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**Datasheet for the decision
of 23 January 2020**

Case Number: T 1754/15 - 3.5.05

Application Number: 06121790.7

Publication Number: 1777613

IPC: G06F3/06, G06F11/20

Language of the proceedings: EN

Title of invention:

Pool spares for data storage virtualization subsystem

Applicant:

Infortrend Technology, Inc.

Headword:

Storage Virtualisation System/INFORTREND

Relevant legal provisions:

EPC Art. 84, 123(2), 54

RPBA 2020 Art. 11

Keyword:

Claims - clarity - main request (yes)

Amendments - allowable (yes)

Novelty - main request (yes)

Remittal to the department of first instance

Decisions cited:

Catchword:



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Case Number: T 1754/15 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 23 January 2020

Appellant: Infortrend Technology, Inc.
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 22 April 2015
refusing European patent application No.
06121790.7 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair A. Ritzka
Members: P. Cretaine
F. Blumer

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division, posted on 22 April 2015, refusing European patent application No. 06121790.7. A main request was refused because of non-compliance with Article 123(2) EPC, lack of clarity (Article 84 EPC) and lack of novelty of the independent claims 1 and 40 (Article 54 EPC), having regard to the disclosure of D2: US 5 193 171.

The first to fourth auxiliary requests were not admitted into the proceedings under Rule 137(3) EPC. A fifth auxiliary request was refused because of lack of clarity (Article 84 EPC) and lack of inventive step (Article 56 EPC) having regard to the disclosure of D2.

II. Notice of appeal was received on 8 June 2015 and the appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 19 August 2015. The appellant requested that the decision be set aside and that a patent be granted based on a main request or on auxiliary requests 1 to 6, all requests submitted with the statement setting out the grounds of appeal.

III. A summons to oral proceedings was issued on 6 August 2019. In a communication pursuant to Article 15(1) RPBA attached to the summons, the board gave its preliminary opinion that the main request met the requirements of Articles 123(2) and 84 EPC and that the subject-matter of claim 1 of the main request was new having regard to D2 (Article 54 EPC). The board further detailed the reasons why it was not considered appropriate to deal with the issue of inventive step

(Article 56 EPC) and indicated that it would be in a position to set aside the decision and remit the case to the department of first instance for further prosecution on the basis of the main request.

- IV. In a letter of response dated 14 October 2019, the appellant requested the remittal of the case to the department of first instance for further prosecution on the issue of inventive step.
- V. In a notification dated 17 October 2019, the board informed the appellant that the oral proceedings were cancelled.
- VI. Claim 1 according to the main request reads as follows:

" A data storage virtualization subsystem, SVS, (20) for providing data storage space to a host entity (10), **characterized by** comprising:
a storage virtualization controller, SVC, (100) for connecting to the host entity (10);
a plurality of normally-used physical storage devices, PSD, (130-1~130-6, 130-9~130-14, 130-17~130-22), not being a spare PSD but for storing user data, electrically connecting to the SVC (100) for storing data, wherein one or more sections of the normally-used PSDs (130-1~130-6, 130-9~130-14, 130-17~130-22) is defined as a logical media unit, LMU, (140-1~140-5), and at least one of the plurality of the normally-used PSDs (130-1~130-6, 130-9~130-14, 130-17~130-22) is defined as a PSD pool (110-1~110-9) corresponding to a pool ID for identifying the PSD pool (110-1~110-9), the PSD pool does not correspond to the LMU; and
one or more pool spare PSD (130-7, 130-8, 130-15, 130-16, 130-23, 130-24), assigned to the PSD pool (110-1~110-9) corresponding to the pool ID, for

replacing failed one or more of the plurality of normally-used PSDs (130-1~130-6, 130-9~130-14, 130-17~30-22) in the PSD pool (110-1~110-9)."

The request comprises a further independent claim (claim 41) relating to a corresponding method.

Due to the outcome of the appeal proceedings, there is no need to give details of the auxiliary requests.

Reasons for the Decision

1. The appeal is admissible (see point II).
2. Main request - Article 123(2) EPC

The objection in the decision (see Reasons 2.1.1) was that the feature of claim 1 defining in substance that a Logical Media Unit, LMU, is formed by one or more sections of the plurality of normally-used Physical Storage Devices, PSDs, has no support in the application documents as originally filed. In this respect, the decision stated that paragraphs [0031] to [0051] of the published application and Figures 2A, 2B and 3 to 6, did not provide a basis for forming LMUs by using one or more sections of PSDs since all the LMUs used in these embodiments were each based on a plurality of entire normally-used PSDs, and not only sections of them.

The board agrees with the appellant however that the passages of the description dealing with the related background art of a data storage virtualisation subsystem, SVS, namely pages 1 and 2 of the original application, do provide such support. These passages

actually teach that in storage virtualisation technology, the primary purpose of a storage virtualisation controller, SVC, is to map combinations of sections of PSDs to form LMUs, an LMU being made accessible to a host entity by using a logical storage address. The appellant has further plausibly argued that, in this technology, entire spare PSDs are used to replace entire PSDs in case of failure (see the paragraph bridging pages 2 and 3 of the originally filed application). The board thus admits that the formation of LMUs by using one or more sections of PSDs is inherent to SVS technology. Taking into account that the whole application is clearly directed to a SVS system comprising a SVC controller (see from page 5, "Summary of the Invention", to page 6, second full paragraph of the originally filed application), the board maintains that the formation of LMUs by using sections of PSDs, as defined in claim 1, is based on a definition of the LMUs according to SVS technology and can be unambiguously derived by a skilled person from the original application documents.

Moreover, the board is satisfied that the amendments to the claims with respect to the claims of the main request on which the decision was based are supported by the application documents as originally filed, in particular by the passages cited in points A to C, with respect to the main request, in pages 1 and 2 of the statement setting out the grounds of appeal.

For these reasons, the board maintains that the main request meets the requirements of Article 123(2) EPC.

3. Main request - Article 84 EPC

There was an objection in the decision that the term "normally-used" in claim 1 was not clear since it could not technically differentiate one PSD from another PSD, used as a spare PSD for instance. In the board's view however, the claim distinguishes the two kinds of PSDs not by their technical structure but by their functionalities within the claimed data storage virtualisation subsystem. The normally-used PSDs are assigned to a logical media unit LMU for building the data storage virtualisation system SVS, as is well known in the technical field of storage virtualisation, whereas the spare PSDs are used for replacing failed normally-used PSDs. Thus it is clear that the normally-used PSDs are not spare PSDs.

There was a further objection in the decision that the meaning of the expression "the normally-used PSDs [are] defined as a PSD pool according to a pool ID for identifying the PSD pool, not according to the LMU" in claim 1 was vague. The appellant has amended this expression by replacing the wording "not according to the LMU" with the wording "the PSD pool does not correspond to the LMU". This clearly defines that the PSD pool has a different set up than the LMU, which is further defined on sections of PSDs. The pool ID actually defines a logical group of PSDs comprising both normally-used PSDs assigned to a LMU and spare PSDs not assigned to the LMU.

The examining division also expressed objection in the decision that the wording of claim 1 implied that a single pool spare PSD could be used as multiple substitutes, which was not clear. However, the appellant argued plausibly that the application did not preclude a pool spare PSD replacing a first failed normally-used PSD the first time and that subsequently

the first failed normally-used PSD is replaced with a newly inserted PSD to rebuild the LMU, thereby enabling the further use of the pool spare PSD to replace a second failed normally-used PSD.

For these reasons, the board maintains that claim 1 meets the requirements of Article 84 EPC.

4. Main request - Article 54 EPC.

The examining division based the novelty objection against claim 1 of the then main request on the disclosure of D2. The board assumes that the division read the logical media unit LMU of claim 1 onto a "volume" of D2 (see Reasons 2.1.3) and considered that this volume was "backed" by "underlying" physical storage devices PSDs. The division then apparently read the PSD pool of claim 1 onto the underlying physical storage devices of either the "active pool" or the "inactive pool" of volumes of D2. Furthermore, the division considered that the pool spare PSDs of claim 1 corresponded to the "volumes" X and Y of the "spare volume" in D2, and thus assumed that a "volume" in D2 might also be a PSD and therefore might be identical to both a PSD and an LMU.

The board however agrees essentially with the appellant that there is no clear distinction in D2 between logical and physical groupings of PSDs as the present amended claim 1 now specifies. Claim 1 details a logical grouping of PSDs in the form of an LMU of an SVS system and a physical grouping of PSDs in the form of a PSD pool, the two groupings having a different assembly of PSDs. In D2, both the active pool and the inactive pool, which were considered as LMUs by the examining division, are formed by logically

grouping the physical storage devices underlying the volumes. There is however no disclosure in D2 of a further grouping of PSDs, identified by a pool ID, which does not correspond to either the active pool or the inactive pool.

For these reasons at least, the board maintains that the subject-matter of claim 1, and of corresponding method claim 41, is new having regard to the disclosure of D2 (Article 54 EPC).

5. Remittal

The decision with respect to the main request was based solely on the grounds of Articles 123(2), 84 and 54 EPC (see Reasons 2.1.1. to 2.1.4). Moreover, the issue of inventive step (Article 56 EPC) was never addressed by the examining division in the relevant context during the course of the examination proceedings. For these reasons, the board considers that it is not appropriate to deal with the issue of inventive step and has decided to remit the case to the department of first instance for further prosecution, in particular on the issue of inventive step, on the basis of the main request (Article 11 RPBA 2020), as requested by the appellant in its letter dated 14 October 2019.

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 Chair:



K. Götz-Wein

A. Ritzka

Decision electronically authenticated