

Agenda Item:

Source: BT

Title: Iu Interface Architecture

Document for: Approval

References

[1] 25.401 UTRAN Overall Description

Introduction

Currently section 4.1 of 25.410 contains a reference to the UTRAN Overall Description. This contribution proposes to replace this with more detailed text that refers to 25.401 before detailing some architectural aspects of the Iu interface. It is proposed to replace the current contents of section 4.1 with the text below.

Proposed Text

4.1 UTRAN Architecture

4.1.1 Iu Interface Architecture

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

The I_u interface is specified at the boundary between the Core Network and UTRAN. Figure XX depicts the logical division of the I_u interface. From the Iu perspective, the Core Network access point is either an MSC or an SGSN and the UTRAN access point is an RNC.

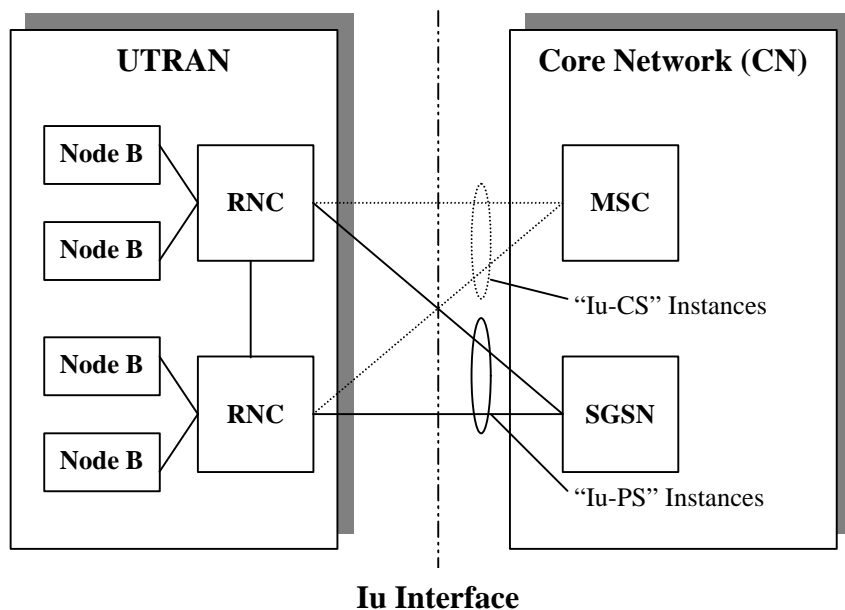


Figure xx – Iu Interface Architecture

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.

There may be at most two distinct Iu interface instances for any RNC - one (Iu-CS) towards the CS domain and one (Iu-PS) towards the PS-domain.

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

In the combined architecture, there are separate connections in the user plane (in both transport and radio network layers). In the control plane, there are 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_u access points towards the Core Network. As a minimum, each Iu access point (in UTRAN or CN) shall independently fulfil the requirements of the Iu specifications (25.41x series – see section 7).

4.1.2 Iu connection principles

The Iu 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 MSC may be connected to one or more RNCs
- Each SGSN may be connected to one or more RNCs
- Each RNC may be connected to no more than one MSC
- Each RNC may be connected to no more than one SGSN

-- End of Proposal --