TSG-RAN Meeting #7
Madrid, Spain, 13 - 15 March 2000

TSGRP#7(00)0097

Title: **Agreed CRs to TS 25.420**

Source: **TSG-RAN WG3**

Agenda item: **6.4.3**

Tdoc_Num	Specification	CR_Num	Revision_Num	CR_Subject	CR_Category	WG_Status	Cur_Ver_Num	New_Ver_Num
R3-000023	25.420	002		Correction of Iur Architecture Figure	D	agreed	3.0.0	3.1.0
R3-000540	25.420	003	2	Generalisation of the	F	agreed	3.0.0	3.1.0
R3-000981	25.420	001	2	Changes for CPCH		agreed	3.0.0	3.1.0
R3-000958	25.420	004	1	DSCH and USCH over Iur	B	agreed	3.0.0	3.1.0
R3-000821	25.420	007	1	Protocol stack updates	F	agreed	3.0.0	3.1.0
R3-000852	25.420	006	2	Problem with piggybacking RADIO LINK SETUP REQUEST message on SCCP: CR message	F	agreed	3.0.0	3.1.0

3GPP TSG-RAN Meeting #7
Madrid, Spain, 13 - 15 March 2000

***Document* R3-000023**
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

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25.420	CR	002	Current Version:	3.0.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG RAN #7	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [X] Core Network [ ]

Source: TSG-RAN WG3 **Date:** 24-28 Jan. 2000

Subject: Correction of Iur Architecture Figure

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification	X		Release 99	X
				Release 00	

Reason for change: The Architecture figure in chapter 8 has two notes that are obsolete. These notes were referring to the issue of CTP, i.e. the fact that the usage CTP should be re-evaluated at a later stage.

Clauses affected: 8

Other specs affected:

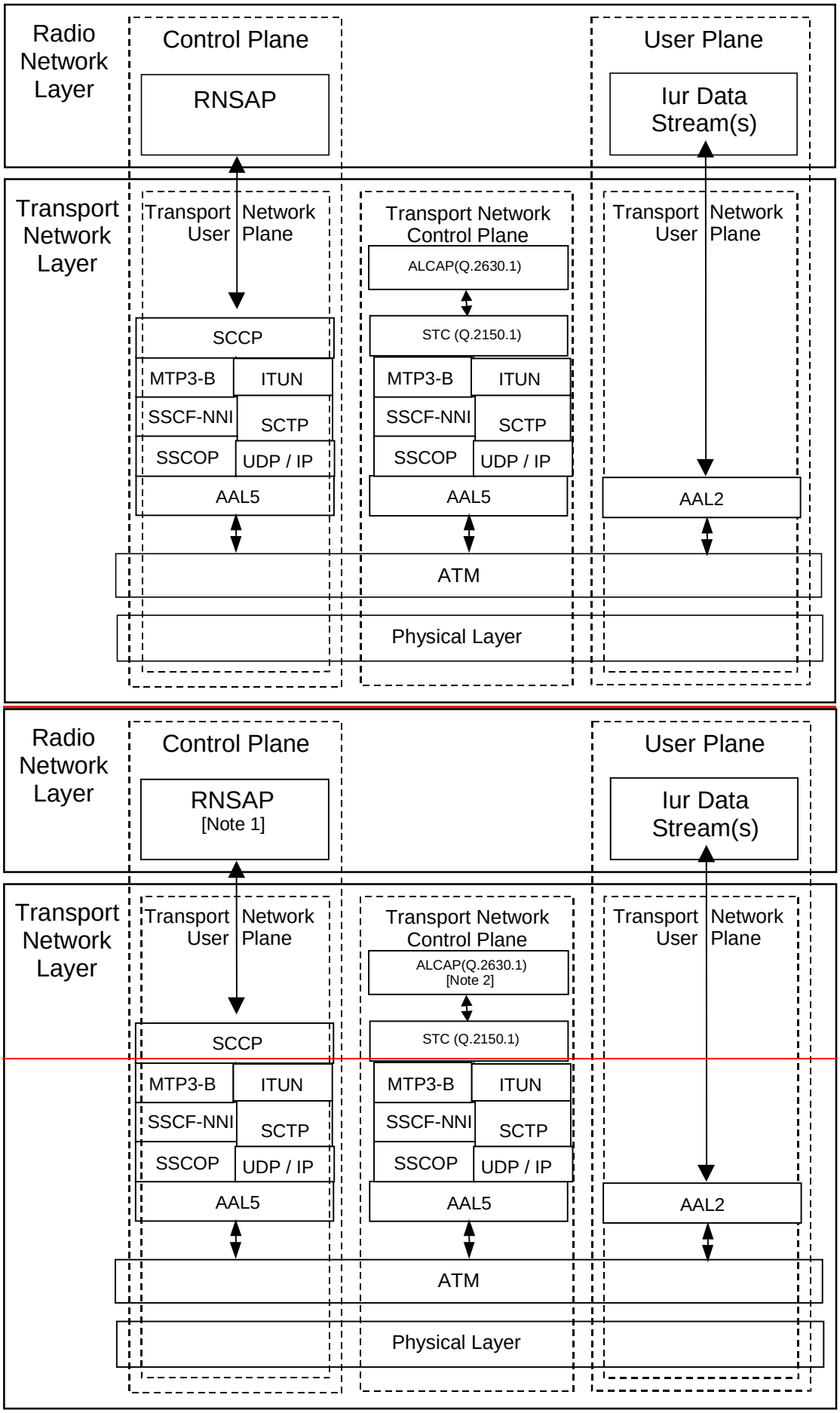
Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

8 I_{ur} Interface Protocol Structure

The Iur interface protocol architecture consists of two functional layers:

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


Radio Network Layer
Control Plane
RNSAP
User Plane
Iur Data Stream(s)
Transport Network Layer
Transport User Plane
Transport Network Control Plane
ALCAP(Q.2630.1)
STC (Q.2150.1)
SCCP
MTP3-B
ITUN
SSCF-NNI
SCTP
SSCOP
UDP / IP
AAL5
AAL2
ATM
Physical Layer
Radio Network Layer
Control Plane
RNSAP
[Note 1]
User Plane
Iur Data Stream(s)
Transport Network Layer
Transport User Plane
Transport Network Control Plane
ALCAP(Q.2630.1)
[Note 2]
STC (Q.2150.1)
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MTP3-B
ITUN
SSCF-NNI
SCTP
SSCOP
UDP / IP
AAL5
AAL2
ATM
Physical Layer

Figure 4: Iur Interface Protocol Structure

3GPP TSG-RAN Working Group 3, Meeting #10
Sophia Antipolis, France, February 28-March 3, 2000

Document* *R3-000540
Resubmission of R3-000390

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25.420	**CR**	**003r2**	Current Version:	3.0.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: RAN #7 *list expected approval meeting # here ↑*

for approval [X] for information [ ]

strategic [ ] non-strategic [ ] *(for SMG use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from:* ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [X] Core Network [ ]

Source: RAN-WG3 **Date:** Feb 22, 2000

Subject: Generalisation of the selection/splitting functionality in the RNS

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	[X]
A	Corresponds to a correction in an earlier release	[ ]
B	Addition of feature	[ ]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Release:

Phase 2	[ ]
Release 96	[ ]
Release 97	[ ]
Release 98	[ ]
Release 99	[X]
Release 00	[ ]

Reason for change: This functionality is currently described in such a way that only FDD macrodiversity is covered. A similar functionality is used to support hard handover. The new text proposes a general description for this functionality.

Clauses affected: 5.2.1, 5.2.2, 7.3.2

Other specs affected:

Other 3G core specifications	[X]	→ List of CRs: R3-000528 CR 1 rev1 TS25.401, R3-000542 CR 5 rev2 TS25.430
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

<--------- double-click here for help and instructions on how to create a CR.

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 UL combining of information streams may be performed using any suitable algorithm, for example:

- [FDD - based on maximum ratio algorithm (maximum ratio combining)];
- [FDD - based on quality information associated to each TBS (selection-combining)];
- [TDD - based on the presence/absence of the signal (selection)].

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.

7.3.2 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 co-ordinated DCHs, in which case the data streams of all co-ordinated 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 combining/splitting ~~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.

3GPP TSG-RAN WG3 Meeting #11
Sophia Antipolis, France, 28 Feb – 03 Mar 2000

***Document* R3-000821**
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25.420	CR	007r1	Current Version:	3.0.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG-RAN#7	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [X] Core Network [ ]

Source: R-WG3 **Date:** 28 Feb 2000

Subject: Protocol stack updates - Iur

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change: RNSAP protocol stack and Transport Network Control Plane protocol stack for IP domain updated to use M3UA instead of ITUN. SCTP runs over IP – UDP removed.

Clauses affected: 8 Iur Interface Protocol Structure

Other specs affected:

Other 3G core specifications		→ List of CRs:	
Other GSM core specifications		→ List of CRs:	
MS test specifications		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:

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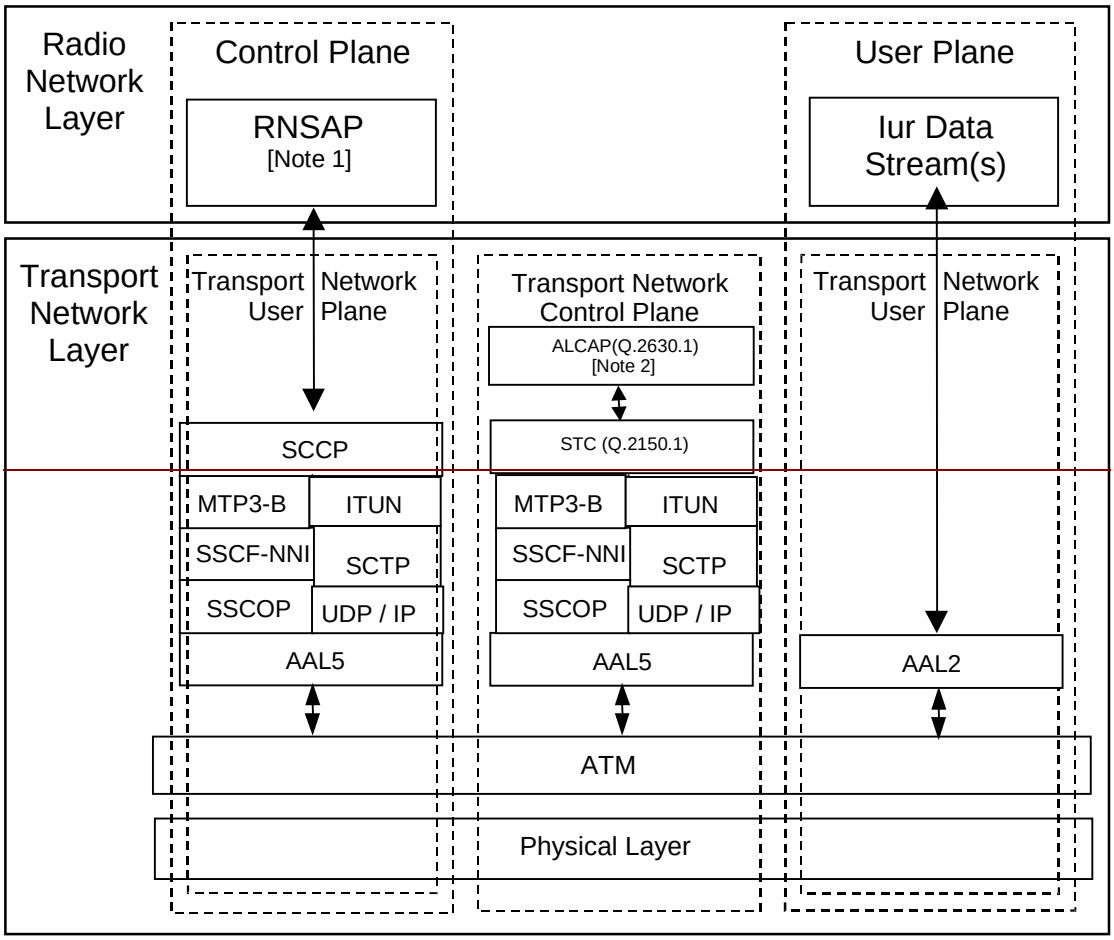
Radio Network Layer
Control Plane
User Plane
RNSAP
[Note 1]
Iur Data Stream(s)
Transport Network Layer
Transport User Plane
Transport Network Control Plane
Transport User Plane
ALCAP(Q.2630.1)
[Note 2]
STC (Q.2150.1)
SCCP
MTP3-B
ITUN
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UDP / IP
AAL5
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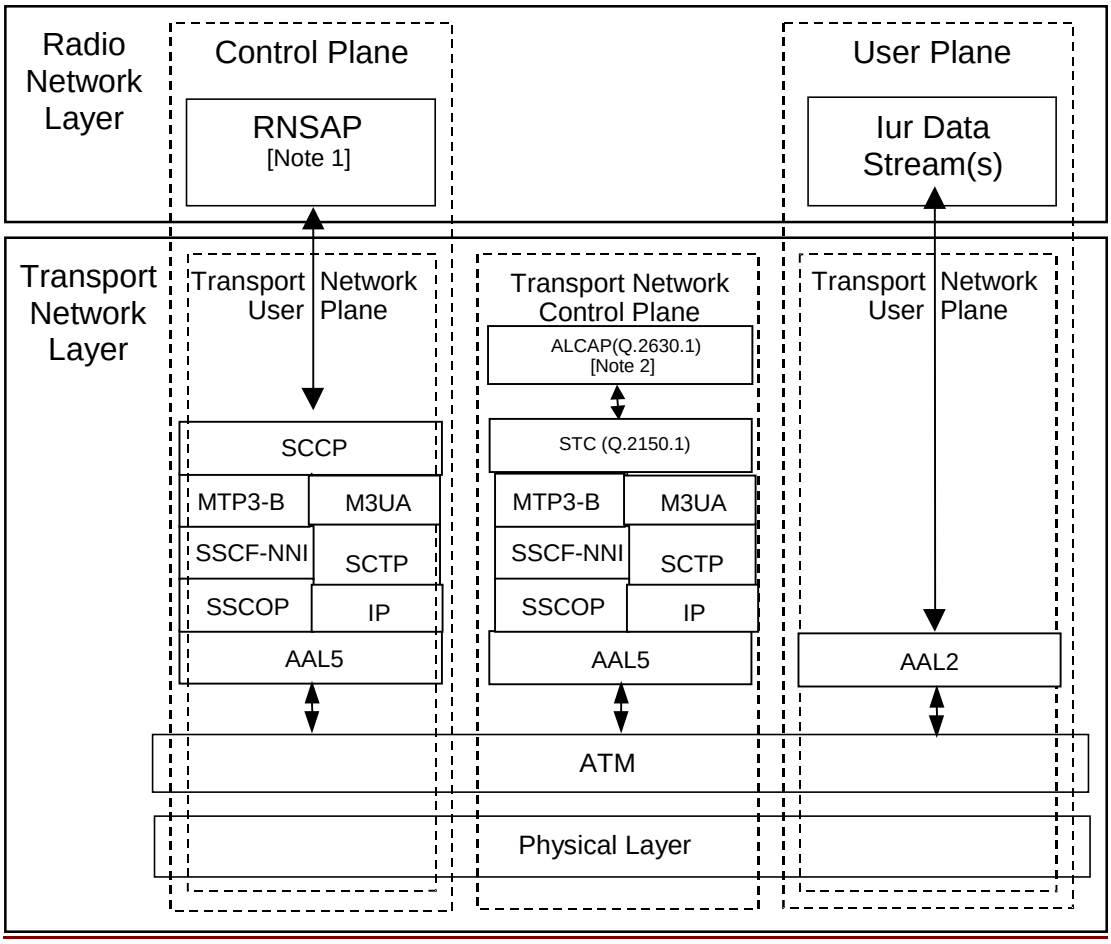
ATM
Physical Layer


Radio Network Layer
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STC (Q.2150.1)
SCCP
MTP3-B
M3UA
SSCF-NNI
SCTP
SSCOP
IP
AAL5
AAL2
ATM
Physical Layer

Figure 4: Iur Interface Protocol Structure

TSG-RAN Working Group 3 Meeting #11
Sophia Antipolis, France February 28-March 3 2000

***Document* R3-000852**
e.g. for 3GPP use the format TP-99xxx
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CHANGE REQUEST

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25.420	CR	006r2	Current Version:	3.0.0

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list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [X] Core Network [ ]

Source: R-WG3 **Date:** 28 February 2000

Subject: Problem with piggybacking RADIO LINK SETUP REQUEST message on SCCP: CR message

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change:

In R3, it is assumed that the RADIO LINK SETUP REQUEST message is always included in the SCCP: CR message according to the description in TS25.420 section 4.5.1.3.

On the other hand, according to Q.713, the SCCP specification, it is specified that the SCCP: CR message can only piggyback up to 130oct. of user data, as quoted below.

4.2 Connection request (CR)

The CR message contains:

- *two pointers;*
- *the parameters indicated in Table 3.*

ijdTable 3/Q.713 – Message type: Connection request

Parameter
Reference
Type (F V O)
Length (octets)

Message type code
2.1
F
1

Source local reference
3.3
F
3

Protocol class
3.6
F
1

Called party address
3.4
V
3 minimum

Credit
3.10
O
3

Calling party address
3.5
O
4 minimum

Data
3.16
O
3-130

Hop counter
3.18
O
3

Importance
3.19
O
3

End of optional parameters
3.1
O
1

Since the length of RADIO LINK SETUP REQUEST message is sometimes expected to exceed 130oct., there shall be an alternative that the RADIO LINK SETUP REQUEST message is not piggybacked on SCCP: CR message

Clauses affected: 4.5.1.3 Establishment procedure initiated from the SRNC

Other specs affected:

Other 3G core specifications		→ List of CRs:
Other GSM core specifications		→ List of CRs:
MS test specifications		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

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 SCCP: CR~~RADIO LINK SETUP REQUEST~~ message to the DRNC. The RADIO LINK SETUP REQUEST message may be ~~is~~ included in the user data field of an SCCP Connection Request message.

Termination

1. 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.
2. 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.

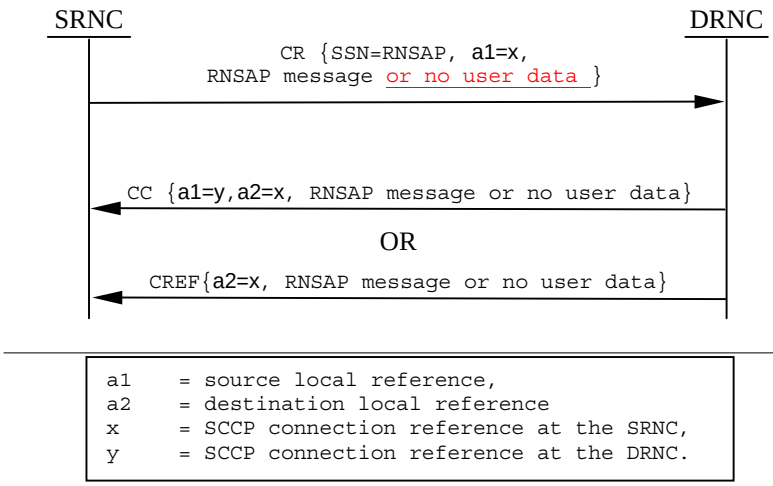

Figure 1: Setting-up of SCCP Signalling Connection

3GPP TSG-RAN Working Group 3, Meeting #11
Sophia Antipolis, France, 28 February – 3 March, 2000

Document R3-000958
e.g. for 3GPP use the format TP-99xxx
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CHANGE REQUEST

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25.420	CR	4R1	Current Version:	3.0.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

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list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from:* ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [X] Core Network [ ]

Source: RAN-WG3 **Date:** Feb 22, 2000

Subject: Inclusion of DSCH and [TDD USCH] into TS25.420

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in an earlier release	
B	Addition of feature	X
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	
Release 98	
Release 99	X
Release 00	

Reason for change: This document provides the necessary text for the inclusion of the DSCH and [TDD USCH] into the general aspects and principles document.

Clauses affected: 3.2, 4.4, 5.1, 6.2.1, 6.3.2, 6.3.3, 6.4, 7.1, 7.2.3, 7.2.2

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

3.2 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 RNC
CTP	Common Transport Protocol
DCH	Dedicated Transport Channel
DSCH	Downlink Shared Channel
DL	Down-link
DRNC	Drift Radio Network Controller
DRNS	Drift Radio Network Subsystem
FACH	Forward Access 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
URA	UTRAN Registration Area
USCH	Uplink Shared Channel
UTRAN	UMTS Terrestrial Radio Access Network

4.4 Iur Interface Capabilities

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

- Radio application related signalling

The Iur 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.

- 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.

- Iur DSCH data streams

An Iur DSCH data stream corresponds to the data carried on one DSCH transport channel for one UE. A UE may have multiple Iur DSCH data streams.

The Iur interface provides a means of transporting up link and down link MAC-c/sh SDUs. In addition, the interface provides a means to the SRNC for queue reporting and a means for the DRNC to allocate capacity to the SRNC.

- [TDD Iur USCH data streams]

An Iur USCH data stream corresponds to the data carried on one USCH transport channel for one UE. A UE may have multiple Iur USCH data streams.

- Iur RACH data streams

- Iur FACH data streams

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 Downlink Shared Transport Channels and [TDD Uplink Shared Transport Channels]
   - Radio Link Setup/ Addition/ Deletion
   - Capacity Allocation
5. Measurement reporting for common and dedicated measurement objects.

6 I_{ur} 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.

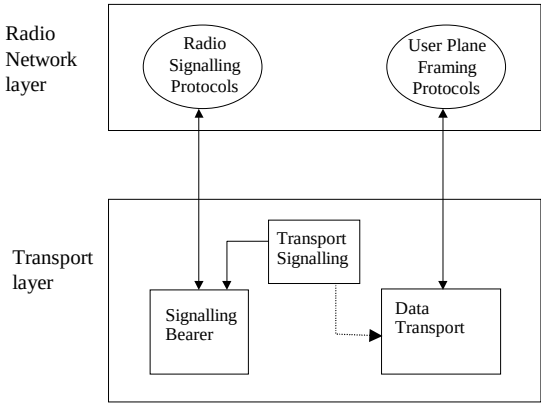

Figure 2: Separation of Radio Network Protocols and transport over Iur

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.
The DCH Procedures module contains procedures that are used to handle DCHs, DSCH and [TDD USCHs] between two RNSs. If procedures from this module are not used in a specific Iur, then the usage of DCH, DSCH and [TDD USCH] traffic between corresponding RNSs is not possible.
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 DSCH Frame Protocol

There are two types of Iur DSCH FP frames:
- DSCH data frame
- DSCH control frames

The contents of the Iur DSCH data frame include:
- MAC-c/sh SDUs
- User Buffer Status

The contents of the Iur DSCH control frame include:
- Flow control Information (UL)
- Capacity Request Information (DL)

For a more detailed description of the Iur DSCH frame protocol refer to 'UTRAN Iur Interface User Plane protocols for Common Transport Channel Data Streams' [2].

6.3.3 [TDD - Iur USCH Frame Protocol]

There is one type of Iur USCH FP frames:
- USCH data frame

The contents of the Iur USCH data frame include:
- MAC-c/sh SDUs

For a more detailed description of the Iur USCH frame protocol refer to 'UTRAN Iur Interface User Plane protocols for Common Transport Channel Data Streams' [2].

6.3.42 Iur RACH Frame Protocol

For a more detailed description of the Iur RACH framing protocol refer to 'UTRAN Iur Interface User Plane protocols for Common Transport Channel Data Streams' [2].

6.3.53 Iur FACH Frame Protocol

For a more detailed description of the Iur FACH framing protocol refer to 'UTRAN Iur Interface User Plane protocols for Common Transport Channel Data Streams' [2].

6.4 Mapping of Frame Protocols onto transport bearers

DCH One Iur DCH data stream is carried on one transport bearer except in the case of co-ordinated DCHs in which case a set of co-ordinated DCHs are multiplexed onto the same transport bearer.

DSCH One Iur DSCH data stream is carried on one transport bearer

[TDD USCH One Iur USCH data stream is carried on one transport bearer.]

RACH Multiple RACH data streams may be carried on one transport bearer.

FACH Multiple FACH data streams may be carried on one transport bearer.

RACH and FACH data streams for one UE are carried on same transport bearer.

7 DRNS logical Model over I_{ur}

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.

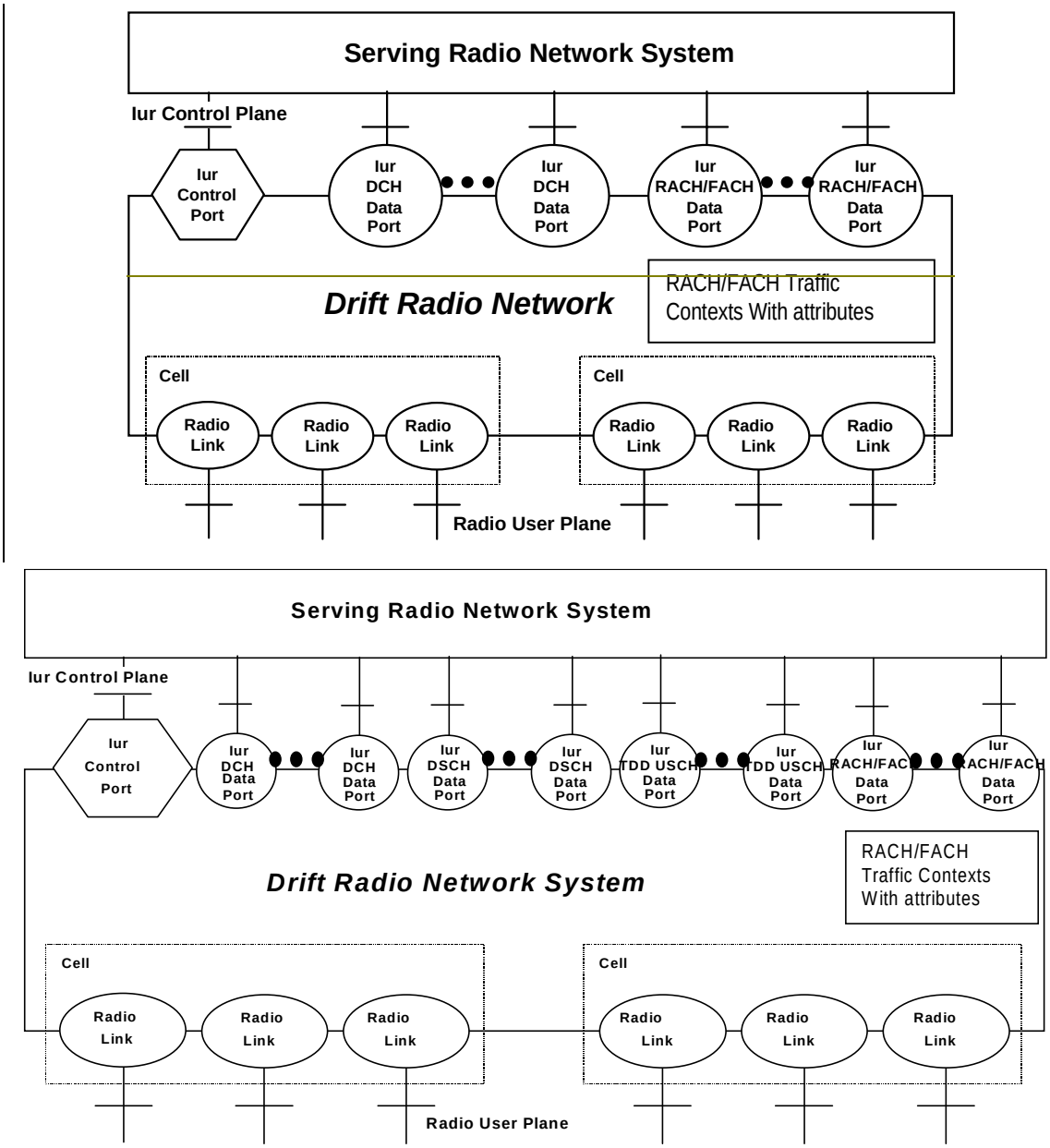

Figure 3: Drift RNS Logical Model

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.
The semantics of a Radio Link include the following:

- It is created, destroyed, and added by SRNC.

- 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.

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 co-ordinated DCHs, in which case the data streams of all co-ordinated 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 DSCH Data Port

One Iur DSCH Data port represents one bi-directional Iur user plane transport bearer. One Iur user plane transport bearer will carry only one DSCH data stream

7.2.5 [TDD Iur USCH Data Port]

One Iur USCH Data port represents one Iur user plane transport bearer. One Iur user plane transport bearer will carry only one USCH data stream

7.2.6 Iur RACH/FACH Data Port

The Iur RACH/FACH data port represents a transport bearer and is identified with a transport bearer identity.

7.2.7 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.

3GPP TSG-RAN WG3 Meeting #11
Sophia Antipolis, France, Feb 28 – Mar 3, 2000

Document R3-000931
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.420	CR	001r2	Current Version:	3.0.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG-RAN#7	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*

(U)SIM		ME	X	UTRAN / Radio	X	Core Network	

Source: R-WG3 **Date:** 28 Feb 2000

Subject: Changes for CPCH

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature	X		Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change: This CR adds changes to include specifications of CPCH on the UTRAN Iur interface general aspects and principles.

Clauses affected: 3.2; 4.4; 6.3; 6.4; 7.1; 7.2

Other specs affected:

Other 3G core specifications		→ List of CRs:
Other GSM core specifications		→ List of CRs:
MS test specifications		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:

3.2 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
CPCH	Common Packet Channel
CRNC	Controlling RNC
CTP	Common Transport Protocol
DCH	Dedicated Transport Channel
DL	Down-link
DRNC	Drift Radio Network Controller
DRNS	Drift Radio Network Subsystem
FACH	Forward Access 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
URA	UTRAN Registration Area
UTRAN	UMTS Terrestrial Radio Access Network

4.4 Iur Interface Capabilities

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

- Radio application related signalling

The Iur 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.

- 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.

- Iur RACH/CPCH[FDD] data streams

- Iur FACH data streams

~~- Iur CPCH data streams~~

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/CPCH[FDD] Frame Protocol

For a more detailed description of the Iur RACH framing protocol refer to 'UTRAN Iur Interface User Plane protocols for Common Transport Channel Data Streams' [2].

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 for Common Transport Channel Data Streams' [2].

~~Iur CPCH [FDD] Frame Protocol~~

~~For a more detailed description of the Iur CPCH [FDD] framing protocol refer to 'UTRAN Iur Interface User Plane Protocols for Common Transport Channel Data Streams'[2].~~

6.4 Mapping of Frame Protocols onto transport bearers

DCH One Iur DCH data stream is carried on one transport bearer except in the case of co-ordinated DCHs in which case a set of co-ordinated DCHs are multiplexed onto the same transport bearer.

RACH/CPCH[FDD] Multiple RACH/CPCH[FDD] data streams may be carried on one transport bearer.

~~**FDD CPCH Multiple CPCH [FDD] data streams may be carried on one transport bearer.**~~

FACH Multiple FACH data streams may be carried on one transport bearer.

RACH/CPCH[FDD] and FACH data streams for one UE are carried on same transport bearer.

7 DRNS logical Model over I_{ur}

7.1 Overview

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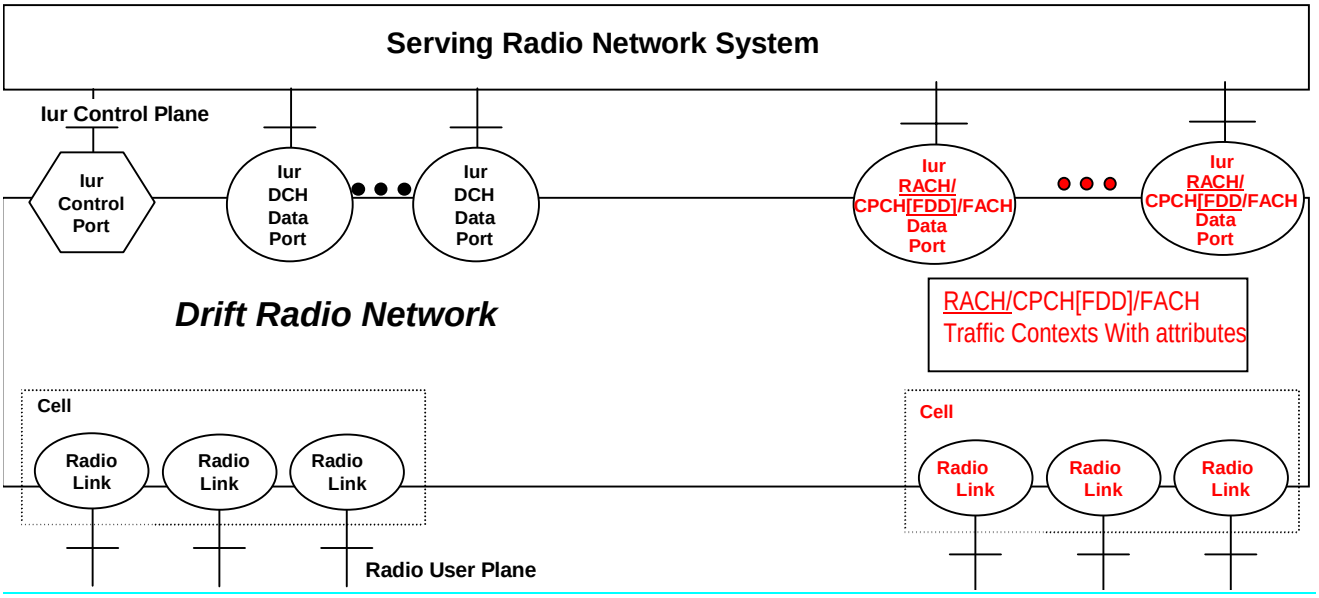

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7.2.4 Iur RACH/CPCH[FDD]/FACH Data Port

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~~Iur CPCH[FDD]/FACH Data Port~~

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