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**Datasheet for the decision
of 14 March 2023**

Case Number:	T 0227/21 - 3.5.07
Application Number:	13894460.8
Publication Number:	3049957
IPC:	G06F15/177, G06F1/32, G06F9/44, G06F1/20
Language of the proceedings:	EN

Title of invention:
Device configuration prior to initialization of a system

Applicant:
Hewlett-Packard Development Company, L.P.

Headword:
Device configuration/HEWLETT-PACKARD

Relevant legal provisions:
EPC Art. 54(1), 54(2), 111(1)
RPBA 2020 Art. 11, 12(2)

Keyword:
Novelty - (yes)
Remittal to the department of first instance - (yes)

Decisions cited:
T 1966/16, T 0731/17

Case Number: **T 0227/21 - 3.5.07**

D E C I S I O N
of Technical Board of Appeal 3.5.07
of 14 March 2023

Appellant: (Applicant)	Hewlett-Packard Development Company, L.P. 10300 Energy Drive Spring TX 77389 (US)
Representative:	HGF HGF Limited 1 City Walk Leeds LS11 9DX (GB)
Decision under appeal:	Decision of the Examining Division of the European Patent Office posted on 2 October 2020 refusing European patent application No. 13894460.8 pursuant to Article 97(2) EPC

Composition of the Board:

Chair	J. Geschwind
Members:	R. de Man
	C. Barel-Faucheux

Summary of Facts and Submissions

I.   The appellant (applicant) appealed against the decision
        of the examining division refusing European patent
        application No. 13894460.8, which was published as
        international application WO 2015/047277 A1.

II.   The contested decision cited the following documents:

        D1: WO 2013/062564 A1, 2 May 2013;
        D2: US 2003/0233534 A1, 18 December 2003;
        D3: US 2004/0215836 A1, 28 October 2004;
        D4: US 6 219 742 B1, 17 April 2001.

        The examining division decided that the subject-matter
        of claims 1 to 11 of the main request and the first
        auxiliary request was not new over each of
        documents D1, D2 and D3, and that the subject-matter of
        the claims of the second and third auxiliary requests
        lacked inventive step when starting from each of
        documents D1, D2 and D3.

        The examining division referred to document D4 for a
        discussion of the ACPI standard.

III.   With its statement of grounds of appeal, the appellant
        replaced its requests with an amended main request and
        amended first, second and third auxiliary requests. It
        therefore requested that the decision under appeal be
        set aside and that a patent be granted on the basis of
        the claims of the main request or, in the alternative,
        of one of the first, second and third auxiliary
        requests. It requested that oral proceedings be
        appointed if its requests were not granted.

IV.   In a communication issued under Rule 100(2) EPC, the
         board informed the appellant of its intention to set
         aside the decision under appeal and to remit the case
         to the examining division for further prosecution on
         the basis of the main request. In response, the
         appellant agreed to remittal without oral proceedings
         before the board being held first.

V.   Independent claim 1 of the main request reads as
         follows:

         "A computing system (102) comprising:
             a power circuit (104) to transmit standby power to
         a device (108);
             a memory (110) associated with the device (108) to
         maintain configuration data (112);
             a register (222) internal to the device (108) to
         program a value (224) corresponding to the
         configuration data (112), wherein the value (224)
         indicates a functionality of a hardware component
         associated with the register (222); and
             the device (108) to, prior to powering on a CPU of
         the computing system (102):
                 process the configuration data (112) from the
             memory (110) once receiving the standby power; and
                 configure itself based on the configuration
             data (112)."

         Claims 2 and 3 are dependent on claim 1.

         Independent claim 4 reads as follows:

         "A non-transitory machine-readable storage medium
         encoded with instructions executable by a processor of

a computing system (102), the storage medium comprising
instructions to:

apply standby power to a device (108) within the
computing system (102);

process configuration data (112) of the device
(108); and

configure the device (108) based on the
configuration data (112),

wherein the device (108) is configured prior to
powering on a CPU of the computing system (102),

wherein to configure the device (108) based on the
configuration data (112) the medium comprises further
instructions to:

program a register (222) internal to the
device (108) with a value (224) corresponding to
the configuration data (112), wherein the value
(224) indicates a functionality of a hardware
corresponding to the register (222)."

Claims 5 to 7 are dependent on claim 4.

Independent claim 8 reads as follows:

"A method to configure a device (108) within a
computing system (102), the method comprising:

processing configuration data when standby power
is applied to the device (108); and

configuring the device (108) based on the
configuration data (112), wherein the device (108) is
configured

prior to powering on a CPU of the computing system
(102),

wherein processing the configuration data (112)
further comprises,

obtaining a value (224) corresponding to the
configuration data (112) from a table; and

programming a register (222) internal to the
device (108) with the value (224), wherein the value
(224) indicates a functionality of a hardware
associated with the register (222)."

Claims 9 to 11 are dependent on claim 8.

VI.   The text of the claims of the auxiliary requests is not
relevant to the outcome of this decision.

Reasons for the Decision

1.   The main request is based on the main request
considered in the decision under appeal and was amended
only to include reference signs. The board therefore
has no objection to its admission into the appeal
proceedings under Article 12(4) RPBA 2020.

2.   *The invention as defined by claim 1*

2.1   Claim 1 is directed to a computing system comprising a
device, a power circuit and a memory.

The power circuit is arranged to transmit standby power
to the device.

The memory is associated with the device and is
arranged to maintain configuration data.

The device includes an internal register which can be
programmed with a value "corresponding to the
configuration data, wherein the value indicates a
functionality of a hardware component associated with
the register".

2.2   The device is arranged to process the configuration
        data from the memory and configure itself based on the
        configuration data once it receives the standby power
        and prior to a CPU of the computing system being
        powered on.

3.   *Novelty over document D1*

3.1   Document D1 relates to a mechanism for allowing a
        computing device to switch between operational contexts
        with minimal delay, computing resources and power
        (page 2, lines 1 to 4). An example of such a switch is
        a switch from one operating system to another operating
        system (page 1, lines 23 to 26).

3.2   The proposed mechanism involves the use of a low power
        state such as the ACPI "Standby or S3 sleep
        state" (page 3, lines 2 to 4; page 4, lines 12 and 13).

        To switch operational context, the user closes the lid
        of a laptop or presses a hot key (page 5, lines 25
        to 29; Figure 2, step 202). In response, an "OS switch
        flag" is set, and the S3 state is triggered (page 5,
        lines 31 and 32; Figure 2, steps 204 and 206).

        When the computing device wakes up from the S3 state,
        it determines on the basis of the OS switch flag
        whether the OS is to be switched (page 5, lines 9
        to 12; Figure 1, step 112). If not, a normal resume
        from the standby or S3 state is performed (page 5,
        lines 12 to 14; Figure 1, step 114). If the OS is to be
        switched, another OS is awakened or booted up (page 5,
        lines 15 to 24; Figure 1, steps 116 to 126).

3.3   The examining division referred to page 6, lines 9
        to 15, for a disclosure of the features "a memory

associated with the device to maintain configuration
data" and "a register internal to the device to program
a value corresponding to the configuration data".

The cited passage discloses that, when switching to the
S3 state, the "S3 registers are saved to memory (i.e.,
RAM)". Hence, the examining division considered an S3
register, its value, and the RAM memory to correspond
to the internal register, configuration data, and the
memory to maintain configuration data of the claim.

3.4   According to the examining division, the claim features
        specifying that the device is arranged to process the
        configuration data from the memory and configure itself
        based on the configuration data once it receives the
        standby power and prior to a CPU of the computing
        system being powered on were disclosed on page 8,
        lines 22 to 33, and page 9, lines 6 to 13, and in
        Figure 7.

3.4.1   More specifically, for the feature "prior to powering
        on a CPU of the computing system", the examining
        division referred to page 8, lines 22 to 33, and the
        "NO" branch in step 704 of Figure 7, and argued that
        CPUs were not powered on in the S3 state in order to
        save energy.

        Since the "NO" branch of step 704 in Figure 7 leads to
        step 706 and refers to the case where the computing
        device was powered on rather than awoken from the S3
        state, the board is unsure whether the examining
        division indeed intended to refer to the "NO" branch or
        made a mistake.

        Moreover, the passage on page 9, lines 1 to 5, explains
        that process 700 including step 704 "may be"

implemented by the BIOS, which implies that the CPU, which executes the BIOS, at this point has already been powered on. Document D1 does not disclose any alternative implementation in which process 700 is carried out before a CPU is powered on.

3.4.2   The examining division argued that page 9, lines 6 to 9, together with steps 704, 706 and 720 of Figure 7 disclosed "(the device to ...) process the configuration data from the memory once receiving the standby power".

The board is again unsure why the examining division referred to steps 704, 706 and 720, none of which relate to reading out the content of the "S3 registers" from RAM. Those registers are read out either in the "Normal Resume Flow" step 724 (if no OS switch takes place) or in the "Save Context and Jump to Alternate OS Resume Vector" step 730 (if an OS switch is executed). The latter is further illustrated in Figure 5 and described on page 7, lines 8 to 12.

In any event, neither the passage cited by the examining division nor any other passage of document D1 discloses that the device is arranged to read or process the configuration data once it starts receiving standby power. Presumably, the examining division considered that the device receives "standby power" in the S3 "standby" state, but that means that standby power was received already before the event that triggered the resumption from the S3 state.

3.4.3   Hence, document D1 does not disclose the claim features "prior to powering on a CPU of the computing system: process the configuration data from the memory once

receiving the standby power; and configure itself based on the configuration data".

3.5   Point 14.5 of the reasons for the decision deals with the appellant's submissions explaining that none of documents D1, D2 and D3 disclosed performing the configuration of a device prior to powering on a CPU of the computing system.

3.5.1   The examining division argued that claim 1 did not specify which processing entity other than the CPUs of the computing system should read the configuration data from the internal register (the board understands: from the memory) and use it for configuring the device. The examining division acknowledged that such tasks could be carried out by separate service processors instead of the CPU, but noted that such additional processing entities were not specified in "the broad wording" of claim 1.

3.5.2   The board does not see - and the examining division did not explain - how the alleged lack of a specification in claim 1 of a non-CPU entity which processes the configuration data "prior to powering on a CPU of the computing system" could refute the appellant's analysis of documents D1, D2 and D3 showing that those documents do not disclose the claim features requiring that the device configures itself "prior to powering on a CPU of the computing system".

3.5.3   The examining division may have considered these claim features to be not just broad but also unclear. However, for the purpose of assessing novelty, unclear features normally cannot be ignored but have to be interpreted. The examining division in fact acknowledged that the configuration could be carried

out by a separate service processor, which means that the features cannot be discarded as being devoid of technical meaning.

3.5.4   Moreover, the board notes that claim 1 states that "the device" processes the configuration data. According to paragraph [0014] of the published application, the computing system 102 may include a CPU in addition to the device 108 and the power circuit 104. According to paragraph [0018], the device 108 is used in addition to the CPU on the motherboard of the computing system 102 and "may operate as an auxiliary processor while the CPU operates as the main processing unit".

Hence, claim 1, at least when interpreted in the light of the description, does specify the non-CPU entity which processes the configuration data: it is the device itself.

3.6   In sum, the board agrees with the appellant's argumentation in its statement of grounds of appeal in respect of novelty over document D1 and concludes that the subject-matter of independent system claim 1 and of the corresponding independent method claim 8 is new over document D1.

3.7   For independent claim 4, see point 5.4 below.

4.   *Novelty over documents D2 and D3*

4.1   In its decision, the examining division stated that the subject-matter of claim 1 also lacked novelty over either of documents D2 and D3 because "both teach the concept of preserving a state in configuration variables when entering or leaving a standby state".

Since this argument is unsuitable to explain why each of documents D2 and D3 anticipates all the features of claim 1 in combination, these objections are insufficiently reasoned.

4.2   Moreover, no reasoned novelty or inventive-step objection based on either of documents D2 and D3 has been raised during the first-instance proceedings.

5.   *Remittal for further prosecution*

5.1   Since the examining division's novelty objection was based on an incorrect interpretation of claim 1 of the main request, the board has doubt that document D1 is a suitable starting point for assessing inventive step.

5.2   In view of the appellant's argument that documents D2 and D3 (as well as D1) did not disclose performing the configuration of a device prior to powering on a CPU of the computing system and the examining division's treatment of this argument in point 14.5 of reasons for its decision (see point 3.5 above), the same might apply to documents D2 and D3.

5.3   Although the examining division did not raise any clarity objections against independent claim 1 of the main request, point 14.5 of the reasons for its decision suggests that it may have considered certain aspects of claim 1 to be unclear.

In addition, the board also has some *prima facie* doubts in respect of the clarity of claim 1 as currently worded, in particular as to how the "CPU of the computing system" relates to the "device".

5.4   Independent claim 4 of the main request is directed to
        a "non-transitory storage medium encoded with
        instructions executable by a processor of a computing
        system", including instructions to "configure the
        device ... prior to powering on a CPU of the computing
        system".

        This claim wording raises, at least *prima facie*, the
        question how the processor can execute instructions to
        configure a device "prior to powering on a CPU of the
        computing system". This issue may require further
        investigation under Article 84 EPC.

5.5   Since the primary object of the appeal proceedings is
        to review the decision under appeal in a judicial
        manner (Article 12(2) RPBA 2020), in these
        circumstances special reasons within the meaning of
        Article 11 RPBA 2020 present themselves for remitting
        the case for further prosecution (see decisions
        T 1966/16, Reasons 2.2; and T 731/17, Reasons 7.2
        and 7.3).

        The case is therefore to be remitted to the examining
        division for further prosecution on the basis of the
        main request (Article 111(1) EPC).

5.6   Since the decision under appeal does not contain
        sufficient reasoning with respect to its objections
        based on documents D2 and D3, it fails to comply with
        the requirement that the written decision be reasoned
        (Rule 111(2) EPC).

        However, the novelty objection based on document D1 is
        reasoned (even if not convincingly), and a lack of
        novelty over a single document is sufficient to refuse
        an application. The board therefore does not consider

that the (partial) violation of Rule 111(2) EPC justifies the reimbursement of the appeal fee under Rule 103(1)(a) EPC.

Order

For these reasons it is decided that:

1.   The decision under appeal is set aside.

2.   The case is remitted to the examining division for further prosecution.

The Registrar: The Chair:

S. Lichtenvort   J. Geschwind

Decision electronically authenticated