Facts and Submissions

I. European patent 4 096 288 (B1) having the title "METHOD AND APPARATUS FOR MANAGING DATA COMMUNICATION IN WIRELESS COMMUNICATION NETWORK" is based upon European patent application No. 22 184 477.2 (D19) filed on 01-08-2017. It claims a first priority of IN 201641026242 (D16) filed on 01-08-2016 and a second priority of IN201641026242 (P2) filed on 28-07-20217. It was filed as a divisional application in the sense of Article 76 EPC of the earlier European patent application No. 21 160 221.4 (D18), which itself is a divisional application in the sense of Article 76 EPC of the earlier European patent application No. 17837220.7 filed on 01-08-2017 as international application No. WO2018/026169 (D17).

The mention of the grant of the patent has been published in the European Patent Bulletin of 30-10-2024. Proprietor of the patent is Samsung Electronics Co., Ltd. (KR).

II. Notice of opposition has been filed by ZTE Deutschland GmbH (DE) on 30-07-2025.
The opponent requests revocation of the patent in its entirety based on Article 100(a) EPC, in particular based on Articles 54(2) and 56 EPC, Article 100(b) EPC and Art 100(c) EPC, in particular based on Articles 123(2) and 76(1) EPC. The opponent argues lack of novelty based on D1, D2, D5, D6 and D8 and depending on the priority, the novelty objection is extended to documents D3, D4 and D7. Inventive step is argued starting from any of D2, D8, D13 and D6.

III. In the observations received on 7-11-2025, the proprietor requests the rejection of the opposition (Article 101(2) EPC), filed a main request directed only to the granted independent claims and filed additionally auxiliary requests 1-5.

IV. In a reply received on 12-12-2025, the opponent further completed the original arguments, addressed the auxiliary requests and filed documents D14 and D15, which he considered relevant in respect of auxiliary request 3.

V. The consolidated list of documents cited during the opposition procedure is annexed to this summons. The parties are requested to adhere to the numbering referred therein.

Irrespective of the priority date, documents D1, D2, D5, D6, D8, D9, D10, D13, D14 and D15 are prior art according to Article 54(2) EPC. Depending on the assessment of the first priority (D16), other documents such a D3, D4, D7, D11 and D12 may become relevant.

VI.   The following feature reference of claim 1 introduced by the opposition division will be considered in these opposition proceedings. The other independent claims have corresponding features.

1.0	A method performed by a terminal (110) in a wireless communication system, the method comprising:
1.1	receiving, from a base station (120), first information on a mapping between at least one quality of service, QoS, identifier, ID, QoS ID, and at least one data radio bearer, DRB;
1.2	identifying a QoS ID associated with a first uplink packet;
1.3	identifying whether there is mapping of the QoS ID to a DRB, based on the first information; and
1.4	transmitting, to the base station (120), the first uplink packet on a default DRB, based on no mapping of the QoS ID to the DRB being identified. wherein the transmitted first uplink packet is marked with the QoS ID.

VII.   The present provision opinion is based on the following requests.

For Main Request and Auxiliary Requests 1-4

Description, Paragraphs

1-150   of the patent specification

Claims, Numbers

1-4   filed in electronic form on   07-11-2025

Drawings, Sheets

1/14-14/14   of the patent specification

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Anmelde-Nr:
Application No: 22 184 477.2
Demande n°:

Executive summary

The opposition division is of the <u>provisional and non-binding</u> opinion that the patent should be revoked because at least the requirements of Art 76(1) and Article 123(2) EPC are not complied with by the main request nor by auxiliary requests 1-5. Additionally, at least novelty under Article 54(2) EPC in view of D4 and Article 54(3) EPC in view of D3 is not complied with by the main request in view that the priority is not validly claimed. The novelty based on D4 also applies to auxiliary requests 1-3. Finally, auxiliary requests 4 and 5 have additional problems with Art 123(2) EPC.

Preliminary non-binding opinion

<u>Admissibility</u>

1   The opposition is admissible since it fulfils the requirements of Art 99(1) EPC, Art 100 EPC and Rule 76 EPC. The proprietor has not contested the admissibility of the opposition

2   The invention

The patent is directed to providing more QoS granularity than previous systems based on EPS bearer/E-RAB level that suffer from starvation or blockage when different service data flows are mixed together in the same bearer. The invention removes EPS bearers and provides a flow based QoS framework wherein a PDU session is established between the UE and the data network and a QoS differentiation over the PDU session is achieved by means of a packet marking applied to each packet based on a QoS flow ID (§8, §13, §28, §29, §39). In particular, the independent claims deal with the scenario of uplink packets for which no data radio bearer (DRB) has been previously configured/ established (Figs 4, 6, 7 and 9).

3   Article 123(2) EPC

3.1   The opponent argues that claim 1 includes added matter in respect to the features "identifying whether there is mapping of the QoS ID to a DRB" (feature 1.3) and "wherein the transmitted first uplink packet is marked with the QoS ID" (feature 1.4) because of the different wording of original claim 1 (missing an association of the QoS ID with the first uplink packet as well as missing the identifying whether there is a DRB to map the QoS ID). Additionally, present feature 1.4, last line further adds "transmitted", which was not present in the original claim.

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3.2   The proprietor derives the basis from Fig. 7 showing the exceptional situation in which a UL packet is transmitted on the default DRB based on no mapping and also in the description §88-§91of the patent (B1) corresponding §110-§113 of D19.

3.3   According to the opposition division and based on the passaged relied by the proprietor, Fig 7, §110-§113, the application as filed (D19) checks if the radio bearer is already established at least for the QoS flow identified by the packet marking and the PDU session associated with the received packet (§111) instead of identifying whether there is a mapping of the QoS ID to a DRB (**feature 1.3**) in order to determine whether to use a default DRB (feature 1.4). According to the embodiment of Fig 7, §107-112, relied by the proprietor, the session is also relevant in **features 1.1 and 1.4** since according to §108 the QoS flow of one PDU session and another QoS flow of another PDU session may have same QoS Flow ID but these are mapped to different DRBs.

Even if according to §132 of the application as filed (D19) the session is optional and the UE maps the packet to the appropriate DRB based on a QoS flow identified by a packet marking (PM/QFI) associated with the uplink packet and a mapping between the DRB to the QoS flows identified by a packet markings (PMs/QFIs), this embodiment is limited to the case where a mapping is indeed found. So, the embodiment of §132 is not relevant in the present case where there is no mapping.

As to the other features they are considered disclosed. The opposition division understands that the QoS ID in 1.3 is further defined in 1.2 as being associated with a first uplink packet, which corresponds to one of the alleged missing features of the opponent. In feature 1.4 the added "transmitted" is consistent with the first part of feature 1.4 of transmitting the first uplink packet.

Since claim 1 does not determine if a bearer is established and the features are unrelated from "the PDU session" and the "QoS flow identified by the packet marking" contrary to the basis provided by the proprietor in the application as filed (D19), the requirements of Article 123(2) EPC are not complied with. Consequently, the main request is not allowable. Since auxiliary requests 1-5 do not address these missing features they are also not allowable.

For completeness assessment of the further arguments follows.

4   Article 76(1) EPC

4.1   The opponent argues that the features 1.1, 1.2, 1.3 and 1.4 of claim 1 cannot be found in the parent application. The objection of the opponent is mainly based on the difference in wording between the granted features and the original claimed features (claims 5 and 6) and in particular in further limitations of the original claimed features that are no more present in the granted version such as "for each established PDU session", "in a signaling message" and a "list of at least one of QoS flow identifiers" in feature 1.1, the "list" in feature 1.3 and a "DPU session" in feature 1.4. In case of 1.2 and 1.4 some further passages of the description are considered as basis but not sufficient since related to a self-explanatory definition of QoS ID in case of feature 1.2 (§75 of D17) or is disclosed with additional features such as "in a header of the packet sent on the default DRB" and "over Uu interface" for feature 1.4 (§67, §68 of D17).

4.2   The proprietor derives the basis from Fig. 7 and §124-§127 of D17 for the same reasons as for Art 123(2) EPC.

4.3   According to the opposition division and based on the passaged relied by the proprietor Fig. 7 and §124-§127, the parent document (D17) checks if the radio bearer is already established at least for the QoS flow identified by the packet marking and the PDU session associated with the received packet (§125) instead of identifying whether there is a mapping of the QoS ID to a DRB (**feature 1.3**) in order to determine whether to use a default DRB (feature 1.4). As indicated by the opponent, the session is also relevant in **features 1.1 and 1.4** since according to §122 the QoS flow of one PDU session and another QoS flow of another PDU session may have same QoS Flow ID but these are mapped to different DRBs.

Since the parent application only seems to foresee a signalling message as a means to receiving information on a mapping, such as feature does not seem optional and a disclosure without such a feature as in claim 1 does not seem to be originally disclosed.

As to the other features they are considered disclosed. The division does not appreciate any difference between transmitting an ID such as in present feature 1.1 and transmitting a list of one ID. The identifying is understood to be step 702 (§124-§125) since the terminal receives the packet and associated PM/QFI (feature 1.2). The transmission from the terminal to the base station of feature 1.4 is implicitly the Uu interface. Finally, the header is an option according to §127 of D17.

Since claim 1 does not determine if a bearer is established, the features are unrelated from the "PDU session" and the "QoS flow identified by the packet marking" and the "signalling message" is missing contrary to the parent

application, the requirements of Article 76(1) EPC are not complied with. Consequently, the main request is not allowable. The same applies to auxiliary requests 1-5.

5 Article 100(a) and Article 54(2) EPC

5.1 D1

5.1.1 The opponent considers that a mapping information is implicitly received from the base station. After checking a PSIG Application Flow Identification table for mapping information, in case of no matching a default bearer is used. In case of a match, an identifier in the form of a Differentiated Service Code Point (DSCP) in the outer IP header is added by the packet processing function (PSIG client performing the function of a UE packet processing function 138) based on an assigned DSCP value from the enhanced policy definition function PCRF (QoS Broker QoB performing the function of the enhanced PCRF) (page 2, lines 1-12, page 3, lines 23-page 4, line 6, page 4, lines 14-6, page 4, lines 23-26, page 9, lines 7-9, page 9, lines 14-20, page 18, lines 10-18, page 19, line 17, page 19, lines 22-24, page 21, lines 1-11, page 21, lines 13-15 and page 21, lines 21-24).

5.1.2 The proprietor argues that D1 relates LTE and to an entirely different level/layer, i.e. IP layer instead of AS (DRB is concept of UE AS, the base station originating the first information and thus understanding the first information only has layers on the AS). The receiving information on a mapping between QoS IDs and DRBs is control signaling that must be received by a control plane layer. A QoS ID in the sense of the patent is a packet marking that marks individual IP packets instead of a bearer ID or an EPS bearer ID marking a tunnel above AS. D1 leaves the EPS bearer untouched whereas the patent gives up the EPS bearer based framework. The DSCP value is not provisioned into the UE and it is only understood at the IP layer. A mapping of the DSCP value to a DRB is impossible, since it could not be understood on any level of the LTE system. If actions in features 1.2-1.3 were realized in the LTE system, it would be actions in the LTE user plane. There is an inconsistency regarding the mapping (SDFs to EPS bearers and assignment of DSCP values to SDFs). It is impossible that something can be transmitted in the LTE system based on a failure to identify a mapping of a QoS ID to a DRB. Not clear what the opponent views as the QoS ID, the QCI (QoS Class Identifier) or the DSCP value. No mapping is received, nor is it checked. There is no packet marked by DCSP that

is transmitted on the default DRB. A packet marking/QoS ID of a transmitted uplink packet must be understandable for the recipient, so that it can react to that packet marking /QoS ID.

5.1.3 According to the opposition division the argument that DSCP cannot qualify as a "QoS ID" because it relates to the IP layer and to LTE architecture is not convincing. The claim does not restrict "QoS ID" to any specific layer or to 5G/ QFI semantics, and therefore a DSCP value could in principle fall within the broad wording of the claim. The distinction between LTE and NR architectures is likewise not reflected in the claim language and cannot be relied upon for novelty.

When considering DSCP as a possible "QoS ID" since it identifies a bearer with an associated QoS (page 21, lines 21-24), it is understood that the UE performs a conditional transmission in which the terminal transmits the uplink packet on a default DRB when no appropriate Service Data Flow SDF / application exists associated with the packet and no application flow type is configured at the client in the PSIG of the UE, wherein the service data flow is understood to be associated with a bearer having a QoS (306 and 308 in Fig 3, page 19, lines 18, page 21, lines 1-7, page 15, lines 2-4, page 4, lines 4-7).

The claimed features "identifying a mapping of the QoS ID to a DRB" according to feature 3 and reflected in the description as the existence of a DRB already established (§89) disclose according to the opposition division a similar principle. However, and consistent with the view under items 3.3 and 4.3, identifying a mapping and determining if something exists are different subject-matter.

Additionally, it is not clear to the division that the application flow identification table defined in the PSIG of the client (308 of Fig 3) and understood by the opponent to be the mapping is sent from the base station to the terminal since according to page 19, line 2 the table is pre-configured, even if described in the context of downlink transmission.

Consequently, document D1 does not disclose at least features 1.1, 1.3 and 1.4 and claim 1 is novel over D1 (Article 54(2) EPC).

5.2 D2

5.2.1 The opponent considers that an eNB transmitting an RRC Connection Reconfiguration message including a resource identifier and a DRB identifier to the UE corresponds to the UE receiving information on a mapping (§80, feature 1.1). Additionally, the UE transmitting an IP packet over the bearer with the QoS

that has been received implies that the QoS is identified and since the UE transmits the IP packet with the specific QoS, the QoS ID is necessarily associated with an uplink packet (§84, feature 1.2). Following the step of the UE being provided with mapping information, since the UE uses the QoS identifier for the transmission of uplink data, that inevitably requires the identifying whether there is a mapping of the QoS configuration to DRB as otherwise, a transmission based on the identifier would not be possible (§80, §84, sic §9, feature 1.3). Moreover, the UE necessarily uses a default DRB if no mapping of the QoS ID exists in Fig 3, §84 since otherwise no data packet transmission would be possible. It only represents the most logical and obvious implementation option (feature 1.4). Finally, the uplink data carries the resource identifies, wherein the a QoS ID may be referred as a resource ... identifier (sic §9, §84, features 1.4.1). The opponent mentions further passages §2, §10-§12, §49-§53, §79 for other details.

5.2.2   The proprietor argues that D2 is LTE that does not change the bearer-based framework. He further argues taht the UE receives a binding between tunnel IDs and bearers instead of a mapping betwen DRBs and QoS IDs. Features 1.2 and 1.3 are actions at the terminal and not the base station. Moreover, the argument that the UE would necessarily use default DRB is contrary to the fixed bearer concept of LTE. Additionally, in D2 there is no marking of packets.

5.2.3   The opposition division considers that an option that is "most logical/obvious implementation" as the opponent already acknowledges for feature 1.4 ("transmitting on a default DRB based on no mapping") is a question of inventive step and not novelty. Consequently, document D2 at least does not disclose feature 1.4 and claim 1 is novel over D2 (Article 54(2) EPC).

5.3   D5

5.3.1   The opponent argues in particular that a UE detecting a packet data flow carried per (dedicated/default) bearer and analysing/inspecting the packet based on DSCP corresponds to receiving first information (page 9, lines 22-26). The use of the DSCP to indicate to the PDN gateway in/on which bearer the packet should be carried corresponds to a mapping between a DSCP and a bearer on which a packet should be transmitted (page 3, lines 24-27), wherein the person skilled in the art knows that DSCP is used to indicate priority of certain packages and thus a quality of service (D9, section 7.1). When an uplink packet is sent by the UE, a lookup in a flow table is performed, wherein by inspecting the flow table, the terminal effectively identifies a DSCP and thus an QoS ID that is associated with a first uplink packet (page 11, line 25, page 13, lines

29-13, page 90, lines 24-26, page 9, lines 28-29). There is a different handling of the flow depending on the aspect whether a low is known or not known, wherein the check whether a certain flow is known/present in the table requires an identifying whether there is a mapping of the QoS ID to DRB based on the first information (page 11, lines 25-28, page 15, lines 24-29, page 9, 22-26). In case of no mapping information, the packet is transmitted on a default bearer (page 11, lines 25-29, page 15, lines 24-30, page 16, lines 10-11). Finally, since the DSCP received in a downstream packet flow is coped into upstream packets on the same flow then the uplink packet is marked with que QoS ID (page 9, lines 24-26, page 10, lines 24-25).

5.3.2 The proprietor argues that D5 is also concerned with EPS in LTE. It is based on DSCP in the IP header as in D1. It does not mention bearers of the lower layer such as DRBs, nor mapping between DRBs and packet markings QoS IDs nor the actual mapping of packets to DRBs.

5.3.3 According to the opposition division the two embodiments of pages 10 and 11 of D5 can, in principle, be read together as they relate to the same overall concept of symmetric bearer enforcement. The reception of information on a mapping is derivable from the UE inspecting the DSCP field of a downlink packet arrived inside a dedicated bearer, wherein different bearers have different QoS (page 7, lines 9-12, page 9, lines 22-26). However, the conditional transmission where the UE transmits over a default bearer according to D5 depends on a bearer not being known or specified (Fig 5, S64, S65, S67, page 11, lines 25-29, page 15, line 24-page 16, line 2) which is different than identifying a mapping.

Consequently, the conditional transmission of features 1.3 and 1.4 is not found in D5 (Article 54(2) EPC).

5.4 D6

5.4.1 The opponent argues that the fact that a header inspection is performed implies that some sort of mapping information needs to be conveyed with the inspected header. Additionally, the inspected header may then be used to map data packets to corresponding transport means wherein the transport mean may, in turn, be mapped to a corresponding priority bearer, thus in fact disclosing receiving information on a mapping between a QoS ID and a DRB (§58, §31). The mapping of the data packets to respective transport means implies an identifying of a QoS ID based on which the mapping to the transport means may subsequently be performed (§58). Since D6 discloses a mapping of priority data

packets (wherein the priority is indicated by a QoS ID as set out above), it at least implicitly also discloses an identifying whether there is a respective mapping as otherwise, the mapping would not be executable (§58). In case no prioritized data is present (i.e., in absence of a QoS ID which would otherwise indicate a prioritization), which, accordingly, is conveyed over a non-prioritized tunnel, a default bearer is allocated for the data transmission (§93). The data packets are marked according to their QoS class, i..e., their QoS ID and the assigned QoS marking is kept by sending the data packets by the VPN, which inevitably must refer to uplink data (§71, Fig 3).

5.4.2   The proprietor argues that D6 relates to IP encapsulation when using VPNs and mapping application data flows to EPS bearers. So, features 1.1-1.4 are not disclosed.

5.4.3   According to the opposition division D6 consistently performs QoS classification and tunnel selection at the VPN client/server or traffic mapping unit, without any signalling of QoS-ID-to-DRB mapping from the network to the UE (missing feature 1.1). In particular, paragraphs §58 indicated by the opponent refers to a communication from the client to the server instead. Paragraph §31 is not better and only describes in general terms mapping and classifying based on QoS.

The QoS determination in D6 is local classification and not an identification of a QoS ID associated with an uplink packet (feature 1.2).

Furthermore, the "default bearer" behaviour in §93 is a network-side mapping performed by PCRF/GGSN, unrelated to any UE-side conditional behaviour as required by feature 1.4.

Consequently, at least features 1.1, 1.2 and 1.4 are not disclosed and claim 1 is novel over D6 (Article 54(2) EPC).

5.5   D8

5.5.1   The opponent argues that the terminal receives information directed to a mapping between the QoS profile and an NR-RB (step 1 and 2, Node 2 in section 8.1.1), a QoS class is identified by inspecting a received packet from CN, wherein identifying the QoS class inevitably also requires the identifying of a QoS ID and the identifying that there is a mapping of a QoS ID to DRB (step 3), the received data packet is mapped onto the corresponding NR-RB, wherein said mapping implies that an identification is required whether there is indeed a mapping of the QoS ID to the DRB (step 4). Moreover, in step 2 an NR-RB is established based on a default specified QoS provide, which only comes into play if no QoS profile may be obtained based on another approach. In step 3,

the expected QoS class is inspected by inspecting the received data packet, which implies that a QoS ID needs to be imprinted on the data packet. Feature 1.4.12 appears implicit as otherwise a distinction of multiple QoS flows may not be possible (e.g., in a DRB). Even if D8 refers to RAN QoS control framework, configuration steps of the RAN need to be implemented by a terminal, thus implying a respective implementation by terminal.

5.5.2 The proprietor argues that D8 does not disclose a situation where the UE cannot identify a mapping of a QoS profile to an NR-RB based on an identified QoS class and what it should do in that situation. D8 even if addressing the problem of the patent is still rooted in the way of thinking of LTE, i.e. a bearer must be established first and only then can the transmission of data start.

5.5.3 According to the opposition division D8 is directed to an implementation in the RAN and to a downlink transmission, i.e. QoS identification and RB mapping performed at the gNB on downlink packets received from the CN (received data packet from CN: section 3.3 step 3 in page 4 - option 1-, and step 2 in page 5 - option2-; Figs 2-3, section 8.1.1, step 3). D8 contains no teaching of any UE-side behaviour relating to QoS-ID identification, determining whether a mapping exists, or selecting a default DRB for uplink transmission. The opponent's argument that the UE behaviour can be inferred from the DL case is not supported by the document. D8 only discloses the reception of the mapping in the Note 2 of the last page (feature 1.1). So at least features 1.2 and 1.4 are not disclosed and claim 1 is novel over D8 (Article 54(2) EPC).

6 First priority D16

6.1 The opponent discusses §10, §38 as possible disclosure for feature 1.1 of claim 1 and argues inadmissible extension by omitting a list and a RRC signaling message when receiving first information on a mapping. The specific "list" is generalised to "information". QoS IDs (PMs) are mapped to DRBs. Additionally, there is also no direct and unambiguous disclosure for feature 1.2. A passive "receiving" step is changed to an active "identifying". He further discusses §38 and §66 as possible disclosure for features 1.3 and 1.4 and argues that the disclosures are fundamentally different; whereas the claim is directed to a check against a set of rules or a configuration table, the description is aimed at a check on the current state of the UE's radio resources. Additionally, claim 1 combines method 1 (§36) and method 4 (§66) without any pointer or suggestion that this particular combination.

6.2 The proprietor argues that Fig 2, §37-38, §40 and 10 showing the normal situation where multiple PMs can be mapped to one DRB together with Fig 7, §66 showing the exceptional situation where the UE identifies that no DRB is yet established are the basis of the claims. The list is not mentioned in Fig 7, §65, §66, the PM-to-DRB mapping is expressed in a number of ways (§10, §37, §38, §40, §66, Fig 2). The mapping step implies that an identification is required. Finally, Fig 2, according to which the UE receives PM-to-DRB mapping information from the base station is a pre-requisite for the situation of Fig. 7.

6.3 According to the opposition division, even if Figs 2 and 7 would be combined according §24, the conditional transmission on the default bearer is based on whether a radio bearer/flow is already established (§66) instead of identifying whether there is a mapping of the QoS ID to a DRB (feature 1.3). The (active) "identifying" is not clearly derivable (feaure 1.2). The default-DRB behaviour is disclosed only within a specific architectural context: PM/QFI identifiers understood to be a QoS flow identified by the packet marking, PDU-session awareness, and receipt of PM→DRB mapping in structured RRC signalling. The fallback in Fig. 7 is disclosed only as one branch of a two-branch decision ("DRB exists for this PM/QFI within the session" / "DRB does not exist"). Granted claim 1 generalises this teaching by omitting all those features.

Consequently, the priority claim is not valid (Article 87(1) EPC), the effective date is 28-7-20217, documents D4 and D7 are prior art under Art 54(2) EPC and document D3 is prior art according to Article 54(3) EPC.

7 Further documents Article 54(2) EPC.

7.1 The opponent further argues lack of novelty based on D4, in particular sections 4.1 (feature 1.0), 5.3.1 (feature 1.1), 5.2.1 (features 1.1, 1.2, 1.3 and 1.4), 5.2.2, 4.4 (feature 1.2 and 1.4) and Annex B (feature 1.4), Figure 4.2.2-1 (feature 1.4) directed to a SDAP entity at the UE.

The lack of novelty is also raised based on D7, in particular title, section 1, section 2, steps 1, 3 and 5 of figure 2, directed to the case of reflective QoS, third and fourth paragraph from the bottom and proposal 2.

7.2 The proprietor does not comment further on D4 or D7 since he considers the priority valid.

7.3 The opposition division is of the preliminary opinion that D4 takes away the novelty of claim 1 for the reasons explained by the opponent. Document D7 seems less convincing since the determination of a default DRB seems to be

based on the packet being the first one (proposal 2) and/or pre-authorized mapping rules not being available (fourth paragraph from the bottom of section 2) instead of being based on a QoS ID associated with the uplink packet (features 1.2-1.4). Consequently, D7 does not disclose features 1.3–1.4 in the conditional form required by the claim.

Consequently, claim 1 is not novel over D4 (Article 54(2) EPC) whereas it is novel over D7.

8   Further documents Article 54(3) EPC.

8.1   The opponent further argues lack of novelty based on D3, in particular §5-§9, §11, §185, §187 and §189.

8.2   The proprietor does not comment further on D3 since he considers the priority valid.

8.3   The opposition division is of the preliminary opinion that D3 takes away the novelty of claim 1 for the reasons provided by the opponent. Consequently, claim 1 not novel over D3 (Article 54(3) EPC).

9   Article 56 EPC

9.1   The opponent argues lack of inventive step starting from D2, D8, D13 and D6 and according to the following combinations:

- D2 in combination with D10

- D8 in combination with D7

- D8 in combination with D11

- D8 in combination with D12

- D13 in combination with D4, D2, D7 or D5

- D6 alone

- D5 and D9

The opponent also indicates that the conclusion of lack of inventive step also applies to D10 as closest prior art and presumably in combination with D2. The opponent also indicates that the same conclusion is arrived at by combining D13 and D4, D7 or D5.

9.2 The proprietor argues that the missing features in D8 are not to be found in D7, D11 or D12 since none of D7, D11 or D12 are prior art. D2 and D10 are not compatible. The combination based on D13 are also either not prior art or results in situations that cannot possibly occur.

9.3 In view that claim 1 is not novel over D4, a detailed analysis on inventive step is not appropriate.

Since the patent is directed to providing more QoS granularity in uplink transmission (§13), D4 would appear to be the closest prior art.

D2, D8, D13 and D6 are less relevant. D6 and D8 are directed to downlink communications (D6: GGSN/PDN set up to map .. over default bearer; D8: reception of data packets from CN). D2 and D13 have less features in common. Should the priority be restored, then either D2 or D13 could be considered the closest prior art.

At present the main request has no distinguishing features with respect to D4 .

Auxiliary requests

Auxiliary request 1 differs from the main request by the addition of "in a RRC signaling message" at feature 1.1 and other independent claims based on §144 of D17/§130 of D18 and D19.

Since D4 discloses a mapping configuration by RRC (section 5.2.1, fifth bullet point), Auxiliary request 1 is still not novel over D4. Additionally, the previous objections based on Art 123(2), 76(1) and 87(1) EPC remain. Contrary to the allegation of the opponent, the opposition division does not see any additional issue of Art 123(2) EPC/Article 76(1) when further considering §122 of D17;

Auxiliary request 2 differs from auxiliary request 1 by the addition of "the first uplink packet and the associated QoS ID received by the access stratum, AS, from higher layer" in feature 1.2 (claim 1) and claim 3 (terminal) based on §124 and §146 of D17 / §110-§111 and §132 of D18 and D19.

Since D4 discloses an AS protocol layer including QoS flow to DRB routing as well as QoS-flow-id marking in UL packet (page 12, third box), it is understood Figure 4.2.2.1 is directed to the AS layer and auxiliary request 2 is still not novel over D4. Additionally, the previous objections based on Art 123(2), 76(1) and 87(1) EPC remain. Contrary to the allegation of the opponent, the opposition division does not see any additional issue of Art 123(2) EPC, Article 76(1), Article 83 EPC.

Auxiliary request 3 differs from auxiliary 2 by the addition of "wherein multiple QoS IDs can be mapped to the same DRB" in feature 1.1 and other independent claims based on §122 and §144 of D17 / §108 and §130 of D18 and D19.

The division has doubts about the support. Furthermore, since D4 discloses mapping GBR flow and non-GBR flow, which imply different QoS ID, to a same DRB (page 11, second box, point 2), auxiliary request 3 is still not novel over D4. Additionally, the previous objections based on Art 123(2), 76(1) and 87(1) remain. Contrary to the allegation of the opponent, the opposition division does not see any problem with Article 84 EPC.

Auxiliary request 4 differs from auxiliary request 3 by the addition of "in which a PDU session is established for carrying flows requiring Quality of Service, QoS, differentiation, the QoS differentiation between the flows being provided by means of QoS identifiers, QoS IDs" in feature 1.0 and other independent claims based on §13 of D17 / §13 of D18 and D19.

The division has doubts about the support. Additionally, the previous objections based on Art 123(2), 76(1) and 87(1) remain.

Auxiliary request 5 differs from auxiliary request 4 by the addition of "on receiving the first uplink packet on the default DRB marked with the QoS ID, mapping the QoS ID to an existing DRB or adding a new DRB for this QoS ID" at the end of claims 2 and 4 (method by a base station and base station) based on §129 of D17 / §115 of D18 and D19.

Since claims 1 and 3 are the same as auxiliary request 4, all previous objections still apply. Additionally, at least the previous objections based on Art 123(2), 76(1) and 87(1) also apply to claim 2 and 4.

10   Article 83 EPC

10.1   The opponent raises lack of disclosure against all claims 1-4.

In particular claim 1 is not sufficiently disclosed because of a lack of information on what is conveyed in the received first information (data structure, format, protocol), how the mapping between the QoS ID and the DRB is obtained from the first information (expressly defined or derived), how such identifying should be performed (based on said first information) and according to which criteria the identifying of the QoS ID should be executed. Additionally, there is a lack of specification of the default DRB as well as other implementations different from the SDAP header for making the packet. Moreover, there is a critical ambiguity as to whether the identifying occurs at the AS layer (as implied by the claims),

or higher layers (as implied by the description). Finally, in the multi-PDU session scenario, there is no teaching for the terminal to select which of the multiple available default DRBs to use.

10.2 The proprietor argues that RRC signaling is a well-known form of control signaling, that the UE receives the UL packet and the PM associated with the UL packet. So, the UE does not need to do any packet inspection and there is no such critical ambiguity. Additionally, a default DRB is well known from LTE.

10.3 The opposition division reminds the parties that since as indicated by the opponent in point 33 the patent is addressed to the person skilled in the art, it is neither necessary nor desirable that details of well-known ancillary features are given (GL - F-III-1). In particular, data structures, formats and protocols are part of the knowledge of the skilled person in order to convey information. Additionally, the mere fact that the claim features are broad ("mapping", "identifying", "establish", "default/new DRB", "new QoS") is not in itself a ground for considering the patent as not complying with the requirements of sufficient disclosure (CLB, II.C.7.1.4). Finally, the opposition division cannot recognize in the argumentation of the opponent any specific reason preventing the person skilled in the art from implementing the invention.

Procedural matters

1 The parties should be prepared to discuss all previous points during the oral proceedings. Further points depending on the submissions of the parties may need to be discussed during the oral proceedings also (Rule 116(1) EPC).

2 Both parties must be ready to apply thoroughly the problem/solution approach when arguing about inventive step in accordance with EPC-GL G-VII, 5.1 that identifies one closest prior art. Multiple problem–solution approaches need only be examined where it has been convincingly shown that the proposed starting points are equally valid springboards. As set out in T 320/15, opposition proceedings are not intended to become a forum for an opponent to advance a multiplicity of alternative inventive-step attacks in the hope that one of them might succeed.

3 Both parties should have regard to the provisions of Article 114(2) and Rule 116 EPC related to submissions in preparation for the oral proceedings.

4 All parties are reminded that if a party duly summoned does not take part in the oral proceedings as summoned, the proceedings may continue without him (Rule 115(2)EPC).