

Doc For	TSG SA	TSG CN	TSG RAN	TSG T
Decision			X	
Discussion			X	
Information	X	X		X

**Agenda Item: 13**

**Source:** Ericsson

**Title:** Proposed Specification Structure for the Radio Access Network TSG

**Document for:**

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1 INTRODUCTION

It is important that the organisational and documentation structure of the Radio Access Network (RAN) Technical Specification Group (TSG) is given the opportunity to develop specifications in appropriate timing so that the schedule requirements of finalisation can be met. Further, to avoid a long transition time from the existing standardisation organisation to the 3GPP organisation it is important that the 3GPP RAN TSG can agree on what documentation to produce and to agree on a “first version” of the documentation. This input makes a proposal of 3GPP RAN TSG documents to produce and also proposes a first version of these documents. The document structure and the first versions are based on existing SMG2 documents, see attachment 1. The idea is to have one agreed starting point of the 3GPP discussions.

## 2 DOCUMENTATION STRUCTURE

Below we have proposed three categories of 3GPP RAN TSG documents:

- RAN TSG Technical Specifications
- RAN TSG internal Technical Reports (examples etc)
- RAN TSG Work plans

In the following chapters we have proposed our idea of necessary documents in the three categories, and also a proposal for the first version of each document. To agree on a first version of the 3GPP documentation will allow for a quick start of the technical discussion in the RAN TSG. In this paper we propose to use the SMG2 documentation as the first versions of the RAN TSG documentation. However, it is important to recognise specifications available from other 3GPP members as well. Therefore, it is important that the first 3GPP RAN TSG technical discussions focus on incorporation of material from other existing specification documents, e.g. ARIB/TTC specifications.

Nr	Name	Scope	First version
S0.01	Vocabulary for the 3GPP RAN TSG	Compilation of terms, definitions and abbreviations related to the documents in the RAN TSG.	25.xx Vocabulary for the UTRAN
S0.02	UE capabilities	Identifies the capabilities of different user equipment.	XX.21 "UTRA MS capability"
S1.01	Physical Layer – General Description	Describes the contents of the L1 documents (S1 & I1 series), where to find information, as well as a general description of L1.	XX.01 "UMTS physical layer documentation plan" and XX.02 "UTRA physical layer – general description"
S1.11	Transport and physical channels (FDD)	Specifies transport channels, physical channel structure and contents, timing relationship between physical channels, and mapping of data to the physical channels.	XX.03 "UTRA FDD, Transport and physical channels description"
S1.12	Multiplexing and channel coding (FDD)	Specifies channel coding, interleaving, rate matching and multiplexing of transport channels.	XX.04 "UTRA FDD, multiplexing, channel coding and interleaving description"
S1.13	Spreading and modulation (FDD)	Specifies the spreading, modulation and pulse shaping, including generation of various spreading and scrambling codes and RF channel arrangements.	XX.05 "UTRA FDD, spreading and modulation description" and parts of XX.06 "UTRA FDD, Radio transmission and reception description"
S1.14	Physical layer procedures (FDD)	Specifies the physical layer procedures, such as power control, cell search and idle mode tasks.	XX.07 "UTRA FDD, physical layer procedures description"
S1.15	Measurements (FDD)	Specifies the measurements that L1 is to perform and reporting to higher layers and network.	XX.15 "UTRA handover".
S1.21	Transport and physical channels (TDD)	Specifies transport channels, physical channel structure and contents, timing relationship between physical channels, and mapping of data to the physical channels.	XX.09 "UTRA TDD, Transport and physical channels description"
S1.22	Multiplexing and channel coding (TDD)	Specifies transport channels, physical channel structure and contents, timing relationship between physical channels, and mapping of data to the physical channels.	XX.10 "UTRA TDD, multiplexing, channel coding and interleaving description"
S1.23	Spreading and modulation (TDD)	Specifies the spreading, modulation and pulse shaping, including generation of various spreading and scrambling codes and RF channel arrangements.	XX.11 "UTRA TDD, spreading and modulation description" and parts of XX.12 "UTRA TDD, Radio transmission and reception description"

S1.24	Physical layer procedures (TDD)	Specifies the physical layer procedures, such as power control, cell search and idle mode tasks.	XX.13 "UTRA TDD, physical layer procedures description"
S1.25	Measurements (TDD)	Specifies the measurements that L1 is to perform and reporting to higher layers and network.	XX.15 "UTRA handover"
S23.01	Overall Description of the Radio Interface Protocol Architecture	This document shall provide an overview and overall description of the UE-RAN Radio Interface protocol architecture. Details of the radio protocols will be specified in companion documents.	YY.01 "UE-UTRAN Radio Interface Protocol Architecture; stage 2;"
S23.02	Services provided by the physical layer	The scope of this specification is to specify the services provided by the physical layer.	YY.02 "Layer 1; General Requirements;"
S23.03	UE functions related to Connected Mode	This specification defines the UE States and the principal tasks undertaken by UE when in Connected Mode. It may also include example (informative) combined inter-layer procedures for the UE to perform the required tasks.	YY.03 "Description of UE States and Procedures in Connected Mode;"
S23.04	UE functions related to Idle Mode	This specification defines the tasks undertaken by UE when in Idle mode, i.e. having no connection with RAN. The functions of UE in Idle mode is divided into Access Stratum and Non Access Stratum related functions. This specification only specifies the Access Stratum functions.	YY.04 "Description of Procedures in Idle mode"
S23.21	Medium Access Control (MAC) Protocol Specification	The scope of this specification is to specify the Medium Access Control (MAC) protocol.	YY.21 "Description of the MAC protocol"
S23.22	Radio Link Control (RLC) Protocol Specification	The scope of this specification is to specify the Radio Link Control (RLC) protocol.	YY.22 "Description of the RLC protocol"
S23.31	Radio Resource Control (RRC) Protocol Specification	The scope of this specification is to specify the Radio Resource Control (RRC) protocol.	YY.31 "Description of the RRC protocol"
SA.01	RAN Overall description	This specification describes the architecture and functions of RAN.	ZZ.01 "UTRAN Architecture Description"
SA.10	General aspects of Iu interface between CN and RAN	Describes the objectives of the Iu interface including an overall description of the interface.	zz.11 Description of Iu interface
SA.11	Principles of Iu interface between CN and RAN (function split, protocol structure)	Specifies the function split and protocol structure over the Iu interface.	Based on: zz.11 Description of Iu interface
SA.12	Iu interface Layer 1	Specifies L1 standard(s) to be used on the Iu interface.	Based on: zz.11 Description of Iu interface

SA.13	Iu interface signalling transport	Specifies the data link and network layer standards to be used to carry the RANAP signalling protocol.	Based on: zz.11 Description of Iu interface
SA.14	Iu interface CN-RAN signalling	Specifies the RANAP protocol for signalling between CN and RAN.	Based on: zz.11 Description of Iu interface
SA.15	Iu interface data transport & transport signalling	Specifies the standards for user data transport protocols and related signalling protocols to establish user-plane transport bearers.	Based on: zz.11 Description of Iu interface
SA.16	Iu interface CN-RAN user plane protocols	Specifies RAN-specific user-plane protocols between CN and RAN (e.g. for inband signalling to a CODEC in the CN).	Based on: zz.11 Description of Iu interface
SA.20	General aspects of Iur interface	Describes the objectives of the Iur interface including an overall description of the interface.	zz.12 Description of Iur interface
SA.21	Principles of Iur interface (function split, protocol structure)	Specifies the function split and protocol structure over the Iur interface.	Based on: zz.12 Description of Iur interface
SA.22	Iur interface Layer 1	Specifies L1 standard(s) to be used on the Iur interface.	Based on: zz.12 Description of Iur interface
SA.23	Iur interface signalling transport	Specifies the data link and network layer standards to be used to carry the RNCAP signalling protocol.	Based on: zz.12 Description of Iur interface
SA.24	Iur interface RNC-RNC signalling	Specifies the RNCAP protocol for signalling between RNC and RNC.	Based on: zz.12 Description of Iur interface
SA.25	Iur interface data transport & transport signalling for CCH data streams	Specifies the standards for user data transport protocols and related signalling protocols to establish user-plane transport bearers over Iur for Common Channel data streams.	Based on: zz.12 Description of Iur interface
SA.26	Iur interface user plane protocols for CCH data streams	Specifies RAN-specific user-plane protocols between RNC and RNC for Common Channel data streams.	Based on: zz.12 Description of Iur interface
SA.27	Iur & Iub interface data transport & transport signalling for DCH data streams	Specifies the standards for user data transport protocols and related signalling protocols to establish user-plane transport bearers over Iur and Iub for Dedicated Channel data streams.	Based on: zz.12 Description of Iur interface and zz.13 Description of Iub interface
SA.28	Iur & Iub interface user plane protocol for DCH data streams	Specifies RAN-specific user-plane protocols between SRNC and Node B for Dedicated Channel data streams.	Based on: zz.12 Description of Iur interface and zz.13 Description of Iub interface
SA.30	General aspects of Iub interface	Describes the objectives of the Iub interface including an overall description of the interface.	zz.13 Description of Iub interface
SA.31	Principles of Iub interface (function split, protocol structure)	Specifies the function split and protocol structure over the Iub interface.	Based on: zz.13 Description of Iub interface
SA.32	Iub interface Layer 1	Specifies L1 standard(s) to be used on the Iub interface.	Based on: zz.13 Description of Iub interface

SA.33	Iub interface signalling transport	Specifies the standards to be used to carry the NBAP signalling protocol.	Based on: zz.13 Description of Iub interface
SA.34	Iub interface RNC-Node B signalling	Specifies the NBAP protocol for signalling between controlling RNC and Node B.	Based on: zz.13 Description of Iub interface
SA.35	Iub interface data transport & transport signalling for CCH data streams	Specifies the standards for user data transport protocols and related signalling protocols to establish user-plane transport bearers over Iub for Common Channel data streams.	Based on: zz.13 Description of Iub interface
SA.36	Iub interface RNC-Node B user plane protocols for CCH data streams	Specifies RAN-specific user-plane protocols between controlling RNC and Node B for Common Channel data streams.	Based on: zz.13 Description of Iub interface
SR.01	Radio transmission and reception (FDD)	Specifies the transceiver requirements, such as frequency bands, channel arrangement, transmitter and receiver characteristics, and reference performance. This document includes both Basestation and Terminal aspects.	XX.06 “UTRA FDD, Radio transmission and reception description”
SR.02	Radio transmission and reception (TDD)	Specifies the transceiver requirements, such as frequency bands, channel arrangement, transmitter and receiver characteristics, and reference performance. This document includes both Basestation and Terminal aspects.	XX.12 “UTRA TDD, Radio transmission and reception description”

## 2.2 RAN TSG internal Technical Reports

Nr	Name	Scope	First version
I1.01	RF System scenarios	System scenarios to be used when deciding L1 parameters.	XX.17 “RF System scenarios”
I23.01	Principles for protocol design	The scope of this specification is to specify the protocol design rules, including encoding rules and message syntax. Furthermore, it specifies how extension of a protocol should be done in order not to cause problems for implementations using an older version of the protocol.	YY.40 “Description of principles for error handling and message description”
IA.01	RAN Functions: Examples on Signalling Procedures	This document describes how the standardised procedures on different interfaces (Iu, Iur, Iub, Uu) can be combined to perform different system functions. The examples shown are not mandated to be implemented, and this is not necessarily a complete list of functions. It serves the purpose to guide the specification of each interface standard by identifying the procedures needed on each interface.	ZZ.02 “UTRAN Functions: Examples on Signalling Procedures”

### 2.3 RAN TSG Work plans

Nr	Name	Scope	First version
P0.01	3GPP RAN TSG work plan	Work plan of the RAN TSG including a meeting schedule and approval dates for all RAN specifications	Input needed
P1.01	Physical Layer Plan	Work plan of the RAN TSG WG R1 including a meeting schedule and approval dates for all RAN Layer 1 specifications	XX.01 "UTRA Layer 1 documentation plan"
P23.01	Layer 2&3 Work plan	Work plan of the RAN TSG WG R2 including a meeting schedule and approval dates for all RAN Layer 2 and Layer 3 RR specifications	YY.00 "Deliverables and work plan"
PA.01	Iu, Iur, Iub Work Plan	Work plan of the RAN TSG WG R3 including a meeting schedule and approval dates for the Iu, Iur and Iub specifications	Work Plan for SMG2 UTAN Architecture Expert Groups
PR.01	Radio Requirements Work Plan	Work plan of the RAN TSG WG R4 including a meeting schedule and approval dates for the Radio Requirement specifications	

## 3 CONCLUSIONS

In conclusion we propose that this 3GPP RAN TSG meeting accept the proposal in this paper to allow for a quick start for the technical work.

## Attachment 1

(Tdoc SMG2 551/98, “Proposal of UTRA standard specification series”)

### Proposal of UTRA standard specifications series

#### 1. Introduction

This paper list the current description documents and based on those proposes the specifications that SMG2 thinks UMTS/IMT-2000 should have covering the area of SMG2’s expertise.

#### 2. Descriptions Mapped to proposed specifications

Description	Mapped to (relevant parts) <sup>1</sup>	Specification <sup>2</sup>
XX.01 “UTRA Layer 1 documentation plan”	=>	Physical Layer – General Description
XX.02 “UTRA physical layer – general description”	=>	
XX.03 “UTRA FDD, Transport and physical channels description”	=>	Transport and physical channels (FDD)
XX.04 “ UTRA FDD, multiplexing, channel coding and interleaving description”	=>	Multiplexing and channel coding (FDD)
XX.05 “UTRA FDD, spreading and modulation description”	=>	Spreading and modulation (FDD)
XX.06 “UTRA FDD, Radio transmission and reception description”	=>	Radio transmission and reception (FDD)
XX.07 “UTRA FDD, physical layer procedures description”	=>	Physical layer procedures (FDD)
XX.08 “UTRA FDD, additional features description”	Relevant parts will go into the above specifications for FDD	
		Measurements (FDD)

<sup>1</sup> The mapping should be seen as a guideline meaning that the final mapping might be different.

<sup>2</sup> The specifications derived from the XX.wv documents are working assumptions and not fully discussed in the layer 1 experts group.

XX.09 “UTRA TDD, Transport and physical channels description”	=>	Transport and physical channels (TDD)
XX.10 “ UTRA TDD, multiplexing, channel coding and interleaving description”	=>	Multiplexing and channel coding (TDD)
XX.11 “UTRA TDD, spreading and modulation description”	=>	Spreading and modulation (TDD)
XX.12 “UTRA TDD, Radio transmission and reception description”	=>	Radio transmission and reception (TDD)
XX.13 “UTRA TDD, physical layer procedures description”	=>	Physical layer procedures (TDD)
XX.14 “UTRA TDD, additional features description”	Relevant parts will go into the above specifications for TDD	
		Measurements (TDD)
XX.15 “UTRA handover”	Relevant parts will be included in the measurement specifications and physical layer procedures specifications	
XX.16 “UTRA inter operability description”		
XX.17 “Systems scenarios”	Will not be a specification, but more a document similar to GSM 05.50.	
XX.18 “UTRA layer 1 study items”	Will not be a specification	
XX.19 “UTRA Link level simulation results”	Relevant parts will be included in the radio transmission and reception specifications.	
XX.20 “Collection of UTRA system level simulation results”	Will not be a specification	
XX.21 “UTRA MS capability”	=>	UE capabilities

YY.00 “Deliverables and work plan”	Will not be a specification	
YY.01 “UE-UTRAN Radio Interface Protocol Architecture; stage 2;”	=>	Overall Description of UTRA Radio Interface Protocol Architecture
YY.02 “Layer 1; General Requirements;”	=>	UTRA Radio Interface, L1 General Requirements
YY.03 “Description of UE States and Procedures in Connected Mode;”	=>	UE functions related to Idle Mode
YY.04 “Description of Procedures in Idle mode”	=>	UE functions related to Connected Mode
YY.21 “Description of the MAC protocol”	=>	Medium Access Control Protocol Specification
YY.22 “Description of the RLC protocol”	=>	Radio Link Control Protocol Specification
YY.31 “Description of the RRC protocol”	=>	Radio Resource Control Protocol Specification
YY.40 “Description of principles for error handling and message description”	=>	Principles for protocol design

ZZ.01 “UTRAN Architecture Description”	=>	UTRAN Architecture Description
ZZ.02 “UTRAN Functions: Examples on Signalling Procedures”	=>	UTRAN Functions: Examples on signalling procedures
ZZ.11 “Description of Iu Interface”	=>	General aspects of Iu interface between CN and UTRAN
		Principles of Iu interface between CN and UTRAN (function split, protocol structure)
		Iu interface Layer 1
		Iu interface signalling transport
		Iu interface CN-UTRAN signalling
		Iu interface data transport & transport signalling
		Iu interface CN-UTRAN user plane protocols

ZZ.12 "Description of Iur interface"	=>	General aspects of Iur interface
		Principles of Iur interface (function split, protocol structure)
		Iur interface Layer 1
		Iur interface signalling transport
		Iur interface RNC-RNC signalling
		Iur interface data transport & transport signalling for CCH data streams
		Iur interface user plane protocols for CCH data streams
	=>	Iur & Iub interface data transport & transport signalling for DCH data streams
ZZ.13 "Description of Iub interface"		Iur & Iub interface user plane protocol for DCH data streams
	=>	General aspects of Iub interface
		Principles of Iub interface (function split, protocol structure)
		Iub interface Layer 1
		Iub interface signalling transport
		Iub interface RNC-Node B signalling
		Iub interface data transport & transport signalling for CCH data streams
		Iub interface RNC-Node B user plane protocols for CCH data streams
25.xx "Vocabulary for the UTRAN"	=>	Vocabulary used in UTRA specifications