

**TSG-SA Working Group 3 (Security) meeting #1
Docklands, UK, 2-4 February 1999**

TSGS3#1(99)011

3GPP1 TSG (Common meeting)
Sophia Antipolis 7-8/12/98

Tdoc TSG#1(98)013

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

Agenda Item:

Source: TTC

Title: TTC Work Items for IMT-2000 - System Aspect TSG

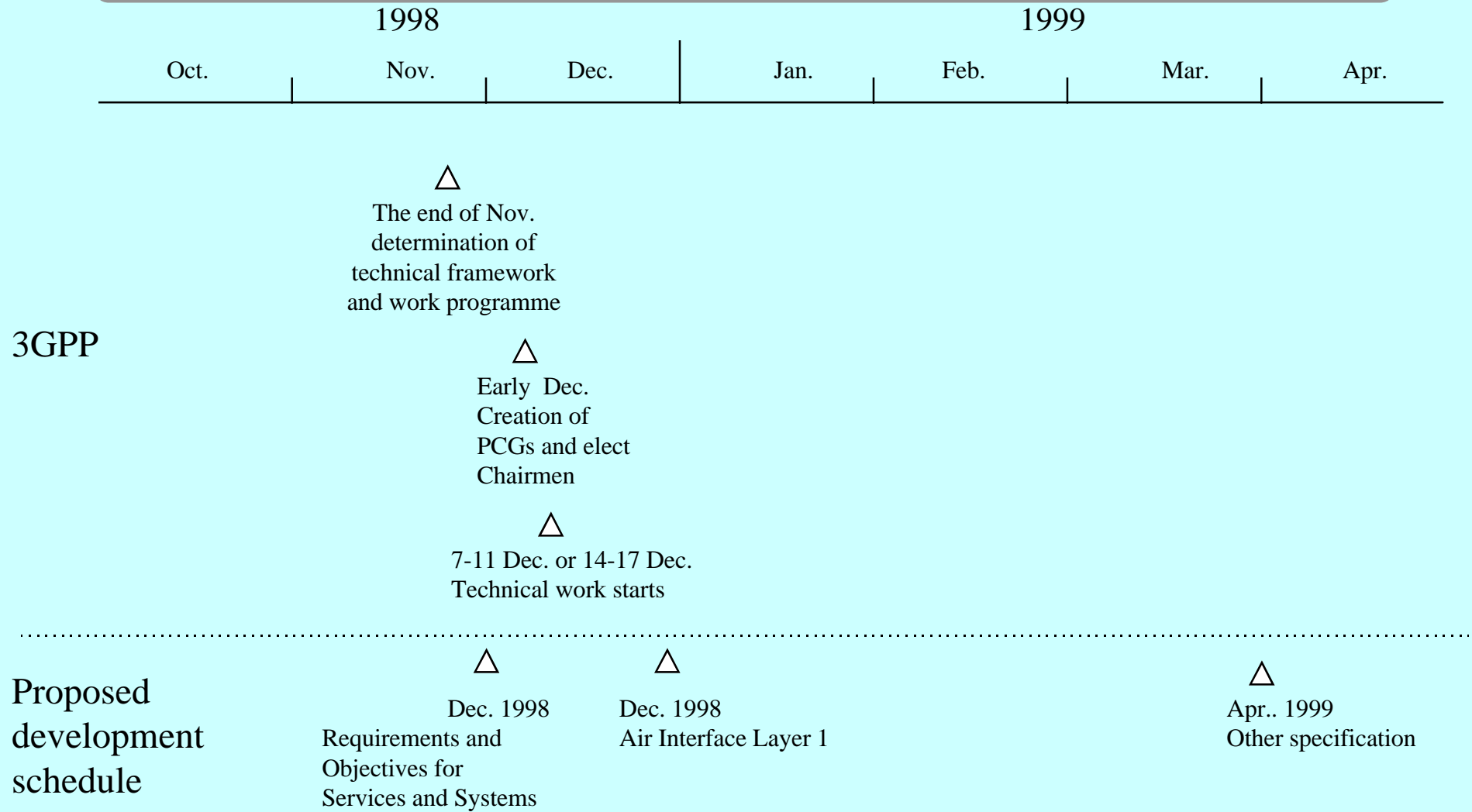
Document for: Discussion

Please see attached Presentation

**TTC Work Items for IMT-2000
- System Aspect TSG -**

3GPP System Aspect TSG
Sophia Antipolis, France
December 7-8, 1998
TTC SWG6-2-1 & 6-3-1

TTC's Overall Schedule for IMT-2000



Work Item: VHE

Requirements

- Support of Standardized GSM supplementary services
- Support of existing PDC operator specific services
- Support of Multimedia Services
- Support of Operator Specific HMI
- Support of Supplementary Service Control by Subscribers

Documents	System Configuration	Network Requirements	Information Flows
	✓	✓	✓

Work Item: High Speed Packet

Requirements

- Support various QoS requirements
- Co-ordination of Mobility Management for Circuit and Packet switched service
- Access point selection

Documents	System Configuration	Network Requirements	Information Flows
	✓	✓	✓

Work Item: High Speed Data

Requirements

- Various Bearer Capabilities
(Voice, audio, video, data, unrestricted digital, etc.)
- Asymmetric Bearer

Documents	System Configuration	Network Requirements	Information Flows
	✓	✓	✓

Work Item: ATM

Requirements

- ATM as high performance transport technology
- AAL 2 as high efficient transport for voice call
- ATM-SVC for various QoS support and network efficient usage
- Mapping between GPRS and ATM-SVC

Documents	System Configuration	Network Requirements	Information Flows
	✓	✓	✓

Work Item: W-CDMA

Requirements

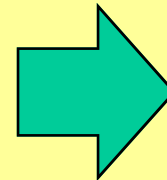
- Soft Handover (Diversity Handover)
- Handover Triggered from both MT and NW
- Service and QoS
- Protection of Security and Privacy
- Efficient Resource Usage
- MS Classmark Information

Documents	System Configuration	Network Requirements	Information Flows
	✓	✓	✓

Work Item: Routing

Requirements

- Efficient Usage of Network Resources
- Inter-network Signalling Optimization
- No Impact on Existing Network



- Introduction of GLR
- Paging for Multi-MSC
- Path Minimization
- Pre-Routing Paging

Documents	System Configuration	Network Requirements	Information Flows
	✓	✓	✓

Work Item: Call/Connection Control

Requirements

- Multicall Services
- Bearer Change
- Bearer Negotiation
- Bearer Modification
- Codec/Adaptor Control
- Security Enhancement
- Point-to-multipoint
- Emergency Call

Documents	System Configuration	Network Requirements	Information Flows
	✓	✓	✓

Annex: ToC of Information Flows (1)

[I] Circuit-Switch Service Information Flows

- 7.1 Information flow diagrams for registration, authentication and privacy related services and network capabilities
 - 7.1.1 Common procedure modules
 - 7.1.1.1 UIMF related procedures
 - 7.1.1.2 IMT-2000 user ID retrieval
 - 7.1.2 Detach
 - 7.1.3 Service profile interrogation*
 - 7.1.4 Service profile modification*
 - 7.1.5 Service profile transfer*
 - 7.1.6 Terminal equipment validation
 - 7.1.7 Terminal location registration
 - 7.1.8 Terminal location updating
 - 7.1.9 User authentication
 - 7.1.10 UIM holder verification
 - 7.1.11 Service provider authentication*
 - 7.1.12 Encryption*
 - 7.1.13 Update of user's shared secret data (SSD update)*
 - 7.1.14 Update of user's call history count*
 - 7.1.15 Call history count request procedure*
 - 7.1.16 System access information
 - 7.1.17 Mobile station initialization
- Annex A Missing 2nd generation capability procedures
 - A.1 Exchange of authentication data between VLRs to ensure more efficient use of the authentication triplets
 - A.2 Subscriber data management procedures
 - A.3 User information interrogation
 - A.4 Fault recovery procedures
 - A.4.1 HLR restart indication
 - A.4.2 Check supplementary services data indication
 - A.4.3 Restore VLR data
 - A.5 Supplementary services control procedures*
 - A.6 New or updated information elements
- Annex B GSM evolved procedures
 - B.1 MS-Purge
 - B.2 Provide subscriber info
- Appendix A Structure of TMUI and TMUI assignment source ID*
- Appendix B Distribution of elements of user profile*
- Appendix C Data elements in UIM(User Identification Module)
- Appendix D Allocation and Usage of Identities
- Appendix E Coexistence of Unique and Global Challenge

[II] Packet service and Packet-Circuit switch coordinated Information Flows

- 1. Information flow diagrams for registration, authentication and privacy related services and network capabilities
 - 1.1 Identification procedure [GSM03.60]
 - 1.2 MM Information procedure [GSM03.60]
 - 1.3 Attach[Evolved]
 - Alternative1: Combined MM for CS and PS
 - Alternative2: Separate MM for CS and PS
 - 1.4 Packet Detach[Evolved]
 - 1.4.1 Packet Detach (MS initiated(RRC Dedicated))
 - 1.4.2 Packet Detach (MS initiated(RRC RACH/FACH))
 - 1.4.3 Packet Detach (MS initiated(RRC RACH/PCH))
 - 1.4.4 Packet Detach (MS initiated(RRC IDLE))
 - 1.4.5 Packet Detach (SGSN initiated(RRC Dedicated))
 - 1.4.6 Packet Detach (SGSN initiated(RRC RACH/FACH))
 - 1.5 Purge [GSM03.60]
 - 1.6 Authentication of subscriber [GSM03.60]
 - 1.7 P-TMSI Reallocation [GSM03.60]
 - 1.8 Identity Check [CS terminal equipment validation]
 - 1.9 Cell update [Evolved]
 - 1.9.1 Intra-URA cell update
 - 1.9.2 Inter-URA Intra-RNC cell update
 - 1.9.3 Inter-RNC Intra-RA cell update
 - 1.9.4 Inter-RA Intra-SGSN cell update
 - 1.9.5 Inter-SGSN cell update
 - 1.10 URA update [Evolved]
 - 1.10.1 RNC URA update
 - 1.10.2 Inter-RNC Intra-RA URA update
 - 1.10.3 Inter-RA Intra-SGSN URA update
 - 1.10.4 Inter-SGSN URA update
 - 1.11 RA update
 - 1.11.1 Intra-SGSN RA update [GSM03.60]
 - 1.11.2 Inter-SGSN RA update [GSM03.60]
 - 1.11.3 Combined Intra-SGSN RA/LA Update [Evolved]
 - 1.11.4 Combined Inter-SGSN RA/LA Update [Evolved]
 - Alternative1: Combined MM for CS and PS
 - Alternative2: Separate MM for CS and PS

Annex: ToC of Information Flows (2)

7.2• Call Control & Radio Resource Management related information flows

7.2.1• Common Procedure Modules

7.2.1.2. Terminal paging

7.2.1.3. Routing (Only Scenario 1-4 and Scenario C with optimal routing capability)

7.2.1.3.1. Routing - Scenario without optimal routing

7.2.1.3.2. Routing - Scenario with optimal routing

7.2.1.5. RRC Connection Control

- @ @ 7.2.1.5.1. RRC Connection Setup

- @ @ 7.2.1.5.2. RRC Connection Release

- @ @ 7.2.1.5.3. Service Setup

- @ @ 7.2.1.5.4. Service Release(Other Service Remains)

7.2.1.6. CS Paging during PS not IDLE

7.2.1.6.1. CS Paging(RRC IDLE)

7.2.1.6.2. CS Paging(RRC RACH/PCH)

7.2.1.6.3. CS Paging(RRC RACH/FACH)

7.2.1.6.4. CS Paging(RRC Dedicated CH)

7.2.1.7. PS Paging

7.2.1.7.1. PS Paging(RRC IDLE)

7.2.1.7.2. PS Paging(RRC RACH/PCH)

7.2.1.8. PS Paging during CS not IDLE

7.2.1.8.1. PS Paging(RRC Dedicated CH)

7.2.2. Mobile Outgoing Call

7.2.2.1. Initial outgoing call

7.2.2.2. Outgoing additional call

7.2.2.3. PDP Context Activation by MS Procedure

7.2.2.4. Anonymous Access PDP Context Activation by MS Procedure

7.2.3. Mobile Incoming Call

7.2.3.1. Initial incoming call

7.2.3.2. Incoming additional call

7.2.3.3. PDP Context Activation by Network

7.2.4. Mobile Call Release

7.2.4.1. Normal release

7.2.4.2. Abnormal release (upon radio link failure)

7.2.4.3. PDP Context Deactivation Initiated by MS

7.2.4.4. Anonymous Access PDP Context Deactivation Initiated by Timer expiry

7.2.4.5. PDP Context Deactivation Initiated by Network

7.2.4.6. Anonymous Access PDP Context Deactivation by Network

7.2.5. Emergency Call in Wireless

7.2.5.1. Emergency call setup

7.2.5.2. Emergency call release

7.2.6. Data communication and multimedia services

7.2.7. Other call control related information flows

7.2.7.1. Codec Bypass

7.2.7.2. Echo Celler

7.2.7.3. PDP Context Modification by Network

7.2.7.4. PDP Context Modification by User

7.2.8. Packet specific information flows according to communication activity level

7.2.8.1. Data Increase in RACH/FACH state

7.2.8.2. Data Decrease in Dedicated state

7.2.8.3. Timer Out in RACH/FACH state

7.2.8.4. Timer Out in RACH/PCH state

7.2.8.5. Uplink access in RACH/PCH state

Annex: ToC of Information Flows (3)

C.1 General

C.2 Information Flow Diagram for Process 1 (Handover Evaluation and Trigger)

C.2.1 Trigger evaluated by Network side

C.2.2 Trigger evaluated by Mobile Terminal side

C.3 Information Flow Diagram for Process 2, 3 and 4

C.3.1 Non-diversity Handover

C.3.1.1 Anchor Method

C.3.1.2 Non-Anchor Method (Streamlining)

C.3.2 Handover Branch Addition

C.3.3 Handover Branch Deletion

C.3.3.1 Case of deletion by Network side first

C.3.3.2 Case of deletion by Mobile Terminal side first

C.3.4 Intra-RFTR Non-diversity Handover

C.3.4.1 Anchor Method

C.3.4.2 Non-Anchor Method

C.3.5 Intra-RFTR Branch Addition

C.3.6 Intra-RFTR Branch Deletion

C.3.6.1 Case of deletion by Network side first

C.3.6.2 Case of deletion by Mobile Terminal side first

C.4 Code Replacement

C.5 Power Control

C.6 Outer-Loop Control

ANNEX 1 Information Flows

ANNEX 2 Another scheme for Diversity Handover Addition