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Technical Specification

3rd Generation Partnership Project (3GPP);
Technical Specification Group (TSG) RAN;

UTRAN I_{ur} Interface: General Aspects and Principles

UMTS <spec>

3GPP

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Contents

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Foreword

This Technical Specification (TS) has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of this TS are subject to continuing work within 3GPP and may change following formal TSG approval. Should the TSG modify the contents of this TS, it will be re-released with an identifying change of release date and an increase in version number as follows:

Version m.t.e

where:

- m indicates [major version number]
- x the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- y the third digit is incremented when editorial only changes have been incorporated into the specification.

Introduction

This clause is optional. If it exists, it is always the third unnumbered clause.

No text block identified

1 Scope

The present document is an introduction to the TSG RAN TS 25.42x series of UMTS Technical Specifications that define the Iur Interface. It is a logical interface for the interconnection of two Radio Network Controller (RNC) components of the UMTS Terrestrial Radio Access Network (UTRAN) for the UMTS system.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1] 3GPP TS 25.427: UTRAN Iub/Iur Interface User Plane Protocol for DCH Data Streams

[2] 3GPP TS 25.425: UTRAN Iur Interface: User Plane Protocols for Common Transport Channel Data Streams

[3] 3GPP TS 25.421: UTRAN Iur Interface: Layer 1
[4] 3GPP TS 25.422: UTRAN Iur Interface: Signalling Transport
[5] 3GPP TS 25.423: UTRAN Iur Interface: RNSAP Signalling
[6] 3GPP TS 25.424: UTRAN Iur Interface: Data Transport & Transport Signalling
[7] 3GPP TS 25.401: UTRAN Overall Description.

[8]3GPP TS 25.426: UTRAN Iur & Iub Interface: Data Transport & Transport Signalling for DCH Data Streams

[9] Q.711 (7/96), Functional description of the signalling connection control part
[10] Q.712 (7/96), Definition and function of signalling connection control part messages
[11] Q.713 (7/96), Signalling connection control part formats and codes
[12] Q.714 (7/96), Signalling connection control part procedures

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the [following] terms and definitions [given in ... and the following] apply.

3.2 Symbols

For the purposes of the present document, the following symbols apply:

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AAL2	ATM Adaptation Layer type 2
AAL5	ATM Adaptation Layer type 5
ALCAP	Access Link Control Application Part
ATM	Asynchronous Transfer Mode
CRNC	Controlling Radio Network Controller
CTP	Common Transport Protocol
DCH	Dedicated Transport Channel
DL	Down-link
DRNC	Drift Radio Network Controller
DRNS	Drift Radio Network Subsystem
DSCH	Down-link Shared Channel
FACH	Forward Access Channel
FAUCH	Fast Uplink Signalling Channel
GT	Global Title
IP	Internet Protocol
MAC	Medium Access Control
MTP3-B	Message Transfer Part level 3 (for Q.2140)
PLMN	Public Land Mobile Network
QoS	Quality of Service
RACH	Random Access Channel
RF	Radio Frequency
RNC	Radio Network Controller
RNS	Radio Network Subsystem
RNSAP	Radio Network Subsystem Application Part
RRC	Radio Resource Control
SCCP	Signalling Connection Control Part
SPC	Signalling Point Code
SRNC	Serving Radio Network Controller
SRNS	Serving Radio Network Subsystem
SS7	Signalling System N^{o} 7
SSCF-NNI	Service Specific Co-ordination Function – Network Node Interface
SSCOP	Service Specific Connection Oriented Protocol

SSN	Sub-System Number
STC	Signalling Transport Converter
UE	User Equipment
UL	Up-link
UMTS	Universal Mobile Telecommunication System
USCH	Up-link Shared Channel
URA	UTRAN Registration Area
UTRAN	UMTS Terrestrial Radio Access Network

4 General Aspects

4.1 Introduction

The logical connection that exists between any two RNCs within the UTRAN is referred to as the Iur interface.

4.2 I_{ur} Interface General Principles

The general principles for the specification of the Iur interface are as follows:

- The Iur interface should be open.

- The Iur interface shall support the exchange of signalling information between two RNCs, in addition the interface may need to support one or more Iur data streams.

- From a logical stand point, the Iur is a point to point interface between two RNCs within the UTRAN.- A point to point logical interface should be feasible even in the absence of a physical direct connection between the two RNCSs.

4.3 I_{ur} Interface Specification Objectives

4.3.1 General

The I_{ur} interface specifications shall facilitate the following:

- Inter-connection of RNCs supplied by different manufacturers;
- Support of continuation between RNSs of the UTRAN services offered via the Iu interface.
- Separation of I_{ur} interface Radio Network functionality and Transport Network functionality to facilitate introduction of future technology.

4.3.2 Addressing of RNSs over the Iur Interface

- For an RRC connection using a dedicated channel, the Iur standard shall allow the addition / deletion of radio links supported by cells belonging to any RNS within the PLMN.
- The specification of the Iur interface shall allow an RNC to address any other RNC within the PLMN for establishing a signalling bearer over Iur.
- The specification of the Iur interface shall allow an RNC to address any other RNC within the PLMN for establishing user data bearers for Iur data streams.

RNSAP shall allow different kinds of addressing schemes to be used for the signalling bearer.

4.4 I_{ur} Interface Capabilities

The information transferred over the Iur reference point can be categorised as follows:

1. Radio application related signalling

The I_{ur} interface provides capability to support radio interface mobility between RNSs, of UEs having a connection with UTRAN. This capability includes the support of handover,radio resource handling and synchronisation between RNSs.

2. Iub/Iur DCH data streams

The Iur interface provides the means for transport of uplink and downlink Iub/Iur DCH frames carrying user data and control information between SRNC and Node B (DRNS), via the DRNC .

3. Iur RACH data streams

4. Iur FACH data streams

5. Iur DSCH data streams

6. Iur USCH data streams (for TDD)

4.5 I_{ur} Interface Characteristics

4.5.1 Uses of SCCP

4.5.1.1 General

The SCCP is used to support signalling messages between two RNCs. One user function of the SCCP, called Radio Network Subsystem Application Part (RNSAP), is defined. The RNSAP uses one signalling connection per DRNC and UE where a UE is having one or more active radio links for the transfer of layer 3 messages.

Both connectionless and connection-oriented procedures are used to support the RNSAP. TS 25.423 explains whether connection oriented or connectionless services should be used for a layer 3 procedure.

The following sections describe the use of SCCP connections for RNSAP transactions. Section 2.2 describes the connection establishment procedures. Section 2.3 describes the connection release procedures. Section 2.4 describes abnormal conditions.

4.5.1.2 SCCP connection establishment

A new SCCP connection is established when information related to the communication between a UE and the network has to be exchanged between two RNCs, and no SCCP connection exists between the two RNCs involved, for the concerned UE.

An SCCP connection is always established by the SRNC.

The above case is the only case currently identified for SCCP connection establishment. Other cases may emerge in the future.

4.5.1.3 Establishment procedure initiated from the SRNC

The SCCP signalling connection establishment is initiated, by the SRNC, when the SRNC needs to request dedicated resources, i.e. a DCH, from a DRNC.

Initiation
The SRNC sends the RADIO LINK SETUP REQUEST message to the DRNC. The RADIO LINK SETUP REQUEST message is included in the user data field of an SCCP Connection Request message.

Termination
- successful outcome

- The SCCP Connection Confirm message, which may optionally contain a connection oriented RNSAP message in the user data field, is returned to the SRNC.

- unsuccessful outcome

- If the SCCP signalling connection establishment fails, an SCCP Connection REFusal message will be sent back to the SRNC. This message may optionally contain a connection oriented RNSAP message.

For more information on how the RNSAP procedure Radio Link Setup is handled, please see the procedure Radio Link Setup in TS 25.423.

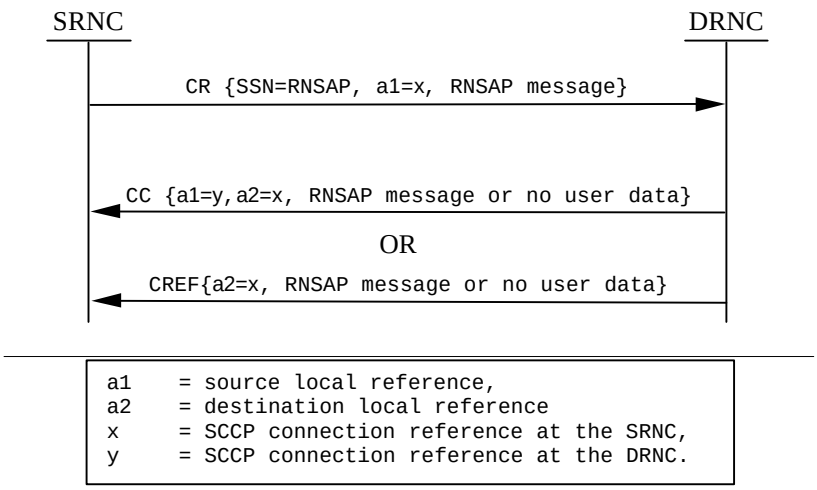

Figure 1
Setting-up of SCCP Signalling Connection

4.5.1.4 SCCP connection release

An SCCP connection is released when the SRNC realises that a given signalling connection is no longer required.

The SRNC sends an SCCP Released message.

4.5.1.5 General SCCP Abnormal Conditions

If a user-out-of-service information or signalling-point-inaccessible information is received by the RNSAP, no new attempt to establish SCCP connections towards the affected point code will be started until the corresponding user-in-service information or signalling-point-accessible information is received.

When a user-out-of-service information or signalling-point-inaccessible is received by an RNC, an optional timer may be started. When the timer expires, all the SCCP connections towards the affected point code will be released. When the user-in-service or signalling-point-accessible is received, the timer is stopped.

If for any reason an SCCP connection is released, the optional timer expires or a connection refusal is received while any of the RNSAP procedures are being performed or while a dedicated resource is still allocated, the following actions are taken:

At the SRNC:

- Any RNSAP procedure relating to that connection is abandoned.

At the DRNC:

- Any RNSAP procedure relating to that connection is abandoned.
- The DRNS resources (RL's) associated with the SCCP connection are released as soon as possible.

4.5.2 SCCP Addressing Scheme

4.5.2.1 **General**

RNSAP may use SSN, SPC and/or GT and any combination of them as addressing schemes for the SCCP. Which of the available addressing schemes to use for the SCCP is an operator matter.

Which out of the possible GT formats to be used is FFS. One option is to use the same format as for the MAP specifications, i.e. GT Format 4.

5 Functions of the I_{ur} Interface Protocols

5.1 Functional List

The list of functions on the Iur interface is the following:

1. Transport Network Management
2. Traffic management of Common Transport Channels
    - Preparation of Common Transport Channel resources
    - Paging
3. Traffic Management of Dedicated Transport Channels
    - Radio Link Setup/-Addition/-Deletion
    - Measurement Reporting
4. Traffic Management of Up-link Shared Channels
5. Traffic Management of Down-Link Shared Channels
6. Measurement reporting for common and dedicated measurement objects.

5.2 Functional Split over Iur

5.2.1 Macro-diversity Combining/Splitting [FDD]

DRNS may perform macro-diversity combining/splitting of data streams communicated via its cells. SRNS performs macro-diversity combining/splitting of Iur data streams received from/sent to DRNS(s), and data streams communicated via its own cells.

The internal DRNS handling of the macro-diversity combining (respectively splitting) of Iub (respectively Iur) DCH frames is controlled by the DRNS.

5.2.2 Control of Macro-diversity Combining/Splitting Topology [FDD]

When requesting the addition of a new cell for a UE-UTRAN connection, the RNC of the SRNS (i.e. the SRNC) can explicitly request to the RNC of the DRNS (i.e. the DRNC) a new Iur data stream, in which case the macro-diversity combining and splitting function within the DRNS is not used for that cell. Otherwise, the DRNS takes the decision whether macro-diversity combining and splitting function is used inside the DRNS for that cell i.e. whether a new Iur data stream shall be added or not.

5.2.3 Handling of DRNS Hardware Resources

Allocation and control of DRNS hardware resources, used for Iur data streams and radio interface transmission/reception in DRNS, is performed by DRNS.

5.2.4 Allocation of Physical Channels

Allocation of physical channels in cells belonging to DRNS is performed in DRNS.

5.2.5 UpLink Power Control

This group of functions controls the level of the uplink transmitted power in order to minimise uplink interference and keep the quality of the connections. If the connection involves both a SRNS and a DRNS the function UL Outer Loop Power Control (located in the SRNC) sets the target quality for the UL Inner Loop Power Control function (located in Node B [FDD]). Additional quality information for the case when macro diversity combining is performed in DRNC is for further study.

5.2.6 Down-Link Power Control

This group of functions controls the level of the downlink transmitted power. In FDD it is also used to correct the downlink power drifting between several radio links. SRNC regularly (or under some algorithms) sends the target down link power reference based on the measurement report from UE.

5.2.7 Admission Control

Admission control in a DRNC is implicitly invoked during radio link setup/modify.

Information on UL interference and DL power on cells controlled by the DRNC should be available across Iur.

Additional information exchanges between admission control functions located in different RNCs are for further study.

5.2.8 Radio Protocol Functional Split

Iur supports the radio protocol functional split between SRNC and DRNC.

6 Iur Interface Protocols

6.1 General

There shall exist a clear separation between the Radio Network Layer and the Transport Layer. Therefore, the radio network signalling and Iur data streams are separated from the data transport resource and traffic handling as shown in Figure 2. Data transport resource and traffic handling is controlled by Transport Signalling. The Transport Signalling is carried by a Signalling Bearer over the Iur interface.

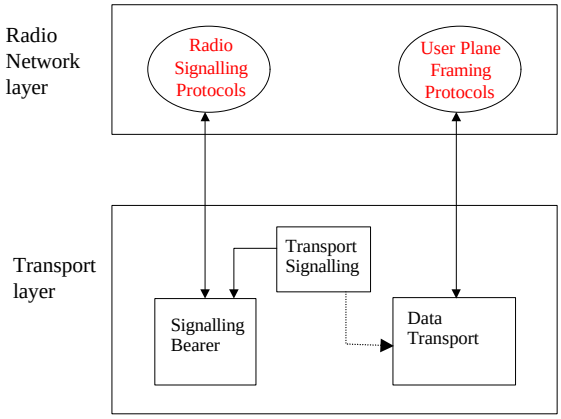

Figure 2. Separation of Radio Network Protocols ~~RNSAP~~ and transport over Iur

6.2 Radio Signalling Protocols

6.2.1 RNSAP Protocol

The protocol responsible for providing signalling information across the Iur interface is called the Radio Network Subsystem Application Part (RNSAP).

The RNSAP is terminated by the two RNCs inter-connected via the Iur interface RNSAP Procedure Modules

RNSAP procedures are divided into four modules as follows:

1. RNSAP Basic Mobility Procedures
2. RNSAP DCH Procedures
3. RNSAP Common Transport Channel Procedures
4. RNSAP Global Procedures

The Basic Mobility Procedures module contains procedures used to handle the mobility within UTRAN. RNSAP Basic Mobility Procedures are mandatory.

The DCH Procedures module contains procedures that are used to handle DCHs between two RNSs. If procedures from this module are not used in a specific Iur, then the usage of DCH traffic between corresponding RNSs is not possible.

- Addition of Radio Links in the DRNS which may or not lead to the addition of a new Iur data stream
- Removal of Radio Links in the DRNS
- Modification of Radio Link characteristics

Note: This list of procedures is not the full list over Iur interface

The Common Transport Channel Procedures module contains procedures that are used to control common transport channel data streams over Iur interface.

The Global Procedures module contains procedures that are not related to a specific UE. The procedures in this module are in contrast to the above modules involving two peer CRNCs.

6.3 User Plane Frame Protocols

6.3.1 Iub/Iur DCH Frame Protocol

There are two types of Iub/Iur DCH FP frames:

- DCH data frame
- DCH control frame

The contents of the Iub/Iur DCH data frame include:

- Transport Block Sets
- Quality estimate

The contents of the Iur DCH control frame include:

- Measurement reports
- Power control information
- Synchronisation information

For a more detailed description of the Iur/Iub DCH frame protocol refer to ‘UTRAN Iur & Iub Interface User Plane Protocol for DCH Data Streams’ [1].

6.3.2 Iur RACH Frame Protocol

For a more detailed description of the Iur RACH framing protocol refer to ‘UTRAN Iur Interface User Plane protocols

6.3.3 Iur FACH Frame Protocol

For a more detailed description of the Iur FACH framing protocol refer to ‘UTRAN Iur Interface User Plane protocols

6.3.4 Iur DSCH Frame Protocol

For a more detailed description of the Iur DSCH framing protocol refer to ‘UTRAN Iur Interface User Plane protocols

6.3.5 Iur USCH Frame Protocol [TDD]

For a more detailed description of the Iur USCH framing protocol refer to ‘UTRAN Iur Interface User Plane protocols

6.4 Mapping of Frame Protocols onto transport bearers

7 DRNS logical Model over Iur

~~1.1~~7.1 Overview

The model in Figure 3. shows the Drift Radio Network System as seen from the SRNC. It is modelled as a «black box» with a set of Radio Links on the Uu side of the box and another set of User Plane access ports on the Iur side of the box. The Radio Links are connected to the Iur user ports via the internal transport mechanisms of the DRNS. Operations for controlling the connections between ports are sent from the SRNC to the DRNC via an Iur Control Plane port.

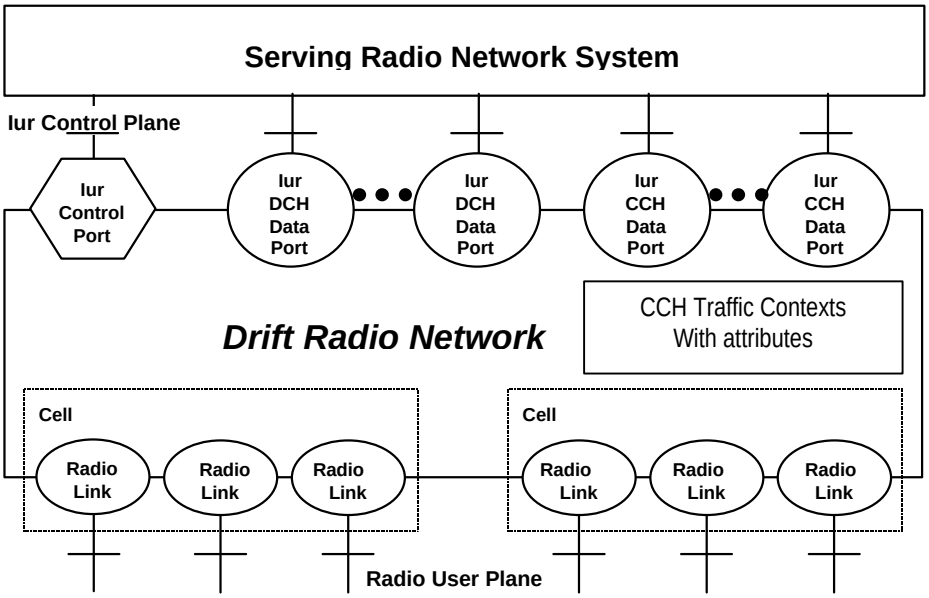

Figure 3. Drift RNS Logical Model

Note : This figure is the Radio Network layer view and not the transport layer one.

Note: Iur USCH and Iur DSCH Data ports are still missing.

7.2 Logical Model Elements

7.2.1 Radio Link

A Radio Link represents a User Plane access point on the UTRAN side of the Uu interface between the User Equipment and the UTRAN. It is associated with :

- a Cell identifier.
- a Radio Frequency Carrier identifier.
- One or more Physical Channel identifiers .

The semantics of a Radio Link include the following:

- It is created and destroyed by administrative procedures when a cell site and/or RF carrier is added to, or deleted from, the RNS.
- It can be attached to one or more Iur Data Ports at any given time.
- Its resources are allocated and controlled by the DRNS.

7.2.2 Cell

It is defined by:

- a Cell identifier.

The semantics of a Cell include the following:

- It is created and destroyed by administrative procedures when a cell site and/or RF carrier is added to, or deleted from, the RNS.

7.2.3 Iur DCH Data Port

One Iur DCH Data port represents one user plane transport bearer. One user plane transport bearer will carry only one DCH data stream except in the case of coordinated DCHs, in which case the data streams of all coordinated DCHs shall be multiplexed on one and the same user plane transport bearer.

The semantics of an Iur DCH Data Port include the following:

- It is created and destroyed by administrative procedures when transport facilities are added to, or deleted from, the Iur interface between the SRNS and DRNS. It can also be created and destroyed dynamically using dynamically setup transport bearers to add or remove transport facilities.
- It is assigned and released by the SRNC in reaction to requests for bearer services from the UE.
- It may be attached to one or more Radio Links. When attached to Radio Links in the downlink direction, it acts as a point-to-multipoint connection for diversity transmission. When attached to multiple Radio Links in the uplink direction, it acts as a multipoint-to-point connection for diversity reception [FDD].
- The transmit and receive diversity resources required to implement the point-to-multipoint and multipoint-to-point connections are controlled by the DRNS [FDD].
- The Iur DCH Data Stream emanating from the Iur DCH Data Port terminates in the SRNS connected to DRNS.

7.2.4 Iur CCH Data Port

Note : It is FFS whether an Iur CCH Data Port will be associated to a transport bearer or if multiple Iur CCH Data ports can be multiplexed over the same transport bearer.

7.2.5 Iur Control Port

An Iur Control Port represents the Control Plane access point on the Iur interface between the SRNS and the DRNS. It is defined by:

- a transport bearer channel identifier.

The semantics of an Iur Control Port include the following:

- It is created via administrative procedures when the Iur interface is created.

8 I_{ur} Interface Protocol Structure

The Iur interface protocol architecture consists of two functional layers:

1. Radio Network Layer, defines the procedures related to the interaction of two RNCs within a PLMN. The radio network layer consists of a Radio Network Control Plane and a Radio Network User Plane.

2. Transport layer, defines procedures for establishing physical connections between two RNCs within a PLMN.

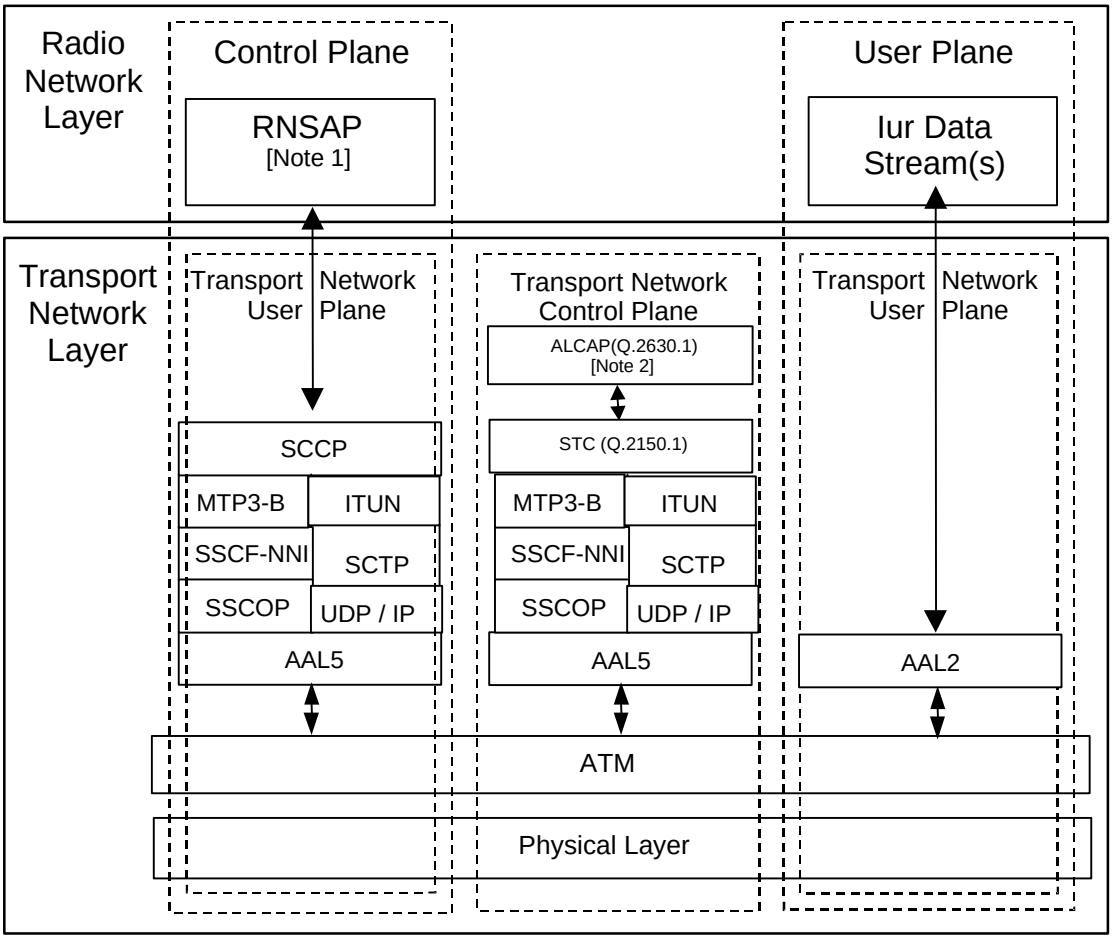

Fig 4 Iur Interface Protocol Structure

9 Handling of Common Transport Channel Data Streams over Iur Interface

9.1 Basic Principles for FACH

The flow control for FACH data streams is based on a slow start flow control scheme. The main principles are:

- Flow control is done per UE and priority class.
- A user may simultaneously have multiple FACH data streams with different priorities.
- A user is granted an initial (minimum) window size per common transport channel priority by the DRNC at common transport channel establishment in the DRNC (RNSAP Common Transport Channel Request/-Response).
- The window size is controlled (increased/decreased/unchanged) by the DRNC using UL FACH control frames. The window size can be set to 0 to prevent a user from transmitting FACH data frames, or to ‘unlimited’ implying that an unlimited number of data frames can be transmitted without acknowledgement.
- When a user sends its last FACH data frame (i.e. buffer empty) the window size shall be decreased to the initial (minimum) window size.
- The FACH FP does not provide any retransmission mechanisms or any other reliability mechanisms.

10 Other I_{ur} Interface Specifications

10.1 UTRAN Iur Interface: Layer 1 (TS 25.421)

UMTS 25.421 specifies the range of physical layer technologies that may be used to support the Iur interface.

10.2 UTRAN Iur Interface: Signalling Transport (TS 25.422)

UMTS 25.422 specifies the signalling bearers for the RANAP and ALCAP protocols for Iur Interface.

10.3 UTRAN Iur Interface: RNSAP Specification (TS 25.423)

UMTS 25.423 specifies the RANAP protocol for radio network control plane signalling over the Iur interface.

10.4 UTRAN Iur Interface: Data Transport and Transport Signalling for Common Transport Channel Data Streams (TS 25.424)

UMTS 25.424 specifies the transport bearers for the user plane of the Iur interface. It also specifies the ALCAP protocol used to control these transport bearers.

10.5 UTRAN Iur Interface: User Plane Protocols for Common Transport Channel Data Streams (TS 25.425)

UMTS 25.425 specifies the user plane frame handling protocol for the common channels on Iur interface.

10.6 UTRAN Iur & Iub Interface: Data Transport and Transport Signalling for DCH Data Streams (TS 25.426)

UMTS 25.426 specifies the transport bearers for the user plane of the Iub/Iur interface. It also specifies the ALCAP protocol used to control these transport bearers.

10.7 UTRAN Iur & Iub Interface: User Plane Protocols for DCH Data Streams (TS 25.427)

UMTS 25.427 specifies the user plane frame handling protocol for the dedicated channels on Iub/Iur interface.

10.8 Summary of UTRAN Iur Interface Technical Specifications

The relationship between the technical specifications that define the UTRAN Iur interface is shown in figure 5.

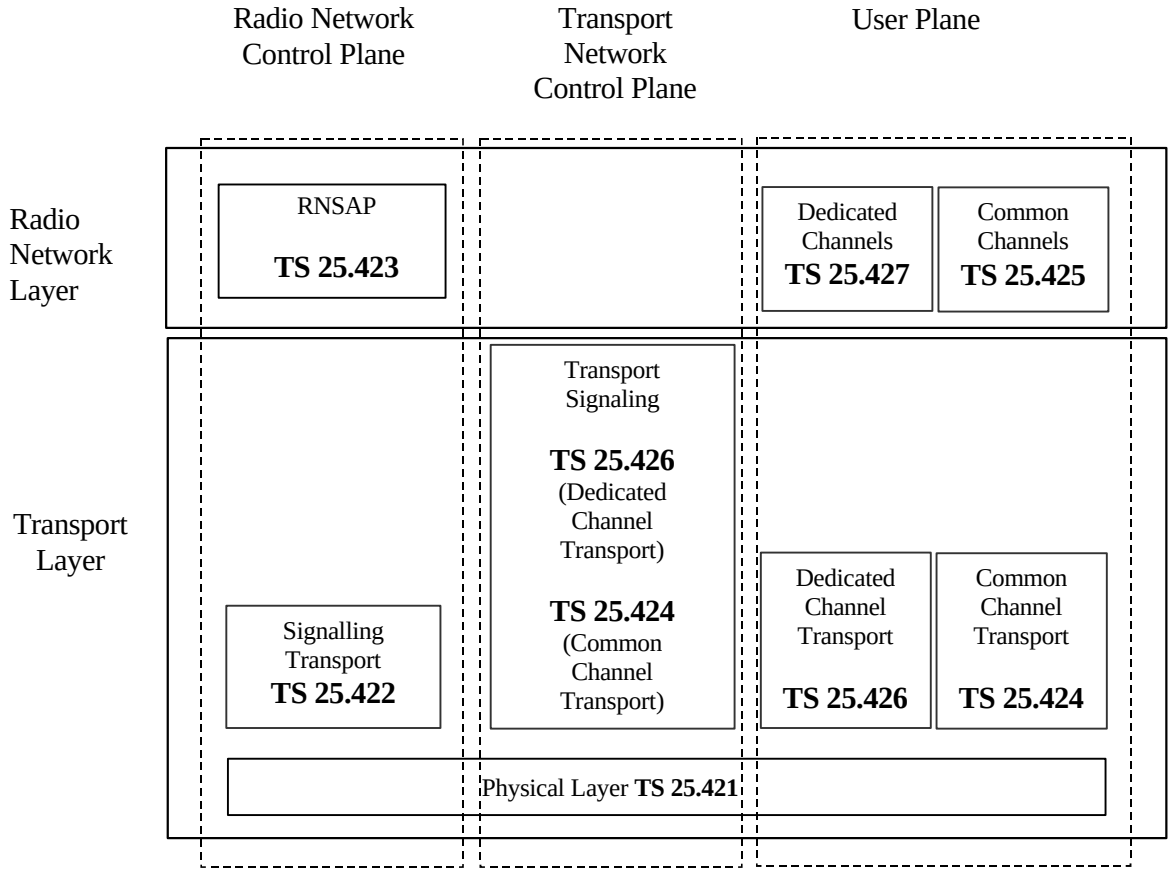

Figure 5: Iub Interface Technical Specifications.

11 Bibliography

The following material, though not specifically referenced in the body of the present document (or not publicly available), gives supporting information.

12 Annex A (normative): Document Stability Assessment

Section	Content missing	Incomplete	Restructuring needed	Checking needed	Editorial work required	Finalisation needed	Almost stable	Stable
1						√		
2		√						
3		√						
4		√						
5				√				
6		√						
7				√				
8						√		
9						√		
10		√						
11	√							

13 Annex B List of Open Issues

The open issues identified by the editor are the following:

1. DRNS Logical Model is incomplete
2. Addressing scheme: Details, description, needed.
3. Compatability Issue
4. Mapping of Frame protocols onto transport bearers
5. GT addressing format
6. Basic principle for DSCH over Iur
7. Number of priority classes for FACH data streams
8. Others

13 History

Document history		
V0.0.1	1999-02	Initial Specification Structure
V0.0.2	1999-02	Inclusion of complete text from sections 6, 7 and 8 of the baseline specification entitled “Merged Description of Iur Interface, Version 0.0.2”
V0.0.3	1999-03	Revised document based on approved contributions/decisions taken at WG3#2 Nynäshamn: Text in Chapter 2 of R3-99175 included in section 4.2 (text revised as per discussion). Editor’s note added stating that RNSAP DCH and CCH procedures shall be standardised but whether they will become mandatory or optional is FFS.
V0.0.4	1999-04	Minor editorial changes.
V0.0.5	1999-04	Changes arising from comments received via e-mail reflector: Replace ‘CCH’ with ‘Common Transport Channel’ as agreed at WG3#2 Revise figure 6.2 to clearly show the two alternatives currently being considered in WG3 for the Radio Network Control Plane Signalling Bearer (namely TCP/IP and SCCP/MTP3/SAAL-NNI.
V0.1.0	1999-04	Approved by WG3
V0.1.1	1999-05	The following changes have been made (in-line with the editor’s proposal presented at the previous meeting [re R3-99320], but revised according to decisions taken at the meeting): • Text added to ‘Scope’ (re chapter 1) with agreed modifications. • Revised Iur interface protocol diagram included (re chapter 7) with modifications (reflecting decisions taken at meeting on RNSAP signalling bearer, ALCAP and removal of AAL5 in the user plane (which was originally FFS). • Sub-sections referring to other related specifications included (re chapter 9). • Relevant sections of S3.01 (v0.1.0) related to Iur cut & paste throughout specification (excluding the information relating to Iur transport bearers originally proposed by editor to be included). The following changes have also been made: A new chapter included containing agreed principles for handling of Common Transport Channels (re chapter 8). A status report has been included. Minor editorial changes.

V0.1.2	1999-05	Editor's Proposal (Re R3-99530 [*same as v0.1.1+*]) Inclusion of text for Abbreviation section (Section 3.3). Removal of editors' notes throughout TS, which were used in v0.1.1 to denote changes agreed at Kawasaki. Addition of text to the beginning of chapter 7 introducing the Protocol Stack. Removal of BISUP from Transport Network Control Plane of the Protocol Stack (fig 3). Approved at TSG RAN WG3#4, Warwick-UK.
V0.1.3	1999-06	Revised according to the decisions taken at TSG RAN WG3#4, Warwick-UK Replacement of text in section 6.2.3 (re: R3-99450).
V0.1.4	1999-06	*Editor's Proposal:* • *Additional text in Sub-section 4.2.2 to address agreement reached at #4 (Warwick) for a new module covering Common Procedures. This text has been taken from a proposal made by the Editor of 25.423 (re Tdoc 591).* • Removal of some editor's notes Approved at TSG RAN WG3#5, Helsinki-Finland.
V0.1.5	1999-7	Revised according to decisions taken at TSG RAN Plenary#4, Miami-US: • Removal of alternatives for RNSAP signalling bearer based on SS7 only and IP only solutions. Revised according to decisions taken at TSG RAN WG3#5, Helsinki-Finland: • Replace the term 'Common Procedures' with 'Global Procedures'. • Remove statements regarding the mandatory/optional nature of 'DCH' and 'Common Transport Channel Procedures'. • Alignment of Document Stability Assessment Table with the format used in TS 25.401.
V0.1.7	1997-9	Revised according to the decision made at WG3#6 meeting. 1. Minor modification to the editors proposal v1.0.6, that were accepted at Iub/Iur SWG. 2. Changes reflect the tdoc930 proposals. 3. Open Issues are added in Annex B. Changes reflect the tdoc929 proposals.
V0.1.8	1997-9	This version includes following changes. 1. Changes including accepted tdocs b91, C17, in Iub/Iur SWG. 2. Motorola Protocol stack for inclusion SCTP that was missed in Helsinki Meet. 3. Added SCTP References. 4. Editorial changes from Siemens, Ericsson.

		- sec 5.2.5: UL inner loop power control function (located in Node B [FDD]).
		- remove editors note in 5.2.6
		- remove note in 5.2.5.
		- remove 5.2.8.
		- 5.2.9: Change to “Iur supports the radio protocol functional splitting between SRNS and DRNS.” Heading changed to “Radio protocol functional split”.
		- section 9.1: remove paragraph after second bullet.
		- section 9.1: Paragraph “when a user sends its last FACH data frame...” is converted to a bullet.
		- section 9.1 renamed to “Basic principles for FACH”
		- Fill in one sentence per referenced specification in section 10.
		Stability assessment:
		- Add to open issues:
		  - “Mapping of Frame protocols onto transport bearers”
		  - “GT addressing format”
		  - “Basic principle for DSCH over Iur”
		  - “Number of priority classes for FACH data streams”

V1.0.0	1997-9	Approved and raised to to v1.0.0 by WG3 RAN Plenary with followg changes

V1.0.1	1997-9	This version includes the following approved changes. - Remove the two notes in the end of section 8. - Add ITUN and UDP to protocol stack. Motorola will help the editor to include the correct protocol stack. - Update References
		-

Editor for 3GPP RAN 25.420 is:

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