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Datasheet for the decision of 2 October 2014

Case Number: T 0700/12 - 3.5.05

Application Number: 08153385.3

Publication Number: 1978670

IPC: H04L12/18, H04L12/28

Language of the proceedings: EN

Title of invention:
Method and device for reliable broadcast

Applicant:
Exelis Inc.

Headword:
Broadcast message acknowledgement

Relevant legal provisions:
EPC Art. 54, 56, 123(2)

Keyword:

Decisions cited:

Catchword:

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Case Number: T 0700/12 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 2 October 2014

Appellant: (Applicant)	Exelis Inc. 1650 Tysons Boulevard, Suite 1700 McLean, VA 22102 (US)
Representative:	Steimle, Josef Magenbauer & Kollegen Patentanwälte Plochinger Straße 109 73730 Esslingen (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 18 October 2011 refusing European patent application No. 08153385.3 pursuant to Article 97(2) EPC.**

Composition of the Board:

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

Summary of Facts and Submissions

I. The appeal is against the decision of the examining division, posted on 18 October 2011, to refuse European patent application No. 08153385.3 on the ground of lack of novelty of independent claims 26 and 28 (Article 54 EPC), having regard to the disclosure of

D1: GANG DING ET AL.: "Reliable broadcast in ZigBee networks", SENSOR AND AD HOC COMMUNICATIONS AND NETWORKS, IEEE SECON 2005 Proceedings, SANTA CLARA, CA, USA 26-29 SEPTEMBER 2005, PISCATAWAY, NJ, US, pages 510-520.

In an obiter dictum appended to the decision, clarity objections under Article 84 EPC were raised against independent claim 1.

II. Notice of appeal was received on 7 December 2011 and the appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 17 January 2012. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims on which the decision was based, as a main request, or on the basis of the sets of claims according to first to fourth auxiliary requests as filed with the statement setting out the grounds of appeal. Oral proceedings were requested on an auxiliary basis.

III. A summons to oral proceedings scheduled for 28 October 2014 was issued on 10 July 2014. In an annex to this summons pursuant to Article 15(1) RPBA, the board gave its preliminary opinion that independent claims 26 and 28 of the main request did not appear to meet the requirements of Articles 54 and 56 EPC, respectively,

having regard to the disclosure of D1, and that claim 1 of the main request did not appear to meet the requirements of Article 84 EPC. The board further indicated that, in its opinion, the independent claims 1 of the first to fourth auxiliary requests did not appear to meet the requirements of Article 123(2) EPC.

IV. By letter of 20 August 2014, the appellant informed the board that it would not be attending the scheduled oral proceedings and requested a decision according to the state of the file, without submitting any substantive arguments in reply to the objections and deficiencies noted by the board.

V. By communication dated 19 September 2014, the appellant was informed that the oral proceedings were cancelled.

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

"A method for broadcasting messages in an ad hoc wireless network having a tree-based architecture, comprising:
a. receiving a message at a node in the network;
b. determining whether the message is a broadcast message;
c. when the message is a broadcast message, determining a source node of the broadcast message based on stored data at the node that represents an existing tree-based topology of the network;
d. determining from the broadcast message a number of node hops to a root node for said source node and deriving therefrom a number of nodes from said root node to said node;
e. comparing the number of node hops from said root node to said node with data stored at said node that

represents the number of node hops between said root node and said node for said existing tree-based topology of the network;
f. based on said (e) comparing, building a list of identifiers of other nodes in the network from which said node requires reception of a broadcast message as an implicit acknowledgment that said other nodes in the network have received said broadcast message; and
g. re-broadcasting said broadcast message."

Independent claim 26 of the main request reads as follows:

"A method for re-broadcasting messages from a node in an ad hoc wireless network having a tree-based architecture, comprising:
a. receiving a broadcast message at the node for re-broadcasting from the node to other nodes in the network;
b. based on stored data in the node for an existing tree-based topology of the network, building a list of identifiers of other nodes in the network from which said node requires reception of a broadcast message as an implicit acknowledgment that said other nodes in the network have received said broadcast message; and
c. re-broadcasting said broadcast message."

Independent claim 28 of the main request reads as follows:

"A wireless communication device that operates as a node in an ad hoc wireless network having a tree-based architecture, the device comprising:
a. a radio transceiver that transmits and receive signals;

b. a modem that modulates baseband transmit signals and demodulates baseband receive signals;
c. a memory that stores network topology data for an existing network;
d. a controller coupled to said modem and said memory, wherein the controller controls operation of said device as a node in the network, wherein when the device receives a broadcast message for re-broadcasting to other nodes in the network, said controller, based on said network topology data, generates a list of identifiers of other nodes in the network from which reception of a broadcast message is required as an implicit acknowledgment that said other nodes in the network have received said broadcast message."

Reasons for the Decision

1. Admissibility of the appeal

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

2. Request for a decision according to the state of the file

In the communication dated 10 July 2014, the Board raised detailed objections under Articles 54 and 56 EPC with respect to the main request and objections under Article 123(2) EPC with respect to the first to fourth

auxiliary requests. The Appellant did not reply in substance to these objections but announced that it would not attend the requested oral proceedings scheduled for 28 October 2014, and requested a decision according to the state of the file. Since there was no attempt by the Appellant to refute or overcome the objections raised in the above communication, the Board had no reasons to depart from its preliminary opinion expressed in said communication. The board interprets the announcement not to attend the requested oral proceedings and the request for a decision according to the state of the file, both of them made in the letter of 20 August 2014, as an implicit withdrawal of the request for oral proceedings made in the statement setting out the grounds of appeal. Consequently, the board decided to cancel the oral proceedings.

3. Having regard to the above, the Board concludes that, for the reasons presented below, which were all set out in the communication of 10 July 2014, the main request and the first to fourth auxiliary requests do not meet the requirements of the EPC.

3.1 Main request

3.1.1 Independent claims 26 and 28

The board agrees with the findings in the decision under appeal that the subject-matter of independent claim 26 was already disclosed in D1.

In that respect, D1 discloses (the references in parentheses referring to this document) a method for re-broadcasting messages from a node (*"forward node", see page 513, left-hand column; "a node v which can be...a forward node selected by another node", see the*

sentence bridging pages 513 and 514) in an ad hoc wireless network (*see the abstract*) having a tree-based architecture (*see Figures 2 and 4*). When the node receives a broadcast message for re-broadcasting to other nodes (*"every tree neighbours", see page 513*), it builds a list of identifiers of other nodes (*see Figure 3: the collection of nodes with status "Forward" achieved by the node selection algorithm represents such a list*) from which it requires reception of the broadcast message as an implicit acknowledgement that said other nodes have received the broadcast message (*see page 513, right-hand column, lines 7 to 11; page 514, right-hand column, lines 11 to 20*), based on the existing tree-based topology of the network (*see page 513, left-hand column, lines 13 to 14: the forward nodes of a node are its 1-hop neighbours in the tree topology*). The node then re-broadcasts the broadcast message (*see page 513, left-hand column, lines 14 to 16*).

Therefore, the combination of steps of claim 26 is already disclosed in D1 and claim 26 does not meet the requirements of Article 54 EPC.

Independent claim 28 relates to a device which is controlled to perform the methods steps of claim 26. The structural features of the claimed device (radio transceiver, modem, memory and controller) are commonly used in the field of telecommunication networks. Therefore, the subject-matter of claim 28 does not meet the requirements of Article 56 EPC.

Thus the board judges that, for these reasons alone, the main request is not allowable.

3.1.2 The appellant argued in the statement setting out the grounds of appeal that D1 did not disclose comparing the number of node hops from a root node to a node, in order to base the re-broadcasting strategy on the validity of the tree topology. However, since the feature of comparing the number of node hops from a root node to a node is not present in claims 26 and 28, this argument is moot in respect of these claims.

3.2 First auxiliary request

Claim 1 according to the first auxiliary request has been amended with respect to claim 1 of the main request by defining in particular in step c) that the source node in a previously established tree-based topology is **determined from data contained in the broadcast message**. In the board's judgment there is no support for this amendment in the application documents as originally filed. Even if the description mentions (*see paragraph [0031] of the published application*) that a "sender node address" is contained in a field of a broadcast message, this disclosure is limited to broadcast **command** messages, such as "Deactivate" and "Activate" broadcast **command** messages.

Therefore, claim 1 does not meet the requirements of Article 123(2) EPC and the first auxiliary request is not allowable for this reason alone.

3.3 Second auxiliary request

Claim 1 according to the second auxiliary request has been amended with respect to claim 1 of the main request in particular by deleting in step c) the feature that the determination of the source node is based on stored data at the node that represents an

existing tree based topology of the network. In the board's judgment, this deletion represents an intermediate generalisation of feature c), since the originally filed application only describes one single manner of determining the source node, namely by basing the determination on the knowledge of the tree topology.

Therefore, claim 1 does not meet the requirements of Article 123(2) EPC and the second auxiliary request is not allowable for this reason alone.

3.4 Third auxiliary request

Claim 1 is identical to claim 1 according to the second auxiliary request. Therefore, the objection under Article 123(2) EPC set out in paragraph 3.3 above is also valid for claim 1, and the third auxiliary request is not allowable.

3.5 Fourth auxiliary request

Claim 1 is identical in substance to claim 1 according to the second auxiliary request, although it has been written in the two-part form. Therefore, the objection under Article 123(2) EPC set out in paragraph 3.3 above is also valid for claim 1, and the fourth auxiliary request is not allowable.

3.6 In the absence of an allowable request the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

K. Götz A. Ritzka

Decision electronically authenticated