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**Datasheet for the decision
of 19 December 2017**

Case Number:	T 1714/13 - 3.5.05
Application Number:	11001137.6
Publication Number:	2362578
IPC:	H04L12/24, H04L12/12
Language of the proceedings:	EN

Title of invention:
Method and system for managing network power policy and
configuration of data center bridging

Applicant:
Avago Technologies General IP
(Singapore) Pte. Ltd.

Headword:
Network domains power management/AVAGO

Relevant legal provisions:
EPC Art. 56
RPBA Art. 13(1)
EPC R. 103

Keyword:

Inventive step - (no)
Late-filed auxiliary requests - admitted (no)
Reimbursement of appeal fee - (no)

Decisions cited:

Catchword:

Case Number: **T 1714/13 - 3.5.05**

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 19 December 2017

Appellant: (Applicant)	Avago Technologies General IP (Singapore) Pte. Ltd. 1 Yishun Avenue 7 Singapore 768923 (SG)
Representative:	Jehle, Volker Armin Bosch Jehle Patentanwaltsgesellschaft mbH Flüggenstrasse 13 80639 München (DE)
Decision under appeal:	Decision of the Examining Division of the European Patent Office posted on 4 April 2013 refusing European patent application No. 11001137.6 pursuant to Article 97(2) EPC.

Composition of the Board:

Chair	A. Ritzka
Members:	P. Cretaine
	D. Prietzel-Funk

Summary of Facts and Submissions

I.   This appeal is against the decision of the examining
        division, posted on 4 April 2013, refusing
        European patent application No. 11001137.6. The main
        request and the first auxiliary request were refused on
        the grounds of lack of clarity (Article 84 EPC) and
        lack of inventive step (Article 56 EPC) having regard
        to the disclosure of

        D2: US 6 301 613, in combination with

        D7: US 2009/077394.

        The second and third auxiliary requests were refused on
        the ground of lack of clarity (Article 84 EPC).
        A set of claims filed during the oral proceedings and
        based on the second auxiliary request was not admitted
        into the proceedings (Rule 137(3) EPC).

II.   Notice of appeal was received on 6 June 2013 and the
        appeal fee was paid on the same day. The statement
        setting out the grounds of appeal was received on
        19 July 2013. The appellant requested that the decision
        be set aside and that a patent be granted based on the
        main request or the first to third auxiliary requests,
        all requests filed with the statement setting out the
        grounds of appeal. Oral proceedings were requested in
        case the board did not allow the main request. The
        appellant further requested the reimbursement of the
        appeal fee under Rule 103 EPC.

III.   A summons to oral proceedings was issued on
        4 October 2017. In an annex to this summons, the board
        gave its preliminary opinion that the subject-matter of
        the claims of the main and auxiliary requests did not

involve an inventive step having regard to the combination of D2 and D7 (Article 56 EPC).

IV.   By letter dated 23 October 2017, the appellant filed an amended set of claims according to a new first auxiliary request and a set of claims according to a fourth auxiliary request.

V.   By letter dated 8 December 2017, the appellant informed the board that it would not attend the oral proceedings.

VI.   Oral proceedings were held on 19 December 2017 in the absence of the appellant. The appellant requested in writing 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 of any of the first to fourth auxiliary requests, the main request and the second and third auxiliary requests submitted with the statement setting out the grounds of appeal and the first and fourth auxiliary requests submitted with the letter dated 23 October 2017. The appellant also requested in the statement setting out the grounds of appeal and in the letter dated 23 October 2017 that the appeal fee be reimbursed in the event that the appealed decision was rectified pursuant to Art. 109(1) EPC. After due deliberation on the basis of the written submissions, the decision of the board was announced at the end of the oral proceedings.

VII.   Independent claim 1 according to the main request reads as follows:

       "A method for networking in a network domain (100_x) comprising a single logical point of management (108_x), LPM, that coordinates operation of one or more network

components (102_{XY}, 104_X, 106_{XY}, 108_X) in said network domain (100_X), the method comprising:
controlling said one or more network components (102_{XY}, 104_X, 106_{XY}, 108_X) by said single LPM (108_X) domain wide and in accordance with a network power policy and a data center bridging, DCB, configuration policy for said network domain (100_X),
controlling power modes, power consumption and DCB configuration of said one or more network components (102_{XY}, 104_X, 106xy, 108_X), and
adjusting said DCB configuration policy dependent on one or more of: a particular application, a particular link, a traffic class group, a type of network connection, and/or connection speed."

Independent claim 1 according to the first auxiliary request reads as follows:

"A method for networking in a network domain (100_X) comprising a single logical point of management (108_X), LPM, that coordinates operation of one or more network components (102_{XY}, 104_X, 106_{XY}, 108_X) in said network domain (100x), the method comprising:
controlling said one or more network components (102_{XY}, 104_X, 106_{XY}, 108x) by said single LPM (108_X) domain wide and in accordance with a network power policy and at least one of a plurality of data center bridging, DCB, configuration policies for said network domain (100_X), wherein said plurality of DCB policies are configured for a plurality of links depending on a mix of applications delivered over said plurality of links,
controlling power modes, power consumption and DCB configuration of said one or more network components (102_{XY}, 104_X, 106_{XY}, 108_X), and
adjusting said at least one of a plurality of DCB configuration policies dependent on one or more of: a

particular application, a particular link, a traffic
class group, a type of network connection, and/or
connection speed,
determining whether two or more of the adjusted DCB
configuration policies for said one or more network
components (102_{XY}, 104_X, 106_{XY}, 108_x) are conflicting,
arbitrating between two or more conflicting DCB
configuration policies for said one or more network
components (102_{XY}, 104_X, 106_{XY}, 108_x) dependent on a
minimum bandwidth available,
determining whether one or more parameters of the DCB
configuration policies for said one or more network
components (102_{xy}, 104_x, 106_{xy}, 108_x) are mismatched,
and
adjusting or setting a new DCB configuration policy of
the network domain (100_X) based on the mismatched
parameters between said one or more network components
(102_{xy}, 104_x, 106_{XY}, 108_x)."

Claim 1 of the second auxiliary request adds to claim 1
according to the main request the further steps of:

"providing history of power consumed by said one or
more network components (102_{XY}, 104_{XY}, 106_{XY}, 108_{XY}) to
enable the analysis of power consumed over a period of
time, and
using said LPM (108_x) to enable dynamic configuration
of power modes for said one or more network components
(102_{XY}, 104_{XY}, 106_{XY}, 108_X), while accounting for the
maximum power for each of said one or more network
components (102_{XY}, 104_{XY}, 106_{XY}, 108_X)".

Claim 1 of the third auxiliary request adds to claim 1
according to the main request the further steps of:

"controlling an absolute cap on power consumption and/
or controlling an average power consumption of said one
or more network components (102_{xy}, 104_x, 106_{xy}, 108_x),
and
adjusting link parameters of a particular link, when a
link partner of said particular link is adjusting its
setting based on power and within the limits of the
absolute cap on power consumption."

Claim 1 of the fourth auxiliary request adds to claim 1
according to the main request the further steps of:

"selecting one or more of: a best performance mode, a
normal mode, and/or a minimal mode of operation of said
one or more network components (102_{xy}, 104_x, 106_{xy},
108_x) dependent on said network power policy for said
network domain (100_x), and
adjusting one or more of: a link speed, a link
utilization, a maximum power consumed, and/or an
average power consumed by said one or more network
components (102_{XY}, 104_X, 106_{XY}, 108_X), system power
states, processor P-states, processor C-states, said
one or more network components' states, active state
power management, ASPM, states, and/or energy efficient
Ethernet, EEE, mode dependent on said selected mode of
operation."

All requests comprise a further independent claim
directed to a corresponding system for networking
(claim 14 of the main request, claim 13 of the first
auxiliary request, claim 12 of the second and third
auxiliary requests, claim 11 of the fourth auxiliary
request).

Reasons for the Decision

1.   Admissibility of the appeal

        The appeal complies with Articles 106 to 108 EPC
        (cf. point II above) and is therefore admissible.

2.   Non-attendance at oral proceedings

        The appellant decided not to attend the scheduled oral
        proceedings. Pursuant to Article 15(3) RPBA, the board
        is not obliged to delay any step in the appeal
        proceedings, including its decision, by reason only of
        the absence at the oral proceedings of any party duly
        summoned who may then be treated as relying only on its
        written case.

        Hence, the board was in a position to announce a
        decision at the end of the oral proceedings.

3.   Main request

3.1   Document D2 relates to a policy-based networking
        scheme. A policy verifier, implemented as a software
        element in a computer (300, Figure 3), acquires
        configuration information about the network under
        management, determines whether all the policies
        establishing the overall configuration policy of the
        network can be satisfied and, if not, reports errors
        (see the abstract and the passage from column 6, line
        40 to column 7, line 32). Moreover, D2 discloses that
        in a situation where some of the policies cannot be
        satisfied, the policy verifier provides suggestions to
        resolve the problem and the user is requested to change
        some of the policies (see column 8, lines 2 to 16 and
        29 to 32), which amounts to adjusting the overall
        configuration policy. Using the wording of claim 1, D2

thus discloses a single logical point of management
(LPM) - the above-mentioned policy verifier - that co-
ordinates the operation of network components in a
network domain in accordance with a configuration
policy that may be adjusted.

The differences between the subject-matter of claim 1
and the disclosure of D2 are thus that:

(a) the network configuration policy is a specific data
centre bridging (DCB) configuration policy,

(b) the LPM also controls a network power policy for
the network domain, a control of power modes and power
consumption of network components being applied, and

(c) the adjusting of the configuration policy is
performed by the LPM dependent on one or more of a
particular application, a particular link, a traffic
class group, a type of network connection, and/or
connection speed.

3.2   D2 relates to a method for verifying policies, in
       particular configuration policies, that govern a
       policy-based network. A DCB configuration policy is
       known *per se* and this has not been challenged by the
       appellant. Therefore, applying the policy-verifying
       scheme of D2 to a DCB configuration policy lies within
       the general competence of the skilled person. Since no
       particular adaptation to a DCB is specified in the
       other features of claim 1, the mere mention of the kind
       of configuration policy, as defined by feature (a),
       does not contribute to an inventive step of the
       subject-matter of claim 1.

Feature (b) is already disclosed in D7: Figure 2 in combination with paragraphs [0027] and [0046] shows that a single logical point of management ("Power management module 130") controls the components of a communication network in accordance with a network power policy, whereby power modes ("power state") and power consumption for the network elements are controlled. Applying this feature of D7 to the policy-verifying scheme of D2 represents an obvious step for the skilled person desiring to apply a power policy to the network.

With respect to feature (c), D2 already discloses adjustment of the configuration policy by the user (see column 8, lines 15 to 16) based on an assessment by the policy verifier. Having the adjustment performed by the LPM thus represents the mere automation of a known process, particularly since the adjustment step is not further specified in the claim. The broad and vague feature that adjustment is dependent on one of the listed network features (application, link, etc.) does not add anything of inventive significance since the policy adjustment in D2 is also based on network operational conditions.

The board further notes that the appellant's arguments with respect to the inventive step of the main request, which were submitted in the statement setting out the grounds of appeal and in the response to the summons to oral proceedings, do not address the relevant prior art disclosed in D2 and D7.

Further, contrary to what the appellant argued, there is no indication at all in the claims or in the whole description that the controlling of the network elements in accordance with the power policy is

performed in co-ordination with the controlling of the
network elements in accordance with the DCB
configuration policy. There is thus no evidence given
that the two controlling steps in the present
application interact with each other in a way that
would provide a synergistic effect. Therefore, features
(b) and (c) have to be considered as merely juxtaposed
features in claim 1, as already stated by the board in
the annex to the summons to oral proceedings.

Considering thus that the two features (b) and (c) are
merely juxtaposed features which are already disclosed
in D7 and D2, respectively, and taking into account the
point made above with respect to feature (a), the board
judges that the subject-matter of claim 1 does not
involve an inventive step, having regard to the
combination of D2 and D7 (Article 56 EPC).

Independent claim 14 comprises the same features as
claim 1 but expressed in terms of a system. Therefore
claim 14 does not meet the requirements of Article 56
EPC either.

4.   First auxiliary request

This request was filed on 23 October 2017 and is based
on the previous first auxiliary request submitted with
the appellant's grounds of appeal on 19 July 2013.

Claim 1 has been substantially amended with respect to
claim 1 according to the first auxiliary request filed
with the appellant's grounds of appeal by adding the
feature that:
- the plurality of DCB policies are configured for a
plurality of links depending on a mix of applications
delivered over the plurality of links,

and the further steps of:
- determining whether one or more parameters of the DCB
configuration policies for some network components are
mismatched, and
- adjusting or setting a new DCB configuration policy
of the network domain based on the mismatched
parameters between these network components.

Taking into account the late-filing of these
amendments, the technical complexity of the claimed
subject-matter resulting from the insertion of the
above-mentioned additional features, which raise issues
that need to be discussed in detail with respect to D2
and D7 and which were not addressed by the appellant,
and the absence of the appellant at oral proceedings,
the board exercised its discretion under Rule 13(1)
RPBA and decided not to admit this request into the
proceedings.

5.   Second auxiliary request

Claim 1 adds in substance to claim 1 according to the
main request the features that history of power
consumed over time by the network elements is provided
for analysis and that the LPM configures power modes
for the network elements, taking into account the
maximum power of each network element.

D7 discloses that the power management module controls
power consumption over time for the computing sub-
systems (see paragraphs [0033] and [0039]), by
commanding power states of network elements (see
Table 1). In one state, a network element functions in
full power mode, i.e. at its maximum power. The
configuration by an LPM of power modes for the network
element, taking into account the maximum of each

element, is thus already disclosed in D7. Further, it
is implicit from D7 that the power management module,
in order to control power consumption, should be
provided with history of the power consumed over time
by the network elements.
The board further notes that the appellant's arguments,
which were submitted in the statement setting out the
grounds of appeal with respect to inventive step of the
second auxiliary request, do not address the relevant
prior art disclosed in D2 and D7.

For these reasons, the board judges that the subject-
matter of claim 1 does not involve an inventive step,
having regard to the combination of D2 and D7
(Article 56 EPC).

Independent claim 12 comprises the same features as
claim 1 but expressed in terms of a system. Therefore
claim 12 does not meet the requirements of
Article 56 EPC either.

6.   Third auxiliary request

Claim 1 adds in substance to claim 1 according to the
main request the features of controlling an absolute
power cap on power consumption and average power
consumption of the network components and of adjusting
link parameters of a link when a link partner is
adjusting its setting based on power and within the
limit of the absolute cap on power consumption.

D7 however discloses that the power management module
controls the power consumption of the network elements
(see paragraphs [0033] and [0039]). It is thus implicit
from D7 that the absolute cap and average of this power
consumption is controlled. Further, adjusting the link

parameters to the setting of the link partners, in particular a power setting, is an obvious measure in communication networks.

The board further notes that the appellant's arguments, which were submitted in the statement setting out the grounds of appeal with respect to the inventive step of the third auxiliary request, do not address the relevant prior art disclosed in D2 and D7.

For these reasons, the board judges that the subject-matter of claim 1 does not involve an inventive step having regard to the combination of D2 and D7 (Article 56 EPC).

Independent claim 12 comprises the same features as claim 1 but expressed in terms of a system. Therefore claim 12 does not meet the requirements of Article 56 EPC either.

7.   Fourth auxiliary request

This request was filed on 23 October 2017 and is based on the main request submitted with the appellant's grounds of appeal on 19 July 2013.

Claim 1 has been substantially amended with respect to claim 1 according to the main request by adding the further steps of:

- selecting one or more of: a best performance mode, a normal mode, and/or a minimal mode of operation of said one or more network components dependent on said network power policy for said network domain, and

- adjusting one or more of: a link speed, a link utilisation, a maximum power consumed, and/or an average power consumed by said one or more network components, system power states, processor P-states, processor C-states, said one or more network components' states, active state power management (ASPM) states, and/or energy-efficient Ethernet (EEE) mode dependent on said selected mode of operation.

Taking into account the late-filing of these amendments, the technical complexity of the claimed subject-matter resulting from the insertion of the above-mentioned additional features, which raise issues that need to be discussed with respect to D2 and D7 and which were not addressed by the appellant, and the absence of the appellant at oral proceedings, the board exercised its discretion according to Rule 13(1) RPBA and decided not to admit this request into the proceedings.

8.   Since the main, second auxiliary and third auxiliary requests are not allowable under Article 56 EPC and since the first and fourth auxiliary requests are not admitted into the proceedings, the appeal is not allowable.

9.   Request for reimbursement of the appeal fee

Since the appeal is not allowable, the prerequisite conditions for a reimbursement of the appeal fee set out in Rule 103(1) EPC are not fulfilled and the board decides that the appeal fee will not be reimbursed.

Order

For these reasons it is decided that:

1.   The appeal is dismissed.

2.   The request for reimbursement of the appeal fee is
      rejected.

The Registrar: The Chair:

K. Götz-Wein   A. Ritzka

Decision electronically authenticated