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Datasheet for the decision of 3 September 2020

Case Number: T 0763/16 - 3.5.03

Application Number: 07705514.3

Publication Number: 1985146

IPC: H04W4/00, H04L12/56

Language of the proceedings: EN

Title of invention:
Apparatus, method and computer program product providing threshold-based buffer state reports from user equipment to a wireless network

Applicant:
Nokia Technologies Oy

Headword:
Buffer state reports/NOKIA

Relevant legal provisions:
EPC Art. 56, 84, 123(2)

Keyword:
Clarity - main request (no)
Added subject-matter - main request (yes)
Inventive step - first auxiliary request (no)

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Case Number: T 0763/16 - 3.5.03

D E C I S I O N
of Technical Board of Appeal 3.5.03
of 3 September 2020

Appellant: (Applicant)	Nokia Technologies Oy Karakaari 7 02610 Espoo (FI)
Representative:	Berggren Oy, Helsinki & Oulu P.O. Box 16 Eteläinen Rautatiekatu 10A 00101 Helsinki (FI)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 9 November 2015 refusing European patent application No. 07705514.3 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair	K. Bengi-Akyürek
Members:	T. Snell
	J. Geschwind

Summary of Facts and Submissions

I. The present appeal concerns the decision of the examining division refusing the present European patent application. The ground for the refusal was lack of inventive step in the light of prior-art documents D4 and D5:

D4 = EP 1 511 245 A2
D5 = EP 1 513 363 A1.

II. The appellant requests that the decision under appeal be set aside and a patent granted on the basis of the claims of the **main request** filed together with the statement of grounds of appeal (which is the same as the main request refused by the examining division), or, alternatively, the claims of the **first auxiliary request** as filed on 22 June 2020 in response to the board's communication under Article 15(1) RPBA.

III. On 17 August 2020, the appellant withdrew its request for oral proceedings and requested a decision "based on the state of the file".

IV. Claim 1 of the **main request** reads as follows:

"A method, characterized in that the method comprising:
for each group in a plurality of groups, determining an aggregate data flow for the group, where the each group in the plurality of groups comprises one or more logical channel flows grouped by an associated traffic priority, wherein determining the aggregate data flow comprises summing an amount of data in data flows of each of the one or more logical channel flows;

for each group in the plurality of groups, comparing the determined aggregate data flow of each group in the plurality of groups with at least one threshold value to obtain an indication value, wherein the indication value is with respect to a traffic priority of the group, and wherein the comparing for the plurality of groups obtains a plurality of indication values; and

signaling the plurality of indication values, signaling is from a user equipment to a base station and where the signaling comprises at least one bit corresponding to each indication value of the plurality of indication values."

V. Claim 1 of the **first auxiliary request** reads as follows (showing amendments with respect to claim 1 of the main request):

"A method, characterized in that the method comprising:

for each group in a plurality of groups, determining an aggregate data flow for the group, where the each group in the plurality of groups comprises one or more logical channel flows grouped by an associated traffic priority, wherein determining the aggregate data flow comprises summing an amount of data in data flows of each of the one or more logical channel flows;

for each group in the plurality of groups, comparing the determined aggregate data flow of each group in the plurality of groups with at least one threshold value to obtain an indication value, ~~wherein the indication value is with respect to a traffic priority of the group,~~ and wherein the comparing for the plurality of groups obtains a plurality of indication values; and

signaling the plurality of indication values,

in a single message, wherein each indication value is associated to one group in the plurality of groups, and signaling is from a user equipment to a base station ~~and where the signaling comprises at least one bit corresponding to each indication value of the plurality of indication values~~."

Reasons for the Decision

1. Main request - claim 1 - clarity (Article 84 EPC) and added subject-matter (Article 123(2) EPC)

1.1 Re the wording in claim 1 (second clause) **"wherein the indication value is with respect to a traffic priority of the group"**:

This wording does not appear in the application as filed. The appellant appears to give it the meaning that the same indication value represents a *different* information according to the traffic priority group (e.g. the "value 01" defines a different threshold in each group; cf. the paragraph bridging pages 3 and 4 in the statement of grounds of appeal). This feature however does not clearly have this meaning, and indeed could simply mean that there is *one* indication value per traffic priority group, or that the value is related to the traffic priority in other undisclosed ways not related to different thresholds (cf. paragraph [0064] of the description as filed).

Hence, the above feature is not clear within the meaning of Article 84 EPC and is not directly and unambiguously based on the application as filed (Article 123(2) EPC).

1.2 Re the wording in claim 1 (third clause) **"where the signaling comprises at least one bit corresponding to each indication value of the plurality of indication values"**:

There is no unambiguous basis for this wording in the application as filed, noting that this wording embraces undisclosed embodiments in which, instead of the indication values themselves being transmitted, bit combinations merely corresponding to these values in some ill-defined manner are transmitted. If this feature is actually intended to express that each indication value may be expressed by one or more bits, this also is not based on the application as filed, since it embraces different numbers of bits representing the various traffic priority groups (e.g. the first priority group being represented by 2 bits and the second priority group by 3 bits). Thus, this feature does not comply with Article 123(2) EPC.

1.3 Consequently, present claim 1 does not comply with either Article 84 or 123(2) EPC.

2. First auxiliary request - claim 1 - inventive step (Articles 52(1) and 56 EPC)

2.1 The present application concerns a buffer reporting scheme relating to reporting from a mobile station to a base station in a mobile communication system such as LTE.

2.2 Using the wording of present claim 1, document **D4** discloses a method comprising:

- for each group in a plurality of groups (cf. Fig. 7, "priority queue #1", "priority queue #2"),

determining an aggregate data flow for the group ("100 bits", "300 bits"; cf. col. 10, lines 7-10),

- where the each group in the plurality of groups comprises logical channel flows grouped by an associated traffic priority (cf. col. 9, lines 49-51),
- wherein determining the aggregate data flow comprises summing an amount of data in data flows of each of the one or more logical channel flows (implicit);
- signalling the plurality of indication values, in a single message, wherein each indication value is associated to one group in the plurality of groups (cf. Fig. 11, "Buffer payload #1", etc.; col. 12, line 56 - col. 13, line 1),
- signalling is from a user equipment to a base station (cf. Fig. 7, "buffer status information 730").

2.3 The subject-matter of claim 1 therefore differs from the disclosure of D4 in the step of, for each group in the plurality of groups, comparing the determined aggregate data flow of each group in the plurality of groups with at least one threshold value to obtain an indication value, and wherein the comparing for the plurality of groups obtains a plurality of indication values.

2.4 The board agrees with the appellant that the objective technical problem starting out from D4 is "to reduce the amount of data in signalling" in the system of D4 (cf. the submission dated 22 June 2020, page 3, 4th paragraph).

2.5 One common and obvious approach to reducing the amount of data in signalling is to reduce the amount of

signalling data in the fields of a signalling message. Thus, the skilled person would look for ways to reduce the size of the "buffer payload information" field of the signalling message in D4 (cf. Fig. 11).

2.6 **D5**, which concerns the same field as D4 of reporting the buffer status, discloses a method for reducing the buffer status information to a specific low number of bits (e.g. four). This is done by quantising the maximum possible number of bytes into sixteen values, which is the same as comparing the number of bytes in the buffer with threshold values (cf. D5, Tables 1 and 2 and paragraphs [0015] and [0017]). By applying this method to the number of bits representing each priority queue of D4, the skilled person would arrive at the subject-matter of claim 1 without inventive skill.

2.7 The appellant argues mainly that the skilled person would not consult D5 for a solution to the objective technical problem because D4 gives no hint to modifying the information field in the signalling message. Instead, the most straightforward solution would be to change the intervals at which the information is transmitted.

The board finds this argument unconvincing, since it is a standard and obvious approach in mobile data communications to minimise the number of bits of signalling data in the fields of a signalling message in addition to minimising the frequency of signalling transmissions. The skilled person would thus be led in an obvious manner to consult D5.

2.8 The subject-matter of claim 1 of the first auxiliary request therefore does not involve an inventive step

(Articles 52(1) and 56 EPC).

3. Conclusion

There being no allowable claim request, the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

B. Brückner K. Bengi-Akyürek

Decision electronically authenticated