Technical Specification Group Services and System Aspects
Meeting #22, Maui, Hawaii, USA, 15-18 December 2003

TSGS#22(03)0652

Source: **TSG SA WG2**
Title: **CRs on 23.002 (Network Architecture)**
Agenda Item: **7.2.3**

The following Change Requests (CRs) have been approved by TSG SA WG2 and are requested to be approved by TSG SA plenary #22.
Note: the source of all these CRs is now S2, even if the name of the originating company(ies) is still reflected on the cover page of all the attached CRs.

Tdoc #	Title	Spec	CR #	cat	Version in	REL	WI	S2 meeting	Clauses affected
S2-034340	Gq reference point	23.002	135r4	B	6.2.0	6	QoS1	S2-36	5.1, 5.5, 6a.7.9, 7.x, new section 4a.11

3GPP TSG- SA WG2 Meeting #36
New York, USA, 24 - 28 Nov 2003

Tdoc S2-034340

CR-Form-v7

CHANGE REQUEST

⌘ **23.002** **CR** **135** ⌘**rev** **4** ⌘ Current version: **6.2.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Gq reference point
Source:	⌘	Nokia
Work item code:	⌘	QoS1
Date:	⌘	27/11/2003
Category:	⌘	**B**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Current version of the specification has inherited the Rel-5 policy control architecture where the PDF is shown as being a logical entity of the P-CSCF. For Release 6, this architecture is being enhanced: the interface between the PDF and the Application Function (e.g. P-CSCF in the IM CN subsystem) is standardized (Gq), details are developped in TS 23.207. This enhancement also needs to be documented in TS 23.002.
Summary of change:	⌘	1. The PDF separated from the P-CSCFand Gq interface added to the relevant figures. 2. Gq reference point description added. 3. Definition of the Application Function added.
Consequences if not approved:	⌘	Misalignment between TS 23.207 and TS 23.002.
Clauses affected:	⌘	5.1, 5.5, 6a.7.9, 7.x, new section 4a.11

		Y	N			
Other specs affected:	⌘	X		Other core specifications	⌘	TS 23.207
			X	Test specifications		
			X	O&M Specifications		

Other comments:	⌘	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

********** First change **********

4a.11 Application Function (AF)

The Application Function (AF) is an element offering applications the control of IP bearer resources when required. The AF is capable of communicating with the PDF to transfer dynamic QoS-related service information.

One example of an AF is the P-CSCF of the IM CN subsystem.

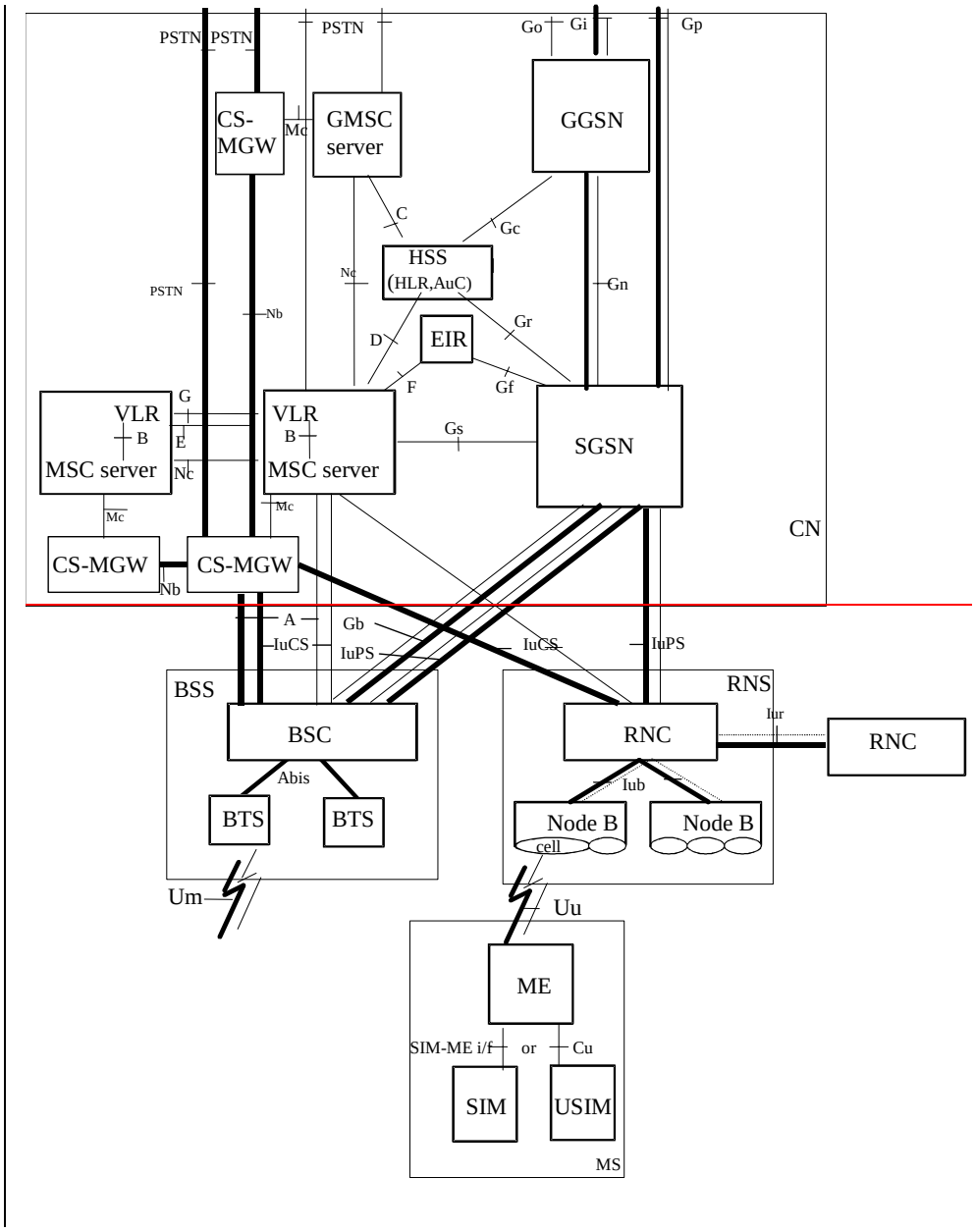
********** Second change **********

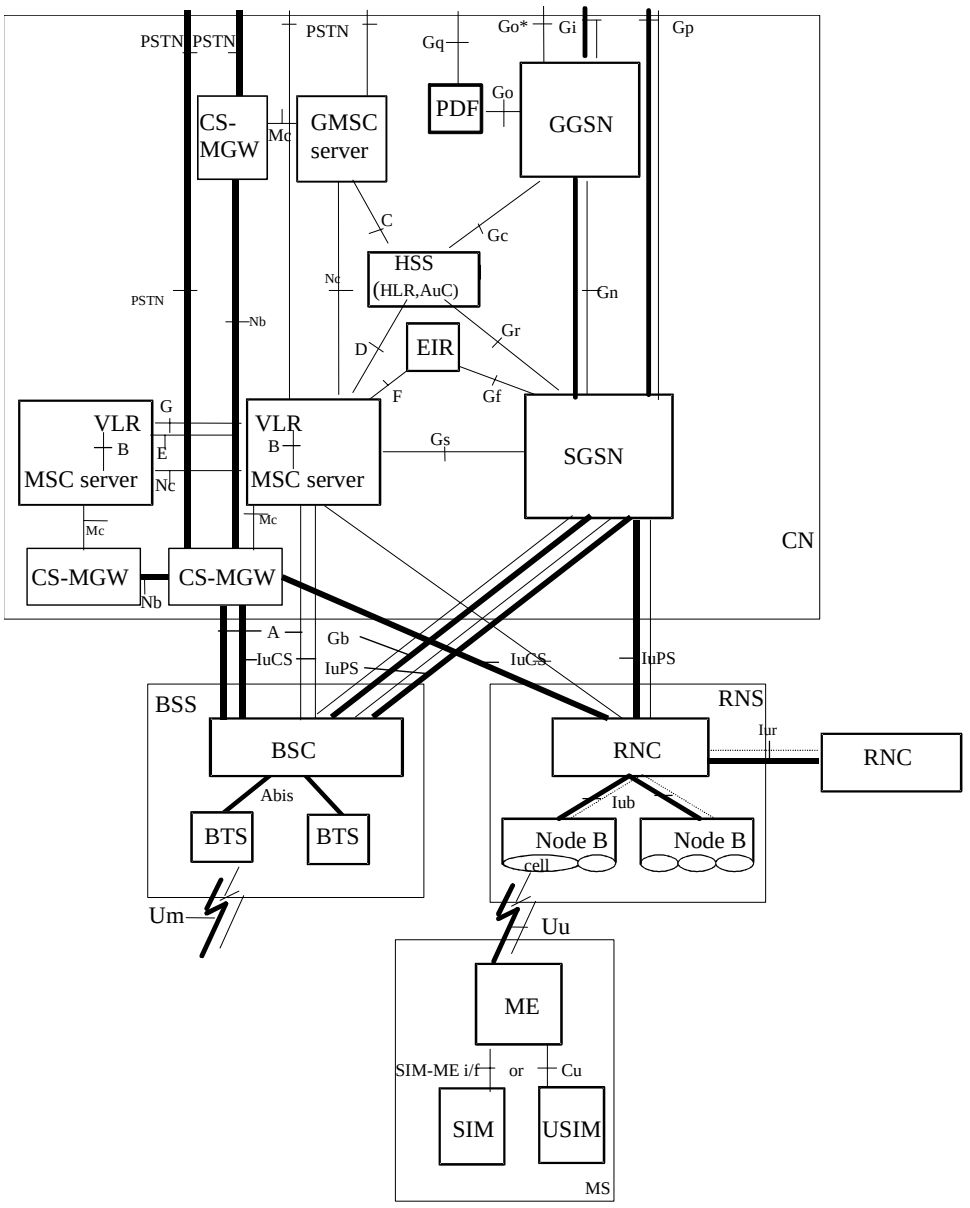
5.1 Basic configuration

The basic configuration of a Public Land Mobile Network (PLMN) supporting GPRS and the interconnection to the PSTN/ISDN and PDN is presented in figure 1. This configuration presents signalling and user traffic interfaces which can be found in a PLMN. Implementations may be different: some particular functions may be gathered in the same equipment and then some interfaces may become internal interfaces.

In the basic configuration presented in figure 1, all the functions are considered implemented in different equipments. Therefore, all the interfaces within PLMN are external. Interfaces A and Abis are defined in the 48-series ofTechnical Specifications. Interfaces Iu, Iur and Iub are defined in the 25.4xx-series of Technical Specifications. Interfaces B, C, D, E, F and G need the support of the Mobile Application Part of the signalling system No. 7 to exchange the data necessary to provide the mobile service. No protocols for the H-interface and for the I-interface are standardized. All the GPRS-specific interfaces (G- series) are defined in the 23-series and 24-series of Technical Specifications. Interfaces Mc, Nb, and Nc are defined in TS 23.205 [43] and in the 29-series of Technical Specifications.

From this configuration, all the possible PLMN organisations can be deduced. In the case when some functions are contained in the same equipment, the relevant interfaces become internal to that equipment.


PSTN
PSTN
PSTN
Go
Gi
Gp
CS-MGW
Mc
GMSC server
GGSN
C
Gc
HSS (HLR,AuC)
Nc
Gn
PSTN
Nb
Gr
D
EIR
F
Gf
VLR
B
MSC server
G
E
Nc
VLR
B
MSC server
Gs
SGSN
Mc
Mc
CN
CS-MGW
CS-MGW
Nb
A
Gb
IuCS
IuPS
IuCS
IuPS
BSS
RNS
Iur
BSC
RNC
RNC
Abis
Iub
BTS
BTS
Node B
Node B
cell
Um
Uu
ME
SIM-ME i/f
or
Cu
SIM
USIM
MS



Legend:
Bold lines: interfaces supporting user traffic;
Dashed lines: interfaces supporting signalling.

NOTE 1: The figure shows direct interconnections between the entities. The actual links may be provided by an underlying network (e.g. SS7 or IP): this needs further studies.

NOTE 2: When the MSC and the SGSN are integrated in a single physical entity, this entity is called UMTS MSC (UMSC).

NOTE 3: A (G)MSC server and associated CS-MGW can be implemented as a single node: the (G)MSC.

NOTE 4: The Gn interface (between two SGSNs) is also part of the reference architecture, but is not shown for layout purposes only.

NOTE 5: The Go interface marked with a '*' has been included to this figure for backwards compatibility only, in order to support connecting to Release-5 IM CN Subsystem configurations

Figure 1: Basic Configuration of a PLMN supporting CS and PS services and interfaces

********** Third change **********

5.5 Configuration of IM CN Subsystem entities

The configuration of IM CN Subsystem entities is presented in figure 6. In the figure, all the functions are considered implemented in different logical nodes. If two logical nodes are implemented in the same physical equipment, the relevant interfaces may become internal to that equipment.

Only the interfaces specifically linked to the IM subsystem are shown, i.e. all the SGSN, GGSN and HSS interfaces depicted in figure 1 are still supported by these entities even if not shown.

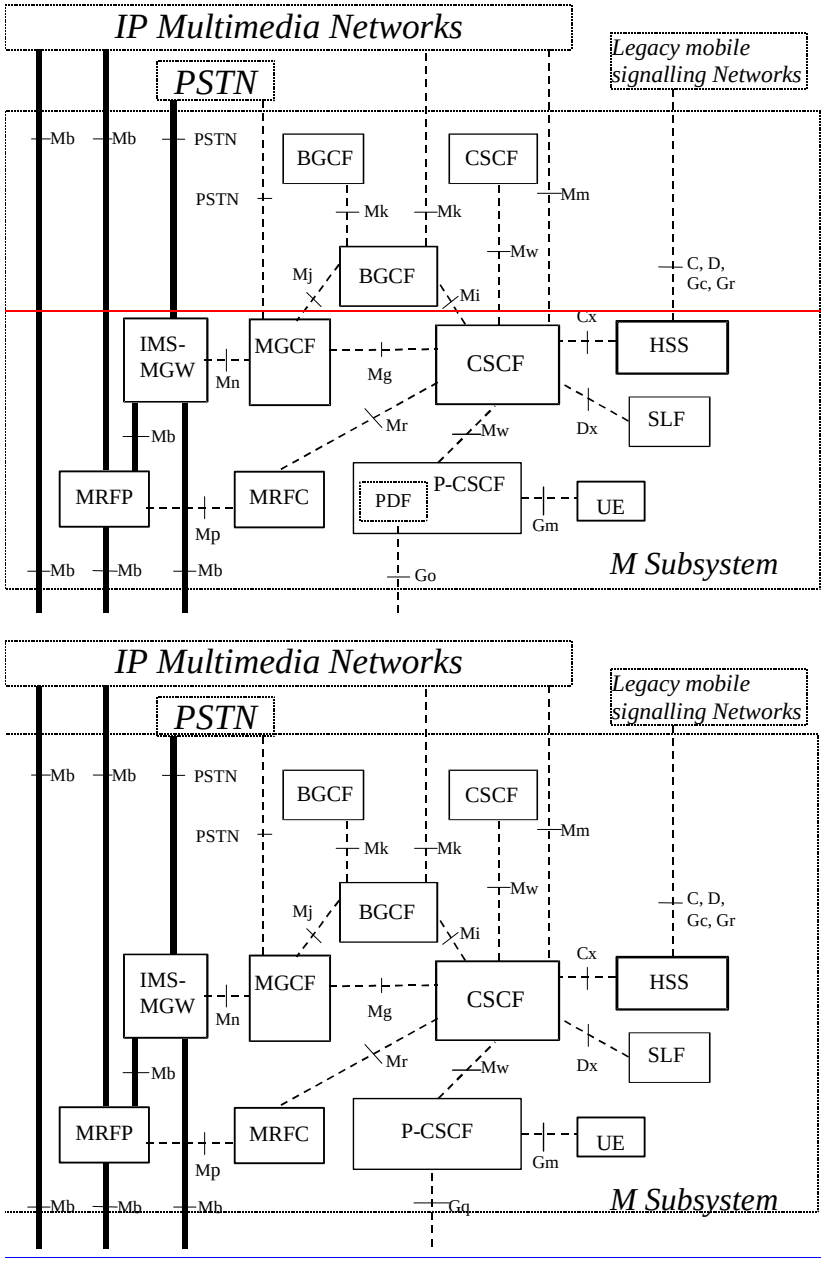


Figure 6: Configuration of IM Subsystem entities

Legend:
Bold lines: interfaces supporting user traffic;
Dashed lines: interfaces supporting only signalling.

********** Fourth change **********

6a.7.9 Reference Point GGSN –PDF (Go Reference Point)

This interface allows the Policy Decision Function (PDF) to apply policy to the bearer usage in the GGSN.

~~The Policy Decision Function (PDF) is a logical entity of the P-CSCF. If the PDF is implemented in a separate physical node, the interface between the PDF and the P-CSCF is not standardized.~~

********** Fifth change **********

7.x Reference Point PDF – Application Function (Gq Reference Point)

This interface allows for service-based policy set-up and QoS information to be exchanged between the Policy Decision Function (PDF) and the Application Function (AF). This information is used by the PDF for service based local policy decisions.

********** End of changes **********