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**Datasheet for the decision
of 12 August 2020**

Case Number: T 1935/17 - 3.5.05

Application Number: 10010835.6

Publication Number: 2385458

IPC: G06F3/06, G06F11/14

Language of the proceedings: EN

Title of invention:

Virtual disk drive system and method

Applicant:

Dell International L.L.C.

Headword:

Pool of storage/DELL

Relevant legal provisions:

EPC Art. 76(1)

Keyword:

Divisional application - added subject-matter (yes)



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Case Number: T 1935/17 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 12 August 2020

Appellant: Dell International L.L.C.
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Representative: Round, Edward Mark
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 14 February
2017 refusing European patent application No.
10010835.6 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair A. Ritzka
Members: E. Konak
F. Blumer

Summary of Facts and Submissions

- I. The appeal is against the decision of the examining division to refuse the application on the grounds that the main request and auxiliary request 1 did not meet the requirements of *inter alia* Article 76(1) EPC.
- II. With its statement setting out the grounds of appeal, the appellant filed a main request and auxiliary requests 1 and 2. It requested that the decision be set aside and a patent be granted based on one of these requests. It requested oral proceedings as a further auxiliary measure.
- III. The board summoned the appellant to oral proceedings. In its preliminary opinion, the board raised objections under *inter alia* Article 76(1) EPC.
- IV. In reply to the summons, the appellant filed a new main request and demoted the requests then on file to auxiliary requests 1 to 3. Since the request for oral proceedings was withdrawn, the board made its decision in written proceedings.
- V. Claim 1 of the main request reads as follows:

"A computer environment system (100), capable of dynamically allocating data in a pool of storage, comprising:
a data storage system (110), comprising a page pool of storage (112);
wherein the page pool of storage (112) is configured to:

maintain a pool of storage comprising data occupied disk storage blocks and available disk storage blocks for storing data formed across multiple RAID devices (114) and having a predefined size; upon request by a volume (116), allocate available disk storage blocks from the pool of storage formed across multiple RAID devices to the volume (116); and write data to the allocated available disk storage blocks."

VI. Claim 1 of auxiliary request 1 reads as follows:

"A disk drive system, capable of dynamically allocating data in a pool of storage, comprising:
a data storage subsystem;
a plurality of server volumes comprising storage space from the data storage subsystem; and
a disk manager having at least one disk storage system controller, wherein the disk manager is configured to:
maintain a pool of storage comprising a matrix of virtual volumes of the data storage subsystem, each of the virtual volumes being an abstraction of multiple RAID devices and having a predefined size;
upon request by a server volume, allocate an available virtual volume from the matrix of virtual volumes to the server volume; and
write data to the allocated virtual volume."

VII. Claim 1 of auxiliary request 2 differs from claim 1 of auxiliary request 1 as follows (with the additions underlined and the deletions ~~struck through~~):

"A disk drive system, capable of dynamically allocating data in a pool of storage, comprising:
a data storage subsystem;

a plurality of ~~server~~ volumes, server volumes,
presented to at least one server, comprising storage
space from the data storage subsystem; and
[...]"

- VIII. Claim 1 of auxiliary request 3 differs from claim 1 of
auxiliary request 1 as follows (with the additions
underlined and the deletions ~~struck through~~):

"A disk drive system, capable of dynamically allocating
data in a pool of storage, comprising:
a data storage subsystem;
a plurality of data storage ~~server~~ volumes, presented
to at least one server, comprising storage space from
the data storage subsystem; and
[...]"

Reasons for the Decision

1. Main request
- 1.1 The present application is a divisional application of
an earlier European patent application. According to
Article 76(1) EPC, a divisional application may be
filed only in respect of subject-matter which does not
extend beyond the content of the earlier application as
filed.
- 1.2 In the present case, since the earlier application and
the present application have the same description and
drawings in a different format, for the sake of
simplicity this decision refers to passages of the

present application (as did the appellant in its submissions).

- 1.3 As the appellant confirmed in its letter of reply (see page 1, penultimate paragraph), the embodiment for which it seeks protection is based on figure 2.
- 1.4 In its preliminary opinion (see point 3.7), the board noted that the inconsistent use of terminology and reference signs throughout the application made it difficult to see any link between the embodiment in figure 2 and paragraph [0022] describing this figure and the rest of the application. The board added that the same held true for the other embodiment in paragraph [0023] and figures 14A and 14B. Since the disclosure of figure 2 and paragraph [0022] was quite limited, essentially that *"a disk storage system 110 includes a page pool of storage 112, i. e. a pool of data storage including a list of data storage space that is free to store data. The page pool 112 maintains a free list of RAID devices 114 and manages read/write assignments based on user's requests"*, other features of claim 1 of the requests then on file were not directly and unambiguously derivable from the earlier application (see points 3.4 and 3.5).
- 1.5 In its letter of reply, the appellant argued that the "dynamic data allocation" referred to in paragraph [0022] was clearly linked to the text starting at paragraph [0027] describing "dynamic data allocation", and in particular gave paragraphs [0028] and [0029] and figures 2B and 2C as the basis of claim 1 of the amended main request. The board is not convinced by these arguments. The "dynamic data allocation" described in these other passages consistently refers to a single RAID system (see paragraph [0028], "Figure

2Billustrates a data allocation *in a RAID subsystem* [...] to form a page pool"; paragraph [0029], second sentence, "The dynamic data allocation method 200 includes [...] such that disk space of a *RAID subsystem*"; and figure 2C, first box, "[...] disk space of a *RAID subsystem* forms a page pool"), and so it cannot be directly and unambiguously combined with the embodiment in paragraph [0022] and figure 2, which involves multiple RAID devices.

- 1.6 In its submissions, the appellant further referred to paragraph [0023] (see the appellant's letter of reply to the summons, page 3, first and third complete paragraphs), without contesting the board's preliminary opinion that this paragraph and corresponding figures 14A and 14B referred to a different embodiment from the one in paragraph [0022] and figure 2.
- 1.7 Therefore, the board is not convinced by the appellant's submissions, and concludes that in fact the way the application is drafted splits the embodiment in paragraph [0022] and figure 2 off from the rest of the application.
- 1.8 It is not directly and unambiguously derivable from paragraph [0022] and figure 2 that the pool of storage 112 is "formed across multiple RAID devices" or has "a predefined size". Paragraph [0022] merely states that the pool of storage maintains a free list of RAID devices, not that it is formed across multiple RAID devices, and it is entirely silent on the size of the pool.
- 1.9 Therefore, claim 1 of the main request contains subject-matter which extends beyond the content of the earlier application as filed (Article 76(1) EPC).

2. Auxiliary requests

2.1 The disk drive system of claim 1 of all auxiliary requests comprises a plurality of volumes, each worded somewhat differently.

2.2 In its letter of reply to the summons (see page 2, third paragraph), the appellant stated that the disk drive system of these requests was the disk drive system 100 of figure 1, which comprised the data storage system 110 (figure 2). In its preliminary opinion (see point 3.4), the board noted that the subject-matter regarding the disk drive system comprising volumes seemed to extend beyond the content of the earlier application, since it was not directly and unambiguously derivable from paragraph [0022] that the volumes 116 depicted in figure 2 were part of the disk drive system 110. Whilst the appellant amended claim 1 of the main request to address this issue (see the appellant's letter, page 2, third paragraph, last sentence), it did not submit any arguments to the contrary with regard to the auxiliary requests. Given this, the board sees no reason to change its preliminary opinion.

2.3 Therefore, claim 1 of all auxiliary requests contains subject-matter which extends beyond the content of the earlier application as filed (Article 76(1) EPC).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



A. Chavinier-Tomsic

A. Ritzka

Decision electronically authenticated