

**TSG-RAN Meeting #13  
Beijing, China, 18 - 21, September, 2001**

**TSGRP#13(01) 0697**

**Title: Agreed CRs to TS 25.410**

**Source: TSG-RAN WG3**

**Agenda item: 8.3.3/8.3.4/9.4.3**

RP Tdoc	R3 Tdoc	Spec	CR_Num	Rev	Release	CR_Subject	Cat	Cur_Ver	New_Ver	Workitem
RP-010697	R3-012731	25.410	009	7	Rel-4	Iu connection principles enhancement, CS domain	B	4.1.0	4.2.0	TrFO

## CHANGE REQUEST

⌘ **25.410** **CR** **009** ⌘ rev **7** ⌘ Current version: **4.1.0** ⌘

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

**Proposed change affects:** ⌘ (U)SIM  ME/UE  Radio Access Network  Core Network

<b>Title:</b>	⌘ lu connection principles enhancement, CS domain		
<b>Source:</b>	⌘ R-WG3		
<b>Work item code:</b>	⌘ TrFO	<b>Date:</b>	⌘ 2001-08-09
<b>Category:</b>	⌘ <b>B</b>	<b>Release:</b>	⌘ REL-4
Use <u>one</u> of the following categories: <b>F</b> (essential correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (Addition of feature), <b>C</b> (Functional modification of feature) <b>D</b> (Editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Use <u>one</u> 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)	

<b>Reason for change:</b>	⌘ R7: The CR category was changed to "B".
	The TSG SA#11 approved version of 23.221 (Architecture requirements for Rel-4) includes the following statement: <i>"Alternatively, in the case of intra-PLMN handover, the GSM to UMTS inter-system handover or SRNS relocation between two MSC-areas may be executed as intra-MSC inter-system handover or SRNS relocation respectively. In such a case this will be performed by utilising a direct SCCP connection between the target RNC located in the target MSC-area and the MSC server already involved in the call."</i>  This option is currently not described in 25.410.
<b>Summary of change:</b>	⌘ Show the possibility for multiple connections between an RNC and CN domains.
<b>Consequences if not approved:</b>	⌘ There will be a misalignment between the architecture requirements in 23.221 and what is stated in 25.410.

<b>Clauses affected:</b>	⌘ 4.1.1, 4.1.2		
<b>Other specs affected:</b>	⌘ <input checked="" type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	25.413 v4.1.0 CR244
<b>Other comments:</b>	⌘		

**How to create CRs using this form:**

Comprehensive information and tips about how to create CRs can be found at:  
[http://www.3gpp.org/3G\\_Specs/CRs.htm](http://www.3gpp.org/3G_Specs/CRs.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://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

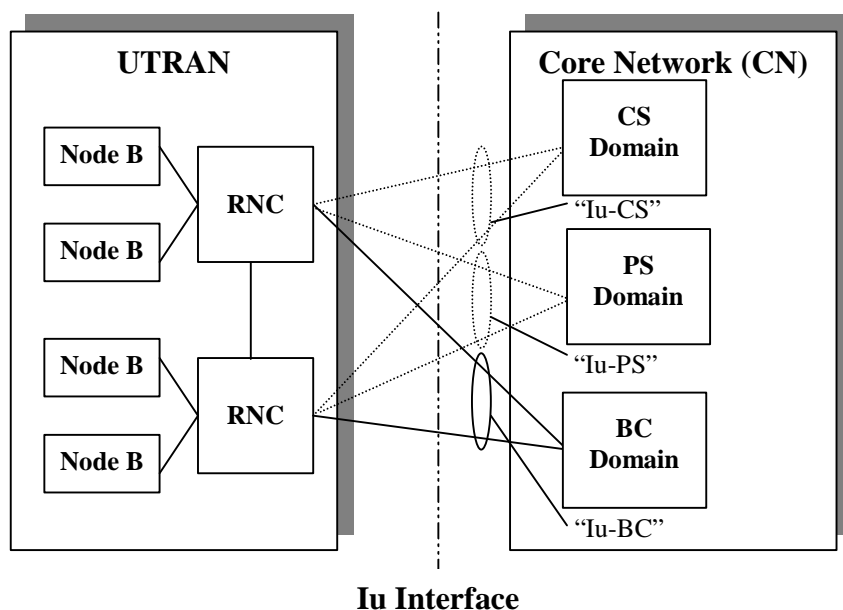
## 4 General Aspects

### 4.1 UTRAN Architecture

#### 4.1.1 Iu Interface Architecture

The overall UMTS architecture and UTRAN architectures are described in [1]. This subclause specifies only the architecture of the Iu interface, and shall not constrain the network architecture of either Core or Radio Access Networks.

The I<sub>u</sub> interface is specified at the boundary between the Core Network and UTRAN. Figure 4.1 depicts the logical division of the I<sub>u</sub> interface. From the Iu perspective, the UTRAN access point is an RNC.



**Figure 4.1: I<sub>u</sub> Interface Architecture**

The Iu interface towards the PS-domain of the core network is called Iu-PS, and the Iu interface towards the CS-domain is called Iu-CS. The differences between Iu-CS and Iu-PS are treated elsewhere in this specification. The Iu interface to the Broadcast domain is called Iu-BC.

There shall not be more than ~~one Iu interface (Iu-CS) towards the CS domain and~~ one Iu interface (Iu-PS) towards the PS-domain from any one RNC. ~~Each RNC shall not have more than one Iu interface (Iu-CS) towards its default CN node within the CS domain, but may also have further Iu interfaces (Iu-CS) towards other CN nodes within the CS domain. (See [6] for definition of Default CN node.) These further Iu interfaces (Iu-CS) shall only be used as a result of intra-MSC inter-system handover or SRNS relocation, in the case the anchor CN node directly connects to the target RNC.~~ There may be multiple Iu interfaces (Iu-BC) from an RNC towards the Broadcast domain.

In the separated core network architecture, this means that there shall be separate signalling and user data connections towards the PS and CS domains – this applies in both transport and radio network layers.

In the combined architecture, there shall be separate connections in the user plane towards the PS and CS domains (in both transport and radio network layers). In the control plane, there shall be separate SCCP connections to the two logical domains.

In either architecture, there can be several RNCs within UTRAN and so UTRAN may have several I<sub>u</sub> access points towards the Core Network. As a minimum, each Iu access point (in UTRAN or CN) shall independently fulfil the requirements of the relevant Iu specifications (25.41x series – see clause 7).

## 4.1.2 I<sub>u</sub> connection principles

The I<sub>u</sub> interface has a hierarchical architecture where one higher layer entity controls several lower layer entities. The hierarchy for the CN - UTRAN signalling connection end points is described below:

- Each CN Access Point may be connected to one or more UTRAN Access Points.
- For the PS ~~and CS~~ domains, each UTRAN Access Point shall not be connected to more than one CN Access Point per CN domain.
- For the CS and BC domains, each UTRAN Access Point may be connected to one or more CN Access Points.