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Datasheet for the decision of 18 February 2020

Case Number: T 0175/16 - 3.5.03

Application Number: 11192773.7

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Title of invention:
Circuit switched fallback in evolved packet system

Patent Proprietor:
Telefonaktiebolaget LM Ericsson (publ)

Opponent:
Sony Corporation

Headword:
Circuit-switched fallback in LTE/ERICSSON

Relevant legal provisions:
EPC Art. 56
RPBA Art. 12(4)

Keyword:
Inventive step - main request and auxiliary request III (no)
Admission into appeal proceedings - auxiliary requests I, II and IV (no): fresh case

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Case Number: T 0175/16 - 3.5.03

D E C I S I O N
of Technical Board of Appeal 3.5.03
of 18 February 2020

Appellant: (Patent Proprietor)	Telefonaktiebolaget LM Ericsson (publ) 164 83 Stockholm (SE)
Representative:	Ericsson Patent Development Torshamnsgatan 21-23 164 80 Stockholm (SE)
Respondent: (Opponent)	Sony Corporation 1-7-1 Konan Minato-ku Tokyo 108-0075 (JP)
Representative:	Samson & Partner Patentanwälte mbB Widenmayerstraße 6 80538 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 27 November 2015 revoking European patent No. 2429241 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chair	K. Bengi-Akyürek
Members:	J. Eraso Helguera
	J. Geschwind

Summary of Facts and Submissions

I. This appeal concerns the decision of the opposition division revoking the opposed patent under Article 101(3)(b) EPC.

II. In its decision, the opposition division cited *inter alia* the following prior-art documents:

D1: US 2008/0080428 A1;

D4: "CS Fallback for 1xRTT", 3GPP meeting document TD S2-084290, May 2008;

D5: "CDMA sysInfo IEs for broadcast", 3GPP meeting document R2-081894, R2-081288, April 2008;

D6: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Circuit Switched Fallback in Evolved Packet System; Stage 2 (Release 8)", 3GPP TS 23.272 V1.1.0, April 2008;

D8: "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall Description; Stage 2 (Release 8)", 3GPP TS 36.300 V8.4.0, p. 1-19, 33-35, 38-61, 79-94, March 2008.

III. The appellant (proprietor) requested as a main request that the decision under appeal be set aside and that the patent be maintained in its granted form or, in the alternative, on the basis of the claims of one of four

auxiliary requests (auxiliary requests I to IV) filed with the statement of grounds of appeal.

In its reply to the statement of grounds of appeal, the respondent (opponent) requested that the appeal be dismissed. With its reply to the summons to attend oral proceedings issued by the board, the respondent indicated that they would not be attending the scheduled oral proceedings before the board.

At the end of the oral proceedings held on 18 February 2019 in the absence of the respondent, the the board's decision was announced.

IV. Claim 1 of the patent as granted (**main request**) reads as follows (board's outline):

(a) "A method for handling Circuit Switched Fallback, in a User Equipment residing in a Packet Switched domain, comprising:

(b) receiving an indication that Circuit Switched Fallback is supported from an eNodeB located within the Packet Switched domain;

(c) registering to a Circuit Switched domain associated with Circuit Switched Fallback by tunnelling Circuit Switched Registration information, via the eNodeB, to the Circuit Switched domain, enabling the User Equipment to setup a Circuit Switched call or receive a Circuit Switched page;

(d) receiving a Circuit Switched specific parameter setting from the eNB, wherein the Circuit Switched specific parameter setting comprises a pseudo

random noise, PN, offset utilized by the Circuit Switched domain;

(e) preparing for using Circuit Switched Fallback by applying the received PN offset; and

(f) switching from the Packet Switched domain to the Circuit Switched domain."

Claim 1 of **auxiliary request I** comprises all the features of claim 1 of the main request and adds the following clause at the end (board's outline):

(g) "wherein receiving the Circuit Switched specific parameter setting comprises receiving a message that includes the PN offset, wherein the message further includes a 1xRTT frequency band, a 1xRTT carrier frequency, and a Long Code State;

(h) wherein the message comprises a release and re-direct indication;

(i) wherein furthermore a CDMA system time is provided on the LTE broadcast channel."

Claim 1 of **auxiliary request II** is identical to claim 1 of auxiliary request I, except that features (e), (g) and (i) have been modified as follows (board's outline, strike-through and underlining indicating deletions and additions, respectively):

(e') "preparing for using Circuit Switched Fallback by applying the received ~~PN offset~~ parameter setting; and"

(g') "wherein receiving the Circuit Switched specific parameter setting comprises receiving a message that includes the PN offset, wherein the message further includes a 1xRTT frequency band, a 1xRTT carrier frequency, and a Long Code State of the parameter setting;"

(i') "wherein furthermore a CDMA system time of the parameter setting is provided on the LTE broadcast channel and acquired therefrom by the User Equipment."

Claim 1 of **auxiliary request III** and **auxiliary request IV** are identical to claim 1 of the main request and auxiliary request II, respectively, except that the following features have been inserted between features (c) and (d) (board's outline):

(j) "wherein the User Equipment is in idle mode and about to initiate a Circuit Switched Service, the method further comprising;

(k) transiting the User Equipment from idle mode to active mode after registry to the Circuit Switched domain associated with Circuit Switched Fallback;"

Reasons for the Decision

1. MAIN REQUEST

1.1 Claim 1 - Inventive step starting out from D1

1.1.1 The subject-matter of claim 1 does not involve an inventive step (Articles 52(1) and 56 EPC) starting out from document **D1**.

1.1.2 Based on the wording of claim 1, **D1** discloses:

(a) A method for handling Circuit Switched Fallback, in a User Equipment (see Figs. 1, 2 and 3: "UE") residing in a Packet Switched domain (see Figs. 1, 2 and 3: "PS network"), comprising:

(b) receiving (see [0029]: "... the network unit 100 may inform the UE and/or other network units that the PS network unit 106 has at least one of the following characteristics:"; see [0031]: "2) The PS network unit 106 provides/allows CS registration and/or support for CS UE terminated calls, e.g., PS +Cse;") an indication that Circuit Switched Fallback is supported from an eNodeB located within the Packet Switched domain;

(c) registering (see [0036]: "... at step 103, the PS +CS interworking functionality unit 107 may send the UE registration information to the CS network unit 105, where the information is processed and the communication link between the UE 104 and the CS network 105 is established ...") to a Circuit Switched domain associated with Circuit Switched Fallback by tunnelling Circuit Switched Registration information, via the eNodeB (see [0036]: "At step 102 of the CS service enabling registration process, the PS network unit 106 may send the CS registration information received from the UE 104 to the PS+CS interworking functionality unit 107 ..."), to the Circuit Switched domain, enabling the User Equipment to setup a Circuit Switched call or receive a Circuit Switched page (see [0036]: "... Thereafter, the CS communications may be generally established in the UE 104 and the

service enabling registration process of the exemplary embodiment is completed.");

(d) receiving (see [0039]: "... The PS+Ce network unit 100 may provide information about the preferred CS network. The information may include more exact information, such as in cellular network (frequency, cell, etc), ...") a Circuit Switched specific parameter setting from the eNB;

(e) preparing (see [0039]: "... The PS+Cse Network unit 100 may also request the UE 104 to move to the CS network unit 105 and send information to the CS network unit 105 that it has/will be moved and/or ask the CS-capable network to make preparations ...") for using Circuit Switched Fallback; and

(f) switching (see [0039]: "... the UE 104 has or will be moved, e,g, to a GSM/3GPP CS+(PS) type network ...") from the Packet Switched domain to the Circuit Switched domain.

1.1.3 The subject-matter of claim 1 thus differs from the disclosure of D1 in that the Circuit-Switched specific parameter setting comprises a pseudo random noise, PN, offset utilised by the Circuit-Switched domain according to feature (d).

1.1.4 The board agrees with the objective technical problem identified by the appellant, that is, "how to speed up fallback from an LTE domain to a CDMA 2000 system".

1.1.5 The skilled person applying the teaching of D1 in the event that the preferred CS network is a CDMA 2000 network would have immediately recognised that the PN

offset belongs to the "more exact information" about "the preferred CS network" described in paragraph [0029] of D1 if the CS network is specifically a CDMA 2000 network, since the PN offset is commonly the parameter identifying a CDMA 2000 cell. Thus, the skilled person would have included that PN offset in the "information about the preferred CS network" sent to the UE, arriving thereby at the subject-matter of claim 1 without the exercise of inventive skills.

1.1.6 Hence, the subject-matter of claim 1 does not involve an inventive step in view of a combination of D1 and the common general knowledge.

1.1.7 The appellant submitted the following arguments in support of the presence of inventive step:

Firstly, D1 did not disclose "tunneling" as it appeared in claim 1. This term as claimed should be interpreted to mean that the packet-switched system was not aware of the content of the registration signaling, but merely passed it towards a termination point of the tunnel, which constituted a higher-level entity of the CS network selected by the UE. This was not the case in D1, since the PC+CS interworking functionality unit 107 had to be informed about the content of the CS registration information in order to determine the most appropriate CS network for the UE. Hence, the registration information was not tunneled transparently through the PS+CS interworking functionality unit 107, but it had to be evaluated (decapsulated) within the PS network before it was passed to the CS network. Thus, while document D1 described a link transporting registration information from the UE to the CS network, it did not describe tunnelling of the registration

information to the CS network, the PS+CS interworking functionality unit 107 providing a termination of tunnelling outside the circuit-switched domain.

Secondly, starting out from D1 it would not be obvious to include a PN offset as part of the "more exact information" about "the preferred CS network" described in paragraph [0029] of D1, even if the teaching of D1 were applied to a CDMA 2000 network as CS network. The skilled person would have understood that this information should indicate frequency ranges in which the UE should perform a search and select an appropriate cell. In contrast to this, according to the claim, the UE should receive a specific PN offset identifying already a selected cell.

1.1.8 The board is not convinced by these arguments.

Firstly, the feature of "tunneling" as it appears in claim 1 should be broadly construed to mean that the "registration signaling", as sent by the UE, reaches the CS domain through the PS system without any further processing or decapsulation in between, in line with the disclosure of paragraph [0060] of the opposed patent ("... The registration signaling is tunnelled transparently through the Packet Switched system ..."). It is to be noted that the patent specification does not provide further details about the alleged "encapsulation" or "termination points of a tunnel".

D1 discloses in paragraph [0025] that "... [i]n the CS service enabling registration process, a transmitting unit 110 of the UE 104 sends CS registration information to the PS+Cse network at step 101 ..." and in paragraph [0036] that (emphasis by the board) "... [a]t step 102 of the CS service enabling registration

process, the PS network unit 106 may send the CS registration information received from the UE 104 to the PS+CS interworking functionality unit 107. Thereafter, at step 103, the PS+CS interworking functionality unit 107 may send the UE registration information to the CS network unit 105, where the information is processed and the communication link between the UE 104 and the CS network 105 is established ...". The fact that the information is said to be "processed" at the CS network unit 105 necessarily implies, in the context of paragraph [0036], that the same information has transparently traversed the PS system (i.e. both PS network unit 106 and PS+CS interworking functionality unit 107). Furthermore, the fact that "a link between UE and the CS network is established" defines two termination points of a tunnel in the claimed sense, i.e. between two entities in the realm of the CS network, even though the UE is physically attached to the PS network.

Secondly, the board considers that the explicit indication in paragraph [0039] of D1, according to which the "... [t]he PS+Ce network unit 100 may provide information about the preferred CS network. The information may include more exact information, such as in cellular network (frequency, **cell**, etc) ..." (emphasis added) would immediately lead the skilled person to consider a "cell ID". Such a cell ID would, in the case of a CDMA 2000 network, comprise at least a PN offset information, rather than limiting the "more exact information" to a mere frequency range in which to search for cells at a higher level, as submitted by the appellant.

1.2 Consequently, the main request is not allowable under Article 56 EPC.

2. AUXILIARY REQUESTS I AND II

2.1 Admission into the appeal proceedings (Article 12(4) RPBA 2007)

2.1.1 Under Article 12(4) of the Rules of Procedure of the Boards of Appeal (RPBA) 2007, the board has the discretion to not admit requests which could have been presented in the first-instance proceedings. In that respect, the board notes that the main purpose of the appeal proceedings is to examine the correctness of the impugned decision and not to provide an opportunity to submit new claim requests not previously examined.

2.1.2 Feature (i) has been added to claim 1 of the first auxiliary request and, with similar technical content but different wording, feature (i') has been added to claim 1 of the second auxiliary requests. These features find allegedly basis on the disclosure of paragraph [0066] of the application as filed, which states that "... [s]ome of these parameters (e.g. CDMA system time) can, as an alternative, be provided on the LTE broadcast channel."

2.1.3 The appellant submitted that the opposition division in the oral proceedings came to the conclusion that in the context of document D1, regarding the CS parameters needed for CS fallback, there was no difference to be made between a mobile originated and a mobile terminated call, despite these being discussed in document D1 in different embodiments with different CS parameters. The introduction of features (i) and (i') was in direct response to the view of the opposition

division for the first time in the oral proceedings, leaving no possibility for filing an amendment.

2.1.4 The minutes of the oral proceedings before the opposition division state that the opponent had argued its case on the basis of the disputed combination of embodiments of D1 and that the proprietor had rebutted this combination (see points 2.3 and 2.4 of the minutes). The opposition division subsequently expressed the view that the subject-matter of claim 1 of the fifth auxiliary request was not inventive in view of D1 together with common general knowledge. The introduction of an additional feature from the description as a reaction to this view could and should have taken place already during the oral proceedings before the opposition division.

2.1.5 If the board were to admit these claim requests, and before even being in a position to assess whether the decision on inventive step of the opposition division still holds valid in view of the amendments, the introduction, for the first time during appeal proceedings, of a feature taken from the description, rather than from the granted claims, would first require examining issues unrelated to the reasons appearing in the impugned decision, such as the basis for the amendments and the matter of clarity. Even for the assessment of inventive step, the focus would be shifted towards the alleged contribution of the added features, effectively creating a fresh case in which additional evidence (such as document **D8** cited by the respondent) might become relevant. Finally, the board cannot recognise any particular unforeseeable event that is imputable to the appeal proceedings which could justify the admission of these claim requests.

2.2 The board has decided to not admit auxiliary requests II and III into the appeal proceedings under Article 12(4) RPBA 2007.

3. AUXILIARY REQUEST III

3.1 Claim 1 - Inventive step starting out from D1

3.1.1 The subject-matter of claim 1 of auxiliary request III does not involve an inventive step (Articles 52(1) and 56 EPC) starting out from **D1**.

3.1.2 Claim 1 of auxiliary request III is identical to claim 1 of the main request, except that features (j) and (k) have been inserted between features (c) and (d). This auxiliary request corresponds to auxiliary request IV underlying the appealed decision.

3.1.3 Features (j) and (k) relate to a transition from idle to active mode of a UE which is about to initiate a CS service after registry to the CS domain associated with CS Fallback (see point IV above). These features do not impose, as such, any additional limitations on the timing and UE mode of feature (d), i.e. the claim does not require that the receipt of CS-specific parameter setting comprising the PN offset should take place while the UE is in an active mode after having transitioned from idle mode, or that the UE should be about to initiate a CS service in order to receive this information. This is mainly because there is no temporal sequence defined in claim 1 as regards the respective transition and receipt of the CS-specific parameter setting. It is therefore questionable whether thereby any technical effect (such as "expediting CS fallback", as formulated by the opposition division; see appealed decision, Reasons 18.4.4) may be achieved

at all.

In any event, D1 discloses how a UE which is about to initiate a CS service (see Fig. 5: "VOICE CALL") after registry to the CS domain (see Figs. 1 and 2: the UE first registers to the CS network, step 101, and then sends a CS service request to the PS network, step 201) transitions from idle to active mode by means of an "RRC connection request" message sent to the PS network (see Fig. 5: "RRC connection request (Establish cause = conv. call)"), so that features (j) and (k) are effectively disclosed by D1.

3.1.4 Hence, the subject-matter of claim 1 of auxiliary request III does not involve an inventive step starting out from D1 and in view of the common general knowledge for the same reasons as set out for claim 1 of the main request (see point 1.1 above).

3.1.5 The appellant submitted that this subject-matter was directed at a situation in which a UE is in an idle mode in the Packet-Switched domain, but about to initiate a Circuit-Switched service, e.g. a CS call. However, instead of directly accessing the Circuit-Switched domain, to which it is already registered, the invention prescribes that the UE is transited to an active mode in the Packet-Switched domain, to receive a Circuit-Switched specific parameter setting comprising the PN offset, which it applied before switching to the Circuit-Switched domain to initiate the call. Despite the use of such a detour, the respective data transfer through the Packet-Switched domain allowed avoiding extensive connection and access procedures in the Circuit-Switched domain and might still reduce the delay in setting up a call.

3.1.6 The board is not convinced by these arguments because they are considered to be founded on an unduly narrow interpretation of claim 1 of auxiliary request III. In particular, the board does not agree that the claim should be construed in such a way that the UE is transited to the active mode in the Packet-Switched domain *to receive* a CS-specific parameter setting comprising the PN offset for the reasons set out in point 3.1.3 above.

3.2 Hence, auxiliary request III is not allowable under Article 56 EPC either.

4. AUXILIARY REQUEST IV

4.1 Admission into the appeal proceedings (Article 12(4) RPBA 2007)

4.1.1 Claim 1 of auxiliary request IV combines the additional features of auxiliary requests II and III, i.e. it is identical to claim 1 of auxiliary request II, except that features (j) and (k) have been inserted between features (c) and (d), and it is identical to claim 1 of auxiliary request III, except that features (e), (g) and (i) have been replaced by features (e'), (g') and (i'), respectively.

4.1.2 The appellant submitted that this request also constituted a response to the opinion of the opposition division regarding former auxiliary request V discussed during the oral proceedings before the opposition division.

4.1.3 The board considers that, account being taken that feature (i') has also been introduced as a reaction to the opinion of the opposition division regarding former

auxiliary request V, the same considerations apply as for auxiliary requests I and II (see points 2.1.4 and 2.1.5 above).

4.2 Thus, the board has decided to not admit auxiliary request IV into the appeal proceedings.

5. As there is no allowable request, it follows that 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