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3GPP

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Iur Interface Signalling Transport

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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project, Technical Specification Group RAN.
The contents of this TS may be subject to continuing work within the 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

1 Scope

The present document specifies the standards for user data transport protocols and related signalling protocols to establish user plane transport bearers.

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] Merged “Description of Iur Interface”, v.0.0.1

3 Definitions, symbols and abbreviations

3.1 Definitions

3.2 Symbols

3.3 Abbreviations

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

AAL	ATM Adaptation Layer
ATM	Asynchronous Transfer Mode
MTP3-B	Message Transfer Part
RNSAP	Radio Network Subsystem Application Part
RNS	Radio Network Station
SAAL-NNI	Signalling ATM Adaptation Layer – Network-to-Network Interface
SBC	Signalling Bearer Converter

SCCP	Signalling Connection Control Part
UE	User Equipment

5 RNSAP Signalling Bearer

[Editor's Note: This chapter specifies the signalling bearer protocol stack that supports the transport signalling protocol(s). Limitations in usage of options of the protocol should be described]

5.1 Introduction

[Editor´s note: This chapter should e.g. describe Radio Network Layer requirements on Transport Layer protocols.]

The following requirements on the RNSAP signalling bearer can be stated:

- Provide reliable transfer of control plane signalling messages in both connectionless mode and connection-oriented mode;
- Provide separate independent connections for distinguishing transactions with individual UEs;
- Supervise the 'UE connections' and provide connection status information to the Upper Layers for individual UEs;
- Provide networking and routing functions;
- Provide redundancy in the signalling network;
- Provide load sharing.

Addressing of RNSs over the Iur Interface:

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

Note : Connectionless RNSAP over Iur is for further studies.

5.2 Signalling Bearer

[Editor´s note: This chapter should refer to specifications of the Signalling Bearer for the Radio Network Layer protocol(s). Limitations in usage of options of the protocol(s) should be described.]

[Editor's note: The signalling bearer is FFS. It is related to the WG3 study item on signalling bearer for RANAP and RNSAP.]

Two alternative signalling bearers for the Radio Network Control Plane are shown in table x below.

<table>
<tr><td></td><td>Alternative 1</td><td>Alternative 2</td></tr>
<tr><td>Radio Network Layer</td><td colspan="2">RNSAP</td></tr>
<tr><td rowspan="4">Transport Layer:

Signalling Bearer</td><td>TCP</td><td>SCCP</td></tr>
<tr><td>IP</td><td>MTP3b</td></tr>
<tr><td></td><td>SSCF</td></tr>
<tr><td></td><td>SSCOP</td></tr>
<tr><td></td><td colspan="2">AAL5</td></tr>
<tr><td></td><td colspan="2">ATM</td></tr>
<tr><td>Physical Layer</td><td colspan="2">PHY</td></tr>
</table>

Table x: Alternatives for the Iur protocol stack (Radio Network Control Plane)

Note: These two alternatives are subject to further investigations. One of the two alternatives should be finally selected to be included in the standard.

5.3 Services Provided by the Signalling Bearer

When considering the requirements that the upper layer, i.e. RNSAP, have on the SB, there are a number of services it has to provide and a number of functions to perform.

Table 1 gives an overview of the minimum set of services that the signalling bearer shall provide to the upper layers.

Table 1: **Network service primitives for the Signalling Bearer (SB)**

Primitives	
Generic name	**Specific name**
N-CONNECT	Request Indication Response Confirm
N-DATA	Request Indication
N-DISCONNECT	Request Indication
N-UNITDATA	Request Indication
N-STATUS	Indication

6 Example Sequences

7 Bibliography

History

Document history		
V0.0.1	March 1999	First draft
V0.0.2	March 1999	Relevant sections from Merged “Description of Iur Interface” have been introduced.

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