPC is not just a right to present arguments but also to have those arguments duly considered in the ensuing decision (see the Case Law of the Boards of Appeal of the European Patent Office, 9th edition 2019, chapter III.K.3.4.2).

4.6 The main request was refused for lack of inventive step. As explained above in sections 4.1 to 4.5, the sole ground for refusal is tainted by substantive procedural violations.

5. Remittal

In view of the observations in section 4., the board holds that fundamental deficiencies are apparent in the proceedings before the examining division. Furthermore, the board observes that the claims of the main request on file are novel and that the inventive-step reasoning of the examining division is not convincing.

Furthermore, the department of first instance has not yet fully examined the application regarding inventive step, e.g. on the basis of the problem/solution approach and duly considering the arguments of the

appellant and its right to be heard (see the Case Law of the Boards of Appeal of the European Patent Office, 9th edition 2019, chapter V.A.7.4).

Finally, it appears questionable to the board whether document D1 and in particular Figure 2 (the only part of D1 to which the decision under appeal refers) constitute a promising starting point for an inventive-step analysis due to the grave structural differences between the claimed subject-matter and the disclosure of D1. The appellant argued convincingly regarding the distinguishing features of the subject-matter claimed in the statement setting out the grounds of appeal, from the last paragraph on page 1 to the third paragraph on page 4 and in the letter dated 28 June 2017, from the last paragraph on page 2 to the middle of page 4. Thus, it might be advisable to consider if an additional search based on the claims of the present requests would be useful.

For these reasons, the board remits the case for further prosecution (Article 111(1) EPC and Article 11 RPBA 2020). Reimbursement of the appeal fee is equitable (Rule 103(1) (a) EPC).

6. In view of the above observations, the board does not need to take a position on the auxiliary requests.

## Order

### For these reasons it is decided that:

The decision under appeal is set aside.

The application is remitted to the examining division for further prosecution.

The appeal fee is reimbursed in full.

The Registrar:

The Chair:



K. Götz-Wein

A. Ritzka

Decision electronically authenticated