

**Source: MCC**

**Title: Content of Release 6 and Release 7**

**Agenda item: 6.1 and 6.2**

**Document for:**

Decision	
Discussion	
Information	<b>X</b>

## **1 Introduction**

This document provides the present status (accurate of 1<sup>st</sup> October 2004) of the definition of the content of Release 6 and a first estimate of the content of Release 7.

A majority of the features elaborated by 3GPP in the last 18 months are now complete. These ones are already confirmed to belong to Release 6.

Some others are anticipated to be completed in the next three months. For these ones, a decision on whether they belong or not to Release 6 will be taken in December considering the actual progress to be made in the meantime.

Finally, some features will definitely not be completed by December. Almost all of them will belong to Release 7 (or even later). The Features which will just miss the December deadline and which are judged particularly important by the 3GPP community will be requested to be considered as exceptions, i.e. they should still be considered as Release 6 at the condition that they can be completed in a short and well defined extra time, typically 3 months.

The continuation of this document corresponds to this classification, i.e. it shows firstly the Features confirmed to belong to Release 6, then it lists all the Features which will have to wait until December before they can be labelled as "Release 6", then the exceptions already identified are listed out, and finally the first draft of the content of Release 7 is provided.

At the end of this document is included a Gantt Chart showing the progress made in completing Release 6 and the expectations for the completion of the outstanding work. Note that this Gantt Chart does not yet include all updates resulting from last SA plenary. In case of misalignment, the present text has precedence to the Gantt Chart.

## **2 Confirmed Release 6 Features (already (mostly) completed)**

### **2.1 IMS Phase 2**

Includes:

- Interworking with CS networks
- interworking with non-IMS IP networks (some aspects on IP v4/v6 Interworking to be completed by December)
- Mn interface (IM-MGW to MGCF) enhancements

- Lawful Interception in the 3GPP Rel-6 architecture
- IMS Group Management (some Stage 3 aspects to be completed by December 2004)
- IP v4-based IMS (this is a TR with recommendations, which does not require associated stage 3 work). Note that it has been decided at SA#24 that a Rel-5 version of the TR should be created.
- Enhancements to Cx and Sh interfaces (coordination of Diameter-based interfaces).
- Additional SIP Capabilities support
- IMS Conferencing (Stage 3 to be completed by December).
- IMS Messaging (Stage 3 is half-way but still December 2004 is still the target completion date)
- IMS Management

## **2.2 Interoperability and commonality between IMS using different IP connectivity networks (IMSCOOP)**

3GPP part of the work on "Commonality" and "Interoperability" closed in December 2003. Work expected to be done at 3GPP2 for "Interoperability". No 3GPP dependency on this work.

## **2.3 Push Services**

Note that this is just a study concluding that the mechanisms to support Push were already in place, so nothing new was added in Release 6.

## **2.4 Speech Recognition and Speech Enabled Services**

- It refers to the PS domain. A WID still has to be produced for CS Support of Speech Recognition.
- A new codec, Enhanced DSR, is defined and recommended for SES. The use of AMR and AMR-WB is also possible with reduced performance.
- OMA's dependency on Multimodal support to be completed by June 2005.

## **2.5 Digital Rights Management**

Work mostly done at OMA

## **2.6 WLAN/UMTS interworking**

- Scenarios 1 and 2 are completed
- Scenario 3: Stage 3 aimed to be completed by December 2004.

## **2.7 Priority Service**

- No Stage 2 and no stage 3 needed. A "Guide" (TR 22.952) was created to describe how existing 3GPP specifications support Priority Service.

## **2.8 QoS Improvements**

- Consists of Dynamic Policy Control Enhancements for End-to-End QoS. Some stage 3 outstanding issues to be resolved by December.

**2.9 Performance characterization of default codecs for PS conversational multimedia applications****2.10 UICC/USIM enhancements and interworking for Rel-6**

Includes:

- USIM toolkit enhancements “2G/3G Java Card™ API based applet interworking” and “(U)SIM API for Java Card™ “.
- USSD message transfer to USIM (December 2004)

**2.11 CAMEL**

Consists in:

- “CAMEL prepay interworking with SCUDIF (Service Change UDI Fallback)” (SCCAMEL)  
Note that Rel-7 Stage 1 has been created.

**2.12 Security Enhancements Rel-6**

Includes:

- Network domain security (NDS/IP and NDS/AF)
- Key Management of group keys for Voice Group Call Services
- GERAN A/Gb mode security enhancements (A5/4 – GEA4 Specification and G-MILENAGE Algorithm).
- Generic Authentication Architecture (GAA)

**2.13 MExE Enhancements Rel-6**

Note that this “Feature” does not provide any new service.

**2.14 Addition of frequency bands to GSM****2.15 Multiple TBF in A/Gb mode****2.16 Seamless support of streaming services in A/Gb mode****2.17 Flexible Layer One for GERAN****2.18 Single Antenna Receiver Interference Cancellation (SAIC)****2.19 Support of Conversational Services in A/Gb mode via the PS domain****2.20 Alignment between the test-regimes for GERAN capable MS****2.21 Rel-6 Improvements of Radio Interface**

Includes:

- “Improvement of inter-frequency and inter-system measurement”. This item was closed at RAN#25 with no agreement on the gain of the proposed techniques.

- FDD Base Station Classification
- Improved receiver performance requirements for FDD UE
- Frequency bands: UMTS 850, UMTS 800, UMTS 1.7/2.1GHz.
- DS-CDMA introduction in the 800 MHz band
- UE Positioning: Open interface between the SMLC and the SNR within the UTRAN to support Rel-4 positioning methods
- Beamforming Enhancements
- RRM optimization for Iur and Iub; Improved access to UE measurement data for CRNC to support TDD RRM
- Network Assisted Cell Change from UTRAN to GERAN – Network Side Aspects
- Remote Control of electrical antenna tilting

### **3 Features anticipated to belong to Release 6, to be confirmed by December 2004 (to be completed at that time)**

#### **3.1 Rel-6 RAN improvements**

Will include:

- RAB support enhancement (Optimisation of downlink channelisation code utilisation for FDD).

#### **3.2 Charging Management**

Will include:

- IMS charging
- LCS charging
- Online Charging System (OCS) Applications and interfaces
- Charging Data Record (CDR) parameter description
- Wireless Local Area Network (WLAN) charging (Completion date uncertain)
- Push-to-talk over Cellular charging (Co-ordinate with OMA, Completion date uncertain)

#### **3.3 OAM&P (Operation, Administration, Maintenance and Provisioning)**

Will include:

- Principles, high level Requirements & Architecture (already completed)
- Network Infrastructure Management
- Performance Management
- Subscriber and Equipment Trace Management, to be split in two parts: the non-SIP-based Trace is for Rel-6, the SIP-based Trace is for Rel-7. WIDs to be provided accordingly.

#### **3.4 IP Flow Based Bearer Charging**

#### **3.5 MMS (Multimedia Messaging Service) Enhancements**

Will include:

- Application ID in MMS
- Several enhancements to MM1 and MM7 (MM1 stage 3 handled by OMA)
- Further improvements on the handling of partial addressing failures

- Handling of private addressing schemes in MMS

See also text on audio/video codecs.

### **3.6 Subscription Management (SuM)**

### **3.7 Network Sharing**

### **3.8 OSA Improvements**

### **3.9 Packet Switched Streaming Rel-6**

### **3.10 Codecs selection for PSS and MMS:**

- PSS, MMS, PS Conversational, CS Multimedia (3G-324M) video codec: H.264/AVC approved at SA#25 as “recommended” decoder for MMS, PSS, PSC and 3G-324M.
- PSS/MMS Audio codec: set of specs for both Extended AMR-WB (AMR-WB+) and Enhanced aacPlus

### **3.11 AMR-WB+**

### **3.12 Codec Enhancements for PS Conversational Multimedia Applications**

### **3.13 3G-324M Improvements (CS)**

### **3.14 Presence**

### **3.15 LCS enhancements 2**

Will include:

- Improvement on Le interface
- Enhanced support for anonymity and user privacy
- Enhanced inter-GMLC interface
- Location Services support for IMS public identities
- New area event for location service triggering reports
- LCS charging
- A-GPS minimum performance specification
- U-TDOA positioning method in RAN
- U-TDOA positioning method in GERAN

OMA dependencies to be completed by December 2004.

### **3.16 Multimedia Broadcast/Multicast Service**

Will include:

- Security aspects
- Support of MBMS in GERAN and in RAN
- MBMS User Services (previously known as feature “Teleservices using MBMS”)

Note that there is a high risk that this Feature is not completed by December. In such a case, the status of “Exception” will be asked for it.

#### **4 Identified exceptions (to be completed after December but asked to be part of Release 6)**

##### **4.1 FDD Uplink Enhancements (EDCH)**

##### **4.2 Improvements of receiver performance of HSDPA UE (Performance Requirements of Receive Diversity for HSDPA)**

Part of Rel-6 Improvements of Radio Interface

#### **5 Initial draft of the content of Release 7**

##### **5.1 Rel-7 RAN improvements**

No clear content defined yet.

##### **5.2 Multiple Input Multiple Output antennas (MIMO)**

##### **5.3 Generic User Profile**

##### **5.4 3GPP Enablers for services like Push to Talk over Cellular (PoC)**

##### **5.5 IMS Phase 3 (to be created)**

Will include:

- Mp (MRFC - MRFP) interface protocol definitions
- IMS Local services: moved to Rel-7.

##### **5.6 CS Video and Voice Service Improvements**

##### **5.7 FS of Enhanced Support of Video Telephony in GERAN**

##### **5.8 PS domain and IMS impacts for supporting IMS Emergency calls**

##### **5.9 System enhancements for fixed broadband access to IMS**

##### **5.10 Enhancement of E2E QoS**

##### **5.11 3GPP Access Class Barring and Overload Protection (ACBOP)**

##### **5.12 LCS enhancements 3**

Will include:

- LCS for 3GPP Interworking WLAN: Stage 1 Completed
- Accuracy of information Indication of capability

##### **5.13 GALILEO**

Will include:

- Support for Global Navigation Satellite Systems in GERAN
- FS on applicability of GALILEO for LCS
- Extension of A-GPS to include GALILEO and other satellite navigation systems

**5.14 Selective Disabling of UE Capabilities****5.15 Enhancements of VGCS in public networks****5.16 Behaviour of multi system terminals (previously known as “Multi system mobile stations”)****5.17 Security for early IMS****5.18 WLAN/UMTS interworking**

- Scenario 4 and beyond

**5.19 Priority Service for Multimedia**

- To be officially done for December, but more likely to be completed by June 2005 (to be part of Release 7)

**6 Reminder on deleted items**

- Preferred framing protocol for bearer independent CS architecture, part of “Evolutions of the transport in CN”, deleted at CN#19
- Enhanced Tandem Free Operation (eTFO) never approved
- Identity Portability in IMS deleted at SA#19
- Enhanced home environment control of security deleted at SA#19
- Security signalling flows for the Ze interface deleted at TSG#18
- Radio optimisation impacts on PS domain architecture deleted at SA#21
- Improvements of RRM across RNS and RNS/BSS deleted at TSG #21 due to lack of progress
- SI on Enhancements of OTDOA positioning using Advanced Blanking Methods. Further work in the area to be done under UE positioning Enhancements (generic WI)
- Feature Interaction, deleted at SA#21
- Enhanced HE control of security
- Policy-based control of DiffServ
- GERAN: GPRS Extended Measurement Reporting, GPRS Idle Interference Measurements, Unsynchronized (blind) Cell Change Order towards a GSM cell

ID	Unique_	Name	Qtr 3, 2003			Qtr 1, 2004			Qtr 3, 2004			Qtr 1,
			Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan
1	2044	<b>VERSION 2004 October 1th</b>										
2	1462	<b>"CTRL + a" to display all the 3GPP fields</b>										
3	2058	<b>Content of Rel-6 and after. Not frozen.</b>										
4	0											
5	2	<b>Evolutions of the transport in the UTRAN</b>										
6	1216	<b>Improvements of Radio Interface</b>										
7	1470	<b>Improvement of inter-frequency and inter-system measurement</b>										
8	24006	<b>Improving Receiver Performance Requirements for the FDD UE</b>										
9	24004	<b>Base station classification</b>										
11	24007	<b>UMTS-850</b>										
12	24009	<b>DS-CDMA introduction in the 800 MHz band</b>										
13	24010	<b>UMTS 1.7/2.1 GHz</b>										
14	24013	<b>Improved Receiver Performance Requirements for HSDPA</b>										
16	3	<b>RAN Feasibility Studies</b>										
17	23007	<b>FS of the improved access to UE measurement data for CRNC to support TDD RRM</b>										
18	1506	<b>FS on Radio link performance enhancements</b>										
19	21000	<b>FS on Improvement of inter-frequency and inter-system measurements for 1.28 Mcps TDD</b>										
20	21003	<b>FS for the analysis of OFDM for UTRAN enhancement</b>										
21	21004	<b>FS on Uplink Enhancements for Dedicated Transport Channels</b>										
22	21005	<b>FS on Analysis on Higher Chip Rates for UTRA TDD evolutions</b>										
23	24011	<b>FS on Low Output Powers for general purpose FDD BSs</b>										
24	21007	<b>FS on Uplink enhancements for UTRA TDD</b>										
25	24005	<b>FS on UE antenna efficiency test methods performance requirements (2)</b>										
26	23006	<b>FS on the evolution of the UTRAN architecture</b>										
27	20003	<b>FDD Enhanced Uplink</b>										
33	9	<b>RAN improvements</b>										
34	624	<b>RAB support enhancement</b>										
38	20999	<b>Beamforming Enhancements</b>										
39	23012	<b>Rel6 RRM optimization for lur and lub</b>										
41	23010	<b>Remote Control of Electrical Tilting Antennas</b>										
44	23011	<b>Network Assisted Cell Change (NACC) from UTRAN to GERAN - network-side aspects</b>										
45	32023	<b>Location Services enhancements 2</b>										
46	32024	<b>Improvement on Le interface</b>										
49	32001	<b>Enhanced support for anonymity and user privacy</b>										
52	32025	<b>Enhanced inter-GMLC interface</b>										
55	32012	<b>Location Services support for IMS public identities</b>										
58	32026	<b>New area event for location service triggering reports</b>										
62	20001	<b>UE positioning</b>										



























ID	Unique_	Name	Qtr 3, 2003			Qtr 1, 2004			Qtr 3, 2004			Qtr 1,
			Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan
66	1571	<b>Security enhancements</b>										
67	2026	Enhanced HE control of security (including positive authentication reporting)										
71	33017	Network Domain Security; Authentication Framework (NDS/AF)										
72	33019	Key Management of group keys for Voice Group Call Services										
73	32021	<b>IMS Phase 2</b>										
74	14014	Enhancements to the Cx and Sh interfaces										
75	31025	IMS Group Management										
79	11037	IMS Conferencing										
82	31022	IMS Messaging										
89	11040	Additional SIP Capabilities support not covered by Rel-5										
92	11041	Review additional SIP Capabilities against IMS										
93	2048	Interworking between IMS and IP networks										
98	2047	Interworking between IMS and CS networks										
99	14001	Mn interface (IM-MGW to MGCF) enhancements (CN4 Part)										
100	31036	Study of subscriber and operators relationship in IMS and related ISIM requirements for Rel 6"										
101	33012	Lawful Interception in the 3GPP Rel-6 architecture										
102	31042	IMS Subscription and access scenarios										
103	32063	<b>3GPP Enablers for services like Push to Talk over Cellular (PoC)</b>										
107	32062	Interworking aspects and migration scenarios for IPv4 based IMS Implementations (Study)										
108	11032	Interoperability and Commonality between IMS using different "IP-connectivity Networks										
112	1365	<b>Support of Push Services</b>										
115	42009	<b>Multimedia Messaging (MMS) enhancements</b>										
116	42010	Definition of service requirements										
118	42011	Technical realization										
119	42012	OMA dependencies										
120	42013	MMS formats and codecs										
121	42014	Handling of private addressing schemes in MMS										
122	42015	FS Multiple MMS Relay/Server Architecture										
123	42005	<b>Rel-6 MExE enhancements</b>										
124	42006	MExE Rel-6 Improvements and Investigations										
125	42007	MExE Run-Time Independent Framework Feasibility Study										
126	2062	<b>Subscription Management</b>										
127	2499	<b>Presence Capability</b>										
137	50056	<b>Enhanced A/Gb feasibility study</b>										
147	50063	<b>Flexible Layer One for GERAN</b>										
165	50041	<b>Uplink TDOA feasibility study</b>										
166	2544	<b>Multimedia Broadcast and Multicast Service</b>										
191	31006	<b>Speech Recognition and Speech Enabled Services</b>										

ID	Unique_	Name	Qtr 3, 2003			Qtr 1, 2004			Qtr 3, 2004			Qtr 1,
			Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan
196	31008	Generic User Profile										
203	31010	Digital Rights Management										
209	31012	WLAN-UMTS Interworking										
220	31015	Priority Service										
225	31018	Network Sharing										
231	32016	QoS Improvements										
232	32017	FS on Dynamic Policy control enhancements for end-to-end QoS										
233	32059	Definition of the Gq interface										
234	13016	Gq interface specification for Dynamic Policy control enhancements – Stage 3										
235	33002	Subscriber certificates										
241	15010	Rel-6 OSA enhancements										
242	31040	Scope of the Open Service Access Release 6										
243	15038	OSA Stage 2 (CN5 inherited from SA2 at TSG#24/5)										
244	15026	Multi Media Messaging function										
245	15028	Policy management extensions										
246	15029	TS on Presence and Availability Management (from the PRESNC WI)										
247	15032	OSA interfaces at different levels of abstractions (Parlay X, Web services)										
248	15033	Introduction of migration support mechanism										
249	15034	DELETE - User Profile										
250	15036	Framework Function for Federation										
251	60008	OMA dependencies on OSA										
252	50401	Addition of frequency bands to GSM										
257	50130	Seamless support of streaming services in A/Gb mode										
272	34300	Performance characterisation of default codecs for PS conversational multimedia applic										
273	31030	Study on Privacy Capability										
274	35010	OAM&P										
283	35016	Charging Management										
284	35017	Charging Management for Bearer level										
285	35018	Charging Management for the IMS										
286	35019	Charging Management for the Service domain										
287	32030	Overall architectural aspects of IP flow based bearer level charging										
292	1800	Rel-6 UICC/USIM enhancements and interworking										
293	1802	UICC API										
298	43004	Rel-6 USIM toolkit enhancements										
302	34022	Packet Switched Streaming Services Rel-6										
305	34023	AMR-WB extension for high audio quality										
306	34027	Codec Enhancements for Packet Switched Conversational Multimedia Applications										

ID	Unique_	Name	Qtr 3, 2003			Qtr 1, 2004			Qtr 3, 2004			Qtr 1,		
			Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan		
308	51101	Single Antenna Receiver Interference Cancellation (SAIC)												
309	50500	Support of Conversational Services in A/Gb mode via the PS domain												
316	12006	Enhancement of dialled service for CAMEL												
318	32060	Bandwidth and resource savings in CS networks												
319	33018	FS on (U)SIM Security Reuse by Peripheral Devices on Local Interfaces												
320	50600	Multiple TBF in A/Gb mode												
326	50096	Alignment between the test-regimes for GERAN capable MS												
328	50444	Addition of U-TDOA in the CS domain												
329	50445	Addition of U-TDOA in the PS domain												
330	50101	Downlink Advanced Receiver Performance												
340	50109	Reduction of PS service interruption in Dual Transfer Mode												
346	12008	CAMEL prepay interworking with SCUDIF												
347	31046	Circuit Switched Video and Voice Service Improvements												
352	0	Rel-7 Features listed below												
353	2468	Multiple Input Multiple Output antennas (MIMO)												
358	32045	PS domain and IMS impacts for supporting IMS Emergency calls												
364	32064	Access Class Barring and Overload Protection												
370	31048	USSD message delivery and transfer to USIM												
373	50544	Generic Access to A/Gb Interface												
374	32079	Location Services enhancements 3												
375	31051	Toward A-GNSS concept												
376	31052	LCS for 3GPP Interworking WLAN												
378	32029	FS on applicability of GALILEO for LCS												
381	31049	Enhancements of VGCS in public networks for communication of public authority official												
384	31050	Behaviour of Multi system UEs												
385	31053	Selective Disabling of UE Capabilities												
386	31054	Feasibility Study on IMS with real time services deployment												
389	31059	All-IP Network Feasibility Study												
390	32073	Enhancement of E2E QoS												
391	32078	IMS Phase 3												
392	32074	IMS enhancement for NGN												
395	32005	IMS Local services												
398	14012	Mp (MRFC - MRFP) interface (CN4 Part)												
399	32066	DELETE? COVERED BY 32076? - Combining CS bearers with IMS												

Project: 3GPP\_Work Plan  
 Date: Fri 01/10/04

Critical		Milestone		Rolled Up Baseline	
Critical Split		Summary Progress		Rolled Up Baseline Milestone	
Critical Progress		Summary		Rolled Up Milestone	
Task		Rolled Up Critical		External Tasks	
Split		Rolled Up Critical Split		Project Summary	
Task Progress		Rolled Up Critical Progress		External Milestone	
Baseline		Rolled Up Task		Deadline	
Baseline Split		Rolled Up Split			
Baseline Milestone		Rolled Up Task Progress	