

# Review of the Work Plan at Plenaries #27

This version does not include updates from TSG #27

TM



## Content

- Review of non-Release related activities
  - Testing
  - Pre Release 6
  - Feasibility Studies
- Review of on-going features
  - Features completed up to December 2004 (as reminder)
  - Features completed between December and March 2005
  - Features still not completed but asked to be part of Release 6
  - Release 7 Features
- Conclusion



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Review of non-Release related activities



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## UE testing

- T1 Release 99 Test Cases (TC):
  - GCF WI-10 (Rel-99) reached 91% (P1:97 %, P2:93 %, P3:89 %, P4:88%)
  - For WI-10 95%, 13 new TC needed
  - WI-12 (Remaining Release 99 issues): verification started
- Global target of at least 80% per package reached.
- LCRTDD work making good progress (200 TCs coded out of 400)
- Upgrade 34.123-3 to v5.0.0
- Next Steps are:
  - Work about to start or already started for new prioritised FDD GCF test cases in the following Work Items:
    - WI-013 = enhancements due to Releases 4 and 5 (excluding HSDPA, covered elsewhere)
    - WI-014 = HSDPA
    - WI-015 = A-GPS Rel 6 Minimum Performance Requirements
  - Move baseline to Dec. 04 Rel-5 (24 March)
  - WI-10 + WI-12: 95% approval (03 June)
  - WI-10 + WI-12: 100% approval (10 Sept )
  - WI-13 + WI-14: 80% approval (10 Sept )
  - WI-15: 80% approval (10 Sept )
  - Completion of TDIA LCR TDD TTCN conversion (25 Nov )
  - Making ciphering mandatory (03 June)

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## **GERAN Testing**

#### **UE/MS Testing**

- MCC task 272 created for this task:
  - GERAN-3/GERAN steer the task 272
  - An expert from the task 160 transferred to task 272
  - MCC leads task 272 and coordinates with task 160
- Not started yet (Rel-5): GERAN MS Conformance test for :
  - GERAN interface evolution deleted at GERAN#23 (was June 2004)
  - Enhanced Power Control (\*)
  - 8-PSK Half Rate (\*)
  - AMR Wide Band (\*)

Alignment between the different test regimes for GERAN capable MS: test cases to be added to TS 51.010 80% FCD by Sept. 2005 (shifted twice from June 2004)

#### BTS Testing

Not started yet (Rel-5): GERAN BTS Conformance test for :

- GERAN interface evolution deleted at GERAN#23 (was June 2004)
  - Enhanced Power Control (\*)
  - LCS (Closed without progress at GERAN#19)

(\*) FCD under evaluation (it was originally November 2003)



## GERAN Rel-6 Testing activities

- •Support of the MBMS in GERAN (MS): under evaluation ? (check with MC), FCD end 2005 ? (shifted twice from June 2004 June 2004)
- •GERAN Conformance tests for the Flexible Layer One (MS/BTS) : deleted at GERAN#23 (it was February 2004)
- Addition of frequency bands to GSM (TAPS) Conformance tests:
   deleted at GERAN#23 (shifted twice from June 2004)
- •GERAN MS testing for Multiple TBF in A/Gb mode : deleted at GERAN#23 (it was January 2004)
- •Support of Conversational Services in A/Gb mode via the PS domain: not started (WID to be approved)
- •GERAN MS Conformance test for Advanced Receiver Performance: 40%, FCD April 2005 (it was November 2004)
- •Reduction of PS service interruption in Dual Transfer Mode / MS/BTS Conformance testing: START in June 2004, under evaluation



## **GERAN Rel-7 Testing**

- Generic Access to the A/Gb Interface not started FCD June 2005
- Alignment between the test-regimes for GERAN capable MS: 80% ready, FCD March 2005 (it was April 2004)





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## Pre Release 6 Activities

No more additions on pre Release 6, work ongoing on corrections





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#### RAN Feasibility Studies

- Uplink Enhancements for UTRA TDD (R1)
  - Three text proposals was agreed on RAN1#40, and the text proposals for Impact on RAN2 Protocols were agreed on RAN2#46.
  - TR 25.804 presented for approval at RAN#27, Completion Level: 100%
- Evolved UTRA and UTRAN (RAN WGs)
  - Work to be started

#### **Completed FS:**

- Low Output powers for FDD BSs
- Uplink Enhancements for Dedicated Transport Channels
- Analysis of higher chip rates for UTRAN TDD evolution
- Radio link performance enhancements



## GERAN Feasibility Studies

#### All studies are completed:

- Generic Access to A/Gb Interface
- Uplink TDOA
  - Uplink TDOA location determination for GSM, CS domain (completed except potential LMU performance specs).
  - Uplink TDOA location determination for GPRS, PS domain
- Single Antenna Receiver Interference Cancellation (SAIC)
- Downlink Advanced Receiver Performance (DARP) test scenarios
- Reduction of PS service interruption in Dual Transfer Mode



## **BARS**

In full: Bandwidth and Resource savings and Speech Quality enhancements

- Stage 2 TR 23.977 approved at SA#24.
- This is a Feasibility Study and is not relevant for deciding the completion date of Release 6
- No major work required as this is a FS.
- Some recommendations are already in place
- CRs providing Operator Guidelines to fix issues related to UMTS\_AMR and AMR Harmonization approved at SA#26 (c/o SA4). These CRs use other WI acronyms, so BARS is still a FS.



## Study on Privacy Capability

- Input from OMA Requirements addressed
- Requirements study performed in TR 22.949
  approved at SP-23. No new requirements have been
  established, i.e. all the information which needs to
  be protected is already protected.
- Work ongoing in external groups (e.g. OMA).
- No other work needed at this time, so completed from a 3GPP perspective.





## FS on IMS with real time services deployments

Created during SA#24 to include the two following BBs:

- FS on IMS services using CS bearers
  - Original version presented by SA2. New WIDs to specify the phase 1 is available from both SA1 and SA2.
  - SA2 FS in TR 23.899 presented now for information, with partial conclusions. Approval foreseen in March 2005.
  - Stages 2 and 3 work not yet evaluated accurately, so no foreseen completion date.
- FS on adding media to CS calls and IMS sessions (CSICS: CS calls and IMS combinational service, "XIX")
  - TR 22.979 presented for approval
  - As SA1 approved the Feature level WI, CN1 approved WID for Stage 3
     Specification of Combining CS and IMS services & Capability Detection and Exchange mechanism (for approval in CN-27)



## MExE Enhancements Rel-6

- Work completed since TSG T#19.
- It contains:
  - MExE Rel-6 Improvements and Investigations
  - MExE Run-Time Independent Framework Feasibility Study (TR 22.857)





# FS on (U)SIM Security Reuse by Peripheral Device on Local Interface Work completed: TR 33.817 approved at SA#23.

- CRs "inspired" by this feasibility study (for WLAN) but not strictly speaking under this Feature. Confirmed to be a FS.
- CRs to existing specifications to accommodate some impacts of the study have been agreed by SA3

## FS on Security for Early IMS

TR 33.878 presented at SA#26 for information. To be upgraded to a 33.9xx-series TR. The TR was reviewed in CN1-37. Comments and proposed changes were sent to SA3 in form of LS.

*NP-050009* 

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## FS of Enhanced Support of Video Telephony (Release 7)

WID in GP-042221. Work just started in GERAN, 10% completed, FCD April 2005





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#### Rel-6

## RAN WI completed before TSG #27

- Rel-6 improvements of Radio Interface
  - FDD Base Station Classification
  - Improved receiver performance requirements for FDD UE
  - Frequency bands: UMTS 850, UMTS 800, UMTS 1.7/2.1GHz.
- UE Positioning
  - Open interface between the SMLC and the SNR within the UTRAN to support Rel-4 positioning methods
  - A-GPS minimum performance specification
- Rel-6 RAN improvements
  - Beamforming Enhancements
  - RRM optimization for lur and lub; 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
  - HS-DPCCH ACK/NACK Enhancement finished in December



## IMS Phase 2 (completed items 1/2)

#### Different completed independent items (1/2):

- Interworking between IMS and CS networks (Stage 3 in TS 29.163)
- interworking with non-IMS IP networks, all remaining items at TSG#26 (e.g. on IP v4/v6 Interworking aspects) now solved.
- Mn interface (IM-MGW to MGCF) enhancements (Stage 3 in TS 29.332 for CN4 and in TS 29.163 for CN3 aspects)
- Lawful Interception
- IMS Group Management complete (covered by Presence, IMS Messaging and IMS Conferencing)
- IP v4-based IMS
  - Covered TR 23.981 (Rel-5 and Rel-6). No associated stage 3 work needed.
- Enhancements to Cx and Sh interfaces
  - TS 29.230 (approved at CN#24) coordinates Diameter-based interfaces.

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## IMS Phase 2 (completed items 2/2)

#### Different completed independent items (2/2):

- IMS Conferencing
  - Stage 3 100% complete. Conference Policy Control Protocol (CPCP) and the Binary Floor Control Protocol (BFCP) removed from Rel-6 specification (CRs for approval in CN-27).
- IMS Management
  - IMS Network Resource Model (NRM) included via CR in SA5's Core NRM (TS 32.63x).
  - CN1 WI IMS2 is updated (approved as NP-040494 in CN-26) to include the new specification TS 24.167 "3GPP IMS Management object; stage3; Release 6" which is sent to CN#27 for approval
- IMS Charging
  - Completed Dec 2004
  - Consists of SA5's TS 32.260 (IMS charging) and TS 32.299 (Diameter charging applications)

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## *IMSCOOP*

Full name: "Interoperability and commonality between IMS using different IP connectivity networks"

- 3GPP work completed
- 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.



## Push Services

- Stage 1: Stable, in TS 22.174
- Stage 2: TR 23.976 approved at SA#23.
- The mechanisms to support Push are already in place, so no more work is needed.
- Work Complete except for some specific stage 3 issues to be covered by CRs.



## Speech Recognition and Speech Services

### **3GPP Work completed.**

- Stage 1 (SA1) in TR 22.977 and TS 22.243
- Stage 2 (SA2) in TR 23.877
- Stage 3 (SA4) in TSs 26.243, 26.235 and 26.236.
- OMA's dependency on Multimodal support to be completed by June 2005.



## Digital Rights Management (DRM)

### **Work Completed**

- 3GPP Stage 1: TS 22.242 contains a pointer to OMA's Stage 1.
- Stages 2 and 3 covered by OMA work.
- OMA's work (Stages 2 and 3) completed last May



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## WLAN/UMTS interworking (1/2)

#### For Scenarios 1 to 3:

- Work complete (see however open issues below)
- Stage 1 in TS 22.234 and Stage 2 in TS 23.234 stable
- Stage 3:
  - CN1 aspects in TS 24.234, stable if corresponding CRs approved at TSG-27 on alternative NAI (Method for manual PLMN selection, involving SA2, CN4, CN1) and related mechanism
  - CN3 aspects in TS 29.161 (on Wi interface)
  - CN4 aspects in TS 29.234
  - Open issues: the following CN4 issues are not ready before June 2005, linked to the possible Rel-6 late requirement to support Presence:
    - WLAN Presence Information to the PNA via Pr, Pp and Wx (Px' HSS WLAN Data to PNA)
    - Authorization information update procedure in Wa,Wm reference points (not related to Presence)

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 If Presence in WLAN and Authorization moved to Release 7, SA2 has to update the Stage 2

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## WLAN/UMTS interworking (2/2) """"

- Other aspects on Scenarios 1 to 3:
  - Security aspects in SA3's TS 33.234
  - Charging in SA5's TS 32.252 (WLAN charging). Mar 2005 for Information. Target SA Approval remains Jun 2005.
  - See also T3 WID on USIM enhancements for WLAN/UMTS interworking, complete





## Priority Service Rel-6

#### **Completed items:**

- FS in TR 22.950 (CRs provided on existing specs).
- TR 22.952 on Priority service implementation guide.
- No Stage 2 and no stage 3 needed. The intent of this "Guide" is to describe how existing 3GPP specifications support the high-level requirements identified for Priority Service in TR 22.950.
- Viable part completed



## **QoS Improvements**

QoS Release 6 Improvements consist in Dynamic Policy Control Enhancements for End-to-End QoS.

#### Work completed.

- No Stage 1
- Stage 2:
  - The FS and its associated TR 23.917 are discontinued.
  - On Gq (PDF P-CSCF) interface: Stage 2 covered by CRs on 23.207.
- Stage 3 in TS 29.209 (CN3) for "Policy control over Gq interface".

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# Performance characterization of default codecs for PS conversational multimedia applications

Status: 100% completed since SA#24





## UICC/USIM enhancements and interworking for Rel-6

#### **Enhancements completed:**

- 2G/3G Java Card™ API based applet interworking: completed in TR 31.919 Enhancements with completion shifted to March 2005:
- USIM enhancements for WLAN Interworking. The remaining open point at TSG T#26 on consistency check of TS 31.102 is now complete.
- USSD message transfer to USIM: still not completed at T#27, proposed to be part of Release 7.

#### **Test aspects:**

- Test specification for (U)SIM API for Java Card ™: technical work in progress.
- Test specification for the security mechanisms for the (U)SIM application toolkit completed: TS 31.048 Test Specification for 23.048 for approval at T#26.
- USIM application toolkit Conformance Test Specification for Mobile Equipments: Work ongoing. TS 31.124 presented for approval at T#27.





## Security Enhancements Rel-6

#### Work completed. It contains:

- **Network domain security** 
  - NDS/IP in TS 33.210
  - NDS/AF (Application Framework) in TS 33.310
- **Key Management of group keys for VGCS (Voice Group Call** Services)
- **GERAN A/Gb mode security enhancements:** 
  - CRs agreed to withdraw support of A5/2 agreed
- G-MILENAGE Algorithm
- BACKUP Algorithm work: Agreed funding. SA3's WID presented at SA#26



## Generic Authentication Architecture (GAA)

#### Work overall complete.

- GAA System Description in TR 33.919
- GAA Generic Bootstrapping Architecture in TS 33.220
- GAA Support for Subscriber Certificates in TS 33.221
  - S3 has decided to refer to the Wireless Identity Module (WIM)
    as the element in the UICC which is in charge of storing these
    certificates. As the WIM is handled by OMA, no work is needed
    within T3. OMA dependencies completed.
- GAA/HTTPS in TS 33.141
- CN1's Stage 3 in TS 24.109, approved at CN#26.
- CN4's Stage 3 in TS 29.109

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## **GERAN Rel-6**

### **Completed features:**

- Addition of frequency bands to GSM
- Multiple TBF in A/Gb mode
- Seamless support of streaming services in A/Gb mode
- Flexible Layer One for GERAN
- Downlink Advanced Receiver Performance (DARP)
- MBMS just completed at GERAN#23 (see MBMS<sup>M</sup> slide)



## Network Sharing

## Work overall complete

- FS in TR 22.951: Approved at SA #18.
- Stage 1: Complete, covered by CRs to several Stage 1 TSs.
- Stage 2: Complete. TR 23.851 approved in March 2004. TS 23.251 approved at SA#24.
- Stage 3: CN1's CR to 24.008 are 100% complete
- RAN part: completed at RAN#26.
- No standardised OAM&P for this feature in Rel-6



# Codec Enhancements for PS Conversational Multimedia Applications

- Completed
- CRs on Introduction of AMR SDP parameters for approval at TSG SA#27

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

Completed





## CAMEL Rel-6

#### Release 6 CAMEL 4 aspects completed:

- Stage 2 in TS 23.078 and Stage 3 in TS 29.078
- WID "CAMEL prepay interworking with SCUDIF (Service Change UDI Fallback)" (SCCAMEL) was approved in CN#22. Related CRs are approved by CN2 and fowarded to CN#23 for approval. The work on Rel-6 WI SCCAMEL is completed.



## LCS enhancements 2

#### **3GPP Work completed.**

- Stage 1: completed at SA#20.
- Stage 2: completed by CRs on 23.271
- Stage 3: OMA does most of the Stage 3. OMA to finish their work by December 2004. No CN1 work is expected, WID to be clarified accordingly. CN4 refers to OMA specs in particular for Le, Lr and Lpp interfaces.
- No RAN nor GERAN impacts foreseen for these aspects.
- Charging aspects in SA5's TS 32.271 (LCS charging)
- Other GERAN aspects:
  - U-TDOA positioning method in GERAN: completed, still potential LMU performance specs for CS to be checked.

#### Other comments:

- It consists of the following independent LCS-related improvements:
  - 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
- See also UTDOA in GERAN



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

#### Work completed

- No specific Stage 1 required. CRs to TS 22.228 might have to be produced (depends of results from SA2)
- Stage 2: TR 23.979 approved in December, and aligned with OMA's work with CRs presented at SA#27. No additional Stage2 work expected.
- Speech Codec aspects:
  - SA4 found that AMR and AMR-WB are applicable. PoC codec definition included in IMS codec TSs 26.235 and 26.236
  - Interworking with 3GPP2 codecs still OPEN (impact of transcoding with EVRC codec to be investigated)
  - CR regarding the maximum number of speech frames per RTP packets for PoC presented for approval at TSG SA#27
- No other Stage 3 identified.
- Charging aspects in SA5's TS 32.272 (PoC charging) OMA cooperation.
   Mar 2005 for SA Information. Target SA Approval remains June 2005.

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#### Rel-6



## FDD Uplink Enhancements (EDCH)

- Physical Layer (R1):
  - 9 CRs was agreed on RAN1#40
  - One open point left without final decision Is on the UE categories.
  - Completion Level: 95 %
- Stage 2/ Layer 2 and 3 Protocol Aspects(R2):
  - Medium access control CR to be finalised (25.321)
  - •A working Assumption starting to emerge is that a UE supporting Enhanced Uplink shall also support HSDPA
  - •Some "Stage 2" decisions may be simplified (e.g. Node B scheduler)
- lur lub Aspects (R3):
  - 4 CRs agreed, ASN.1 added to NBAP and RNSAP
  - Open issues:
    - The reported object for lub/lur measurements
    - Measurements for support of GBR traffic
    - Completion of the overall lub/lur congestion control framework (no CRs agreed yet)
- RF and Performance (R4):
  - •Work on progress on simulation assumptions and a possible list of requirements.
  - •Ad Hoc scheduled for 4-6 April
- Completion date is March 2005 except for the performance requirements to be completed in June 2005



## OSA Improvements Rel-6

## Rel-6 completed March 2005

- Stage 1 (SA1) TS 22.127
- Stage 2 (CN5) TS 23.198
  - submitted to CN#27 for Approval (March 2005)
  - SA2's 23.127 to be withdrawn from Rel-6 onwards (SA#27 decision)
- Stage 3 (CN5) covered by 37 TS/TR (29.198/199-xy, 29.998-xy)
  - some overlaps with OMA (29.199 Parlay X Web Services).



#### OAM&P Rel-6

# In full: Operation, Administration, Maintenance and Provisioning

Overall Status: SA already approved some 110 TSs, 3 more IRP SS TSs for approval at SA#27

#### Composed of four independent BBs:

- BB: Principles, high level Requirements & Architecture (completed June 04)
- BB: Network Infrastructure Management (completed Dec 04)
- BB: Performance Management (completed Dec 04)
- BB: Subscriber and Equipment Trace (SA5 part completed Dec 04)
  - Contains Management Based Activation (MBA) and non-SIP Signalling Based Activation of Trace
  - CN1 and CN4 Rel-6, the non-SIP-based Trace is now completed



# IP Flow Based Bearer Charging

## Work complete

- SA2 TS 23.125 was approved at SA#23. Now considered as stable.
- SA5 analysed SA2's TS 23.125. For GPRS it was added IP flow charging to the existing charging functionality in SA5 specs. Completed at SA#25.
- Diameter chosen as protocol solutions for IP flow charging.
- CN3 aspects: work just completed for Gx and Rx interfaces. TS 29.211 on Rx presented for approval at CN#27.



## Subscription Management (SuM)

#### **Completed March 2005**

#### Already SA Approved 5 TS/TR:

- 32.140 SuM Requirements
- 32.141 SuM Architecture
- 32.171 SuM Network Resources Model (NRM) IRP Requirements
- 32.172 SuM NRM IRP Information Service (IS)
- 32.803 Process Guide; Use Cases in UML

#### SA#27 approval for 1 TS (March 2005):

32.175 SuM NRM IRP XML Definition



#### Rel-6 RAN improvements

- RAB support enhancement (completed items)
  - Optimisation of downlink channelisation code utilisation for FDD (R1). Introduction of Fractional DPCH (F-DPCH)
    - Set of CRs was agreed in RAN WG 1, 2 and 3.
    - Completion level: 100%, Target completion date: RAN#27(03/05)
  - Optimisation of DL channelisation code utilisation for 3.84 Mcps TDD (R1)
    - Two CRs for WG1 and two CRs for WG2 were agreed.
    - Open issue is on performances for the agreed in/out sync procedures (WG4)
    - Completion level: 95%, Completion date: RAN#27(03/05)) for WG1, 2 and 3, RAN#28(06/05) for WG4





#### Rel-6 Improvements of Radio Interface

- Improvements of receiver performance of HSDPA UE (completed items)
  - Performance Requirements of Receive Diversity for HSDPA
    - Work for HS-SCCH detection performance with STTD completed
    - Work for Category 7-8 (FRC H-Set 6) completed
    - WI finished.





## ACBOP

In full: 3GPP Access Class Barring and Overload Protection

- No specific requirements needed
- SA2 Feasibility Study in TR 23.898 presented for approval at SA#27. No need to define Stage 2 for this feature. LS sent to SA1, RAN2 and CN1 to ask them to review SA2 FS:
  - No work expected from SA1.
  - RAN2 CR already approved at RAN#26
  - CRs from CN1 to 23.122 and 24.008 at TSG#27 as a consequence of the LS
- Completed



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## Packet Switched Streaming Rel-6 (1/2)

This Feature refers to the PSS enhancements done in Release 6

- Stage 1: completed in TS 22.233.
- Documentations restructured compared to earlier Releases. New structure encompasses TS 26.244, TS 26.245 and TS 26.246, as well as CRs to TS 26.234.
- Adoption of SVG Tiny 1.2 approved at SA#26.
- Completion in SA4 expected by June 2005 (was March), almost completed ("97 %"). Remaining issue is audio codec, see next slide.
- The verification of the audio codecs has not yet been completed (volunteers are needed), the Phase 1 characterization tests and conformance specs to be completed by June 2005. Characterization TR to be completed by December 2005.



## Packet Switched Streaming Rel-6 (2/2)

#### Codecs selection for PSS and MMS:

Video Codec for PSS, MMS, PS Conversational and CS Multimedia (3G-324M): completed

- CRs on Introduction of AMR SDP parameters provided at TSG SA#27
- H.264/AVC approved at SA#25 as "recommended" decoder
- SA4 was tasked to possibly define the encoder: reply provided at SA # 26 together with a new WID on Video Codec Performance Requirement for Release 7 (now 10 % complete)

#### Audio Codec for PSS and MMS: almost completed ("97 %")

- Completed aspects:
  - Competition for Lower and Higher Bit Rate Audio Codec
  - Design Constraints and Performance Requirements
  - Subjective tests and Global Analysis
  - Approval of the selection tests (for ETSI to pay Host/Testing and Global Analysis Laboratories)
  - Set of Specs on both Extended AMR-WB (AMR-WB+) and Enhanced aacPlus recommended audio codecs completed except for fixed-point version and conformance e.g. test sequences.
  - Fixed-point codec TS 26.273 and TS 26.411 for approval at TSG SA#27
  - Correction CRs to floating point C-code provided for approval at TSG SA#27
- Aspects to be completed by June 2005:
  - TR on performance related to content/bit rate (not critical)
  - Conformance TS 26.274 and 26.406 presented for information at TSG SA#27

#### Release 6? – Not ready NP-050009

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#### AMR-WB+

- In full: AMR-WB extension for high audio quality
- Status: "97%" completed, because of codec issue. FCD June 2005 to complete the remaining work (conformance TS), and Dec. 2005 for the characterisation TR) (was December)
- fixed-point C-code TS 26.273 provided for approval at TSG SA#27
- Correction CRs to floating point C-code provided for approval at TSG SA#27





#### Presence

#### Some open items

- Stages 1 and 2: approved in resp. TS 22.141 and TS 23.141
- Codec and Formats aspects: almost completed ("97 %"). TS 26.141 (Media formats and codecs for IMS Messaging and Presence) approved at SA#26. FCD by June 05.

#### Open Items related to audio codec specs:

- fixed-point C-code TSs 26.273 and TS 26.411 for approval at TSG SA#27
- CRs on missing IMS Presence UA text for approval at TSG SA#27 (SA4)
- conformance TS for information , characterisation TR under way (FCD December 2005)
- Stage 3:
  - CN1 work is now completed (TS 24.141). IETF dependencies will be listed in separate document in CN-27.
  - Remaining work at TSG#26 on Pk interface for the support of Presence (CN3) now also solved by CR 157 on TS 29.061 on "Pk interface"
- OSA aspects: completed (officially part of the "OSA Improvements" Feature)
- Alignment to be done on Pr and Pp interfaces: SA2 still need to remove them from Rel-6 as there is no corresponding Stage 3. This can be reintroduced for Rel-7.



#### MMS Enhancements

In full: Multimedia Messaging Service Enhancements Work overall complete except codec aspects

- Stage 1 completed
- Stages 2 and 3 in TS 23.140:
  - completed at TSG#26. Work done by T2, except MM1 stage 3 (handled by OMA)
- Codec and media types aspects (SA4):
  - Work 97% completed (was 90% in September). Open points: some remaining audio codec specs are not yet completed (fixed-point Ccode TS, conformance TS, characterisation TR)
  - Adoption of SVG Tiny 1.2 and Support for EXIF for approval at SA#26.
  - H.264/AVC approved at SA#25 as "recommended" decoder for MMS (and PSS)
  - See also separate slides for audio/video codecs.
- Charging aspects in SA5's TS 32.270 (MMS charging)
- OSA aspects in CN5's TS 29.198-15 (MMS SCF) and TS 29.199-05 (Parlay X Web Services; Multimedia Messaging)



## IMS Phase 2 (Incomplete Items)

#### Incomplete items asked to be part of Release 6:

- IMS Messaging
  - Stage 3 is now 100% complete, except for characterisation and conformance of the Codecs
- Additional SIP Capabilities support (CN1). Rel-6 Submission form in NP-050089.
  - This covers various minor enhancements to SIP. The main work involves taking new RFCs for SIP as they are approved by IETF, and stating how 3GPP supports those extensions.
  - There are some open issues identified at CN1-37 related to procedures related to IMS-ALG (IMS Application Level Gateway).
- CN4 open issues:
  - Profiling of the protocol to ensure interoperability in an open inter-vendor environment.
  - Requirements from TISPAN not considered



#### Multimedia Broadcast/Multicast Service (1/2)

#### Work overall complete

- Stage 1 in TS 22.146
- Stage 2 in TS 23.246
- Stage 3: CN1, CN3 and CN4 work complete.
- Security aspects in TS 33.246
  - 95% complete. Some IETF dependencies and editors notes remaining. Realistic completion March 2005. UPDATE NEEDED
  - USIM aspects: ongoing due to continuing changes in SA3
- Support of MBMS in GERAN: 100% complete (was 85% in December).
- Introduction of MBMS in RAN:
  - Physical & upper layers, access network interfaces (RAN2, RAN1, RAN3): work completed in December (corrections on-going).
  - UE Performance Requirements for MBMS (RAN4)
    - Assumptions for the initial set of simulations for MTCH and MCCH agreed
    - Measurement requirements in conjunction with MBMS operation has been extensively discussed
    - An Ad Hoc will be held 4-6 April
    - Completion date: September 2005
- Charging aspects in TS 32.273
  - Work started Jan 2005. Mar 2005 for SA Information.
  - Target SA Approval remains Jun 2005.

#### Release 6? – Not ready NP-050009

3GPP TSG CN#27 Tokyo, Japan, 9-17 March 2005



#### Multimedia Broadcast/Multicast Service (2/2)

#### **MBMS User Service**

Now a BB under MBMS. Previously known as feature "Teleservices using MBMS"

- Stage 1 approved in TS 22.246 at SA#22
- SA4 work: 90% completed FCD June 2005 (was March). Remaining issue on codec
- audio codecs defined at TSG SA#26
  - Enhanced aacPlus and AMR-WB+ agreed to be included both as recommended, at TSG SA#26 (still conformance specs and characterisation tests to be finalised)
  - Fixed-point ANSI-C code TS 26.273 and 26.411 presented for approval at TSG SA#27
  - Conformance TS 26.406 and TS 26.274 presented for information at TSG SA#27
  - 3GPP File format "3GP" Source code pointer in TS 26.412 (new TS) presented for information at TSG SA#27
  - Error patterns for audio codec characterisation tests Phase 2 (E-GPRS/UMTS scenarios) still needed
  - Characterisation tests Phase 1 (error-free) ready to start (test plan presented for approval at TSG SA#27)
- video codec(s) hopefully defined at TSG SA#27 (H.264 recommended, H.263 may be used, TR still to be produced in SA4 for "H.263 use for MBMS")
  - TS 26.346 "Multimedia Broadcast/Multicast Service; Protocols and Codecs" presented for approval at SA#27
  - Forward Error Correction (FEC): still no agreement on FEC selection (Raptor vs Reed Salomon) at SA4#34. Discussions brought to SA#27.
- No other work (e.g. Stage 2 nor other Stage 3) identified.

# Tok CS Video and Voice Service Continue Interior Improvements - Redial Solution

- The Feature "CS Video and Voice Service Improvements" has been split in two parts at SA#26:
  - The Redial Solution for Voice-Video Switching, for Release 6.
     This solution is described in TR 23.903, approved at SA #26.
  - CN1 has identified following tasks within the work that are not complete, affecting TS 24.008 and 23.009 (Rel-6 submission form in NP-050087):
    - addition of an indication to the core network that a call is a redial attempt for switching between voice and video
    - Addition of service-based handover as a possible reason for directed retry handover.
    - If the tasks are not completed, redial solution for voice video switching is not complete, therefore CN1 submitted REI-6 exception request to CN-27 to allow additional time to complete this task.
  - Other solutions, for Release 7 (see corresponding Release 7 slide)

#### Release 6? – Not ready NP-050009

3GPP TSG CN#27 Tokyo, Japan, 9-17 March 2005



#### Rel-6 RAN improvements

- RAB support enhancement (incomplete items)
  - Optimisation of the RABs for IMS voice over IP
    - ROHC was added as mandatory for Rel-6 IMS UE
    - A new ROHC parameter will be included in the radio interface
    - Discussions on RoHC testing started in RAN2 (one LS sent to T1).
    - target date June 2005. Form for late inclusion in Rel-6 provided.





#### Rel-6 Improvements of Radio Interface

- Improvements of receiver performance of HSDPA UE (incomplete items)
  - Improved performance requirements for HSDPA categories 7 and
     8
    - On progress, many simulation results presented.
    - Some cases and scenarios are still under discussion.
    - Expected completion date June 2005. Form for late inclusion in Rel-6 provided.





## Generic User Profile

Stage 3 submitted at CN#27 for approval, but some open items still to be completed by June 2005

- Stage 1 in TS 22.240 (approved)
- General Stage 2 in TS 23.240 (approved)
- Stage 2 for Data Description Framework in TS 23.241: approved but still to be aligned with 29.240. At CN#26, 23.241 changed into a TR 23.941, approved at CN#26.
- Stage 3:
  - TS 24.241 on GUP Access; Common Objects: approved
  - TS 29.240 (CN4) about 85% ready, approved at CN#27. Estimated finishing date CN#28 June 2005 (moved five times). Release 6 submission form provided in NP-050042.
    - Dependencies on the Liberty Alliance Project
    - Contentious Issues: Formalised approach to GUP XML Schema derivation using a defined UML approach with a standardised translation mechanism.
- Security aspects:
  - to be covered by CRs. Work on progress, in collaboration with Liberty Alliance, to be completed by March 2005.



## Charging Management

TSG Approval target remains Jun 2005 (was Sep 2004 then Dec 2004)

#### Already SA Approved 11 TS/TR: 32.240 **Charging architecture and principles** 32.250 Circuit Switched (CS) domain charging 32.251 Packet Switched (PS) domain charging 32.260 IP Multimedia Subsystem (IMS) charging – see also IMS slide Multimedia Messaging Service (MMS) charging - see also MMS slide 32.270 32.271 Location Services (LCS) charging – see also LCS slide 32.295 **Charging Data Record (CDR) transfer** 32.815 Online Charging System (OCS) architecture study 32.296 Online Charging System (OCS): Applications and interfaces Charging Data Record (CDR) file format and transfer 32.297 32.299 Diameter charging applications— see also IMS slide SA#27 3 TSs for Information & 1 Rel-6 WID for Approval (March 2005): 32.252 Wireless Local Area Network (WLAN) charging—see also WLAN slide 32.273 MBMS charging - see also MBMS slide 32.272 PoC charging - coordinate with OMA - see also PoC slide WID Rel-6 on 32.272 PoC charging Completion date Jun 2005 for 4 TSs - the above 3 TSs plus

32,298 Charging Data Record (CDR) parameter description

*NP-050009* 







#### Reminder on Rel-6 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
- Improvement of inter-frequency and inter-system measurement (R1). Closed at RAN#25(09/04). No agreement on the gain of the proposed techniques
- Uplink TDOA location determination for GSM/GPRS: WI deleted and replaced at GERAN#17
- FS Multiple MMS Relay/Server Architecture (might be re-introduced in Rel-7)

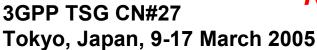


#### Content

- Review of non-Release related activities
  - Testing
  - Pre Release 6
  - Feasibility Studies
- Review of on-going features
  - Features completed up to December 2004 (as reminder)
  - Features completed between December and March 2005
  - Features still not completed but asked to be part of Release 6



- Release 7 Features
- Conclusion





#### **GERAN Rel-7**

- Generic Access to A/Gb interface
  - The FS was completed for Rel-6 at GERAN#21
  - Actual feature: WID in GP-042247
  - Stage 2 in TS 43.318 was approved at TSG GERAN#23 as version 6.0.0, it should be version 7.0.0.
  - Stage 3 (25% ready) may be approved at TSG GERAN#24 (April 2005)
- Support of Conversational Services in A/Gb mode via the PS domain (it includes BB "PS Handover"):
  - Stage 2 is 85% ready in TS 43.129 in version 6.1.0 (i.e. Release 6),
  - FCD for Stage 3 is November 2005 (i.e. Release 7).
  - But CN1 is asking at CN#27 to consider it as a late Release 6 item (see Rel-6 Submission form in NP-050088) because CN1 thought GERAN considered it as a Release 6 item.
  - To be clarified: shall it be Release 6 or 7 ? If Release 7, shall Stage 2 be moved to Release 7?



## IMS aspects not in Release 6 (1/2)

- SA2 proposes not to create "IMS Phase 3" yet, therefore all IMS phase 2 functionalities not completed on time or new IMS functionalities are so far reported as stand-alone features in Release 7.
- WID "IMS Stage-3 IETF Protocol Alignment" for Rel-7 approved in CN-26 (no corresponding feature is necessary in SA2 for the time being).

TM



## IMS aspects not in Release 6 (2/2)

- Mp (MRFC MRFP) interface protocol definitions
  - Target for Stage 3 in TS 29.333 (CN4): No contributions on this Topic till now. Mn-interface specification might be used as basis to develop 29.333 Work will not be finish before CN#28, FCD is June 2005.
- IMS Local services:
  - The work was already done in SA2 but the corresponding text was deleted from Stage 2 Release 6 because the corresponding Stage 3 work was not done.
  - The Rel-7 corresponding WID still not provided. Any interested company on this subject? Proposed to be deleted from these slides if no contribution received by June 2005.

CN1-37 approved the New IMS Applications WID for missing features, to be done in Rel-7. It will be submitted to CN-27 for approval in NP-050064. The objectives of this work item are to finalise Stage 3 work on postponed Release 6 features for IP multimedia applications that could not be completed in Release6 due to IETF dependencies.

# 36P

# Tokyo Japan, 9-17 March 2005 CS Video and Voice Service Administration Improvements (other than Redial)

- The Feature "CS Video and Voice Service Improvements" has been split in two parts at SA#26:
  - The Release 6 Redial Solution for Voice-Video Switching (complete)
  - For Release 7:
    - Other solutions being investigated. Stage 2 work ongoing in TR 23.801
    - SA2 work completed in re-dial TR 23.903. The future of TR 23.801, used as a place holder, is to be investigated.
    - SA2 consider the TR as a useful tool/place holder for the discussions on potential solution. More discussions might come on SCUDIF with ISUP etc, so SA2 want to keep the TR open. However, the TR is anticipated to be "abandoned" once agreements have been reached.
    - Stage 3: Potential impact on CN3 (to be confirmed once Rel-7 Stage 2 is more stable).



# PS domain and IMS impacts for supporting IMS Emergency calls

- Service requirements for CS domain in TS 22.101 and for IMS aspects in TS 22.228. Work completed. No outstanding issues for SA1. Shall the requirement be removed from Rel-6?
- SA2 is working in TR 23.867, not ready for presentation for information now.
- Stage 3: WID on Emergency Call Enhancements for IP& PS Based Calls – stage 3 for Rel-7 brought to CN#26 for approval in NP-040498. Completion date Sept 2005.
- Dependencies from IETF, T3. RAN3 might be involved on priority. No action identified so far for GERAN.
- Foreseen Completion Date moved many times.



# System enhancements for fixed broadband access to IMS TS 23.228 is affected: CRS presented to SA#27.

- TS 24.229 will also be affected. The work started in CN1.
- New TR 24.819 on protocol impact is in process of creation. It was agreed that in CN1 area of the TR detailed changes against the TSs under CN1 control will be described with the aim of collecting material that can be easily converted into CRs on the TSs.
- Stage 3: WID update on Protocol impact from providing IMS services via fixed broadband for Rel-7 (CN1) was approved in CN-26 in NP-040618.

## Support of SMS and MMS over IP networks

WID approved at SA#25, presented by SA2. TR 23.804 presented now, to be approved by June 2005.



### RAN Release 7 features

- Multiple Input Multiple Output antennas (MIMO)
  - Stopped until June 2005.
- RAB support enhancement (R2)
  - Optimisation of DL channelisation code utilisation for 1.28 Mcps TDD (R1)
    - Two documents were discussed on RAN1 #40, but no agreement was reached.
    - Completion level: 35%, Completion date: RAN#29(09/05)
- 7.68 Mcps TDD
  - Physical Layer (R1)
    - Two documents treated. Draft TR outline for the WI was agreed.
    - Concerns were raised regarding which WG is responsible for the stage 2 document.
  - Layer 2 and layer 3 protocol aspects (R2)
    - Just started
  - UTRAN lub/lur Protocol Aspects (R3)
    - Just started
  - RF and Performance Requirements (R4)
    - A proposal for some of the UE TX and RX characteristics was approved
  - Completion date: RAN #29(09/05) for WG1, 2 and 3, RAN #30(12/05) for WG4

### *NP-050009*

### Rel-7

## Improvements of the Radio Interface

**UMTS2600 (R4)** 

3GPP TSG CN#27

- On progress, conference calls will be scheduled before next R4 meeting
- First version of the TR presented.

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- Completion by June 2005
- **UMTS900 (R4)** 
  - Additional scenarios have been proposed by ECC and R4, as a consequence the expected completion is delayed to December 2005
- UMTS2600 TDD Option (R4)
  - Co-existence scenarios further discussed
  - The scope needs to be clarified on the ITU region of applicability and TDD options
  - Completion December 2005
- **UE Antenna Performance Evaluation Method and Requirements (R4)** 
  - TSG GERAN has approved to re-use the Test Method under study in R4 for **GERAN** terminals
  - A first version of the TR was presented. The sections for Test Methods and the sections for Requirements will be clearly separated, probably two separate TRs will be produced - Completion September 2005



# Enhancement of E2E QoS

- The mechanisms described in the QoS related TS, especially TS23.207, are not enough to achieve fully end-to-end QoS guarantees in case of an interworking with different IP network domains or backbone networks. So the ways to interwork QoS policies and control between different IP network domains may be needed.
- Work covered in TR 23.802, to be presented for information in June 2005



# LCS enhancements 3

#### **Contains:**

- LCS for 3GPP Interworking WLAN (SA1): Stage 1 22.935 presented for information.
- Velocity:
  - Work started at SA1.
  - WID approved in SA2 presented to SA#27, leading to some CRs to 23.271
  - Work expected in GERAN / RAN and CN
  - LS sent to these groups
- Work not started in GERAN (WID approved at GERAN#23, January 2005)

#### U-TDOA positioning method in RAN

- A CR on 25.305 (Stage 2 Functional Description of UTDOA in UTRAN) is in good state of completion for being approved at RAN#28 (June 2005).
- Within RAN2 and RAN3, several message flows have been clarified (for a UE in different states).
- Level of completion: 20 %.
- Completion date: June 2006 (RAN#32).

#### **GALILEO**

- Extension of A-GPS to include GALILEO and other satellite navigation systems (SA1):
   "stalled" in SA1 due to lack of access to Galileo specifications
- Support for Global Navigation Satellite Systems in GERAN: no technical work started. WID updated in GP-042677.
- FS on applicability of GALILEO for LCS (SA2). Work stopped at SA2 because of lack of contributions.
- Work to be re-started after availability of Galileo specifications



## Selective Disabling of UE Capabilities

NP-050009

- Work commenced on Stages 1 and 2
  - CRs to 22.011 presented
  - WI updated by SA1 and SA2
- potential OMA dependency

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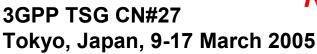
# All-IP Network Feasibility Study

- Work ongoing on Stage 1 (TR 22.978); Presented for approval at SA #27.
- Joint session SA1/SA2 to take place in April.



# Enhancements of VGCS in public networks

- Enhancements of Voice Group Call Services (VGCS) work progressing with CRs to Stage 1 in SA1 in TS 42.068 (GSM only);
- VGCS in public networks for communication of public authority officials approved in GERAN (GP-041837) FCD April 2005. No technical work started.
- WID approved at CN#25 for corresponding CN1 and CN4 aspects. Additionally CN1-37 approved the WID for "Improvements of VGCS in public networks for parallel use of services". This WI is sent to CN-27 for approval in NP-050062.
- End-to-end (E2E) encryption mechanism for subscribers within an active VGCS Group: the E2E encryption mechanism is to be defined by the security organisations and is outside the scope of 3GPP. Advice on AMR codec bit rates has been given by SA4 on two possible solutions: "data bearer solution" and "speech bearer solution". The "data bearer solution" is preferred as TFO update is problematic, but SA4 has also recommended that impact of delay and quality aspects are carefully checked, before such "data bearer solution" is adopted.

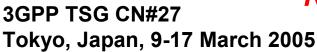




# Multi system mobile stations

- Feature name changed, previously known as "Behaviour of multi system terminals"
- Work ongoing in SA1
  - TR to be provided in 22.936 not before TSG SA#28







## Combinational Services

### **Created during SA#26:**

- Based on work on FS on adding media to CS calls and IMS sessions in TS 22.979
- Update of WI for Combinational Services based on SP-040926; Stage 1 (22.279) and stage 2 (23.279) anticipated.
- SA2 new WID presented at SA#27 on "Voice call continuity between CS and IMS (including I-WLAN)
- CN1 new WID: "Stage 3 for Combining CS and IMS services and capability detection and exchange mechanism"
- SA4 New WID: "Stage 3 Specification of Combining CS and IMS services"

# A GLOBAL INITIATIVE



# **Priority Service Rel-7**

Release-7: TR 22.953 on Multimedia
 Priority Service Feasibility Study
 progressing in SA1, to have been officially
 done for December, more likely to be
 completed by June 2005. The Multimedia
 Part is for Rel-7, the other aspects remain
 in Rel-6.



## CAMEL Rel-7

## Release 7 just started:

 CRs to Stage 1 for Camel Trunk Triggers presented at SA#27, corresponding Stages 2 and 3 work will soon pop up at CN4





# OSA Improvements Rel-7

## **Rel-7 started**

- SA1#27 approved a new OSA Rel-7 requirement, for OSA APIs to support Service Brokering capabilities (service selection, service provisioning, feature or service interaction and service chaining).
- SA1 WID and Rel-7 CR 22.127 for SA#27 Approval (March 2005)

A GLOBAL INITIATIVE



## OAM&P Rel-7

# In full: Operation, Administration, Maintenance and Provisioning

- SA5 Rel-7 BB WID for SA#27 Approval (March 2005) – Signalling Based Activation (SBA) of Trace in IMS (CN1/IETF dependency on SIP)
- CN1 task on trace activation/deactivation over SIP between IMS entities (TS 24.229)
- CN4 task on trace activation/deactivation over Cx interface (TS 29.228).
- CN1, CN4 FCD is June 2005.



# Security Aspects in Rel-7

**Access Security Enhancements** 

**Development of UEA2 and UIA2** 

Security Requirement for Open Platforms in 3GPP

# New features (only WID, presented by SA1)

**Rel-7 OSA enhancements** 

**Review of Network Selection Principles** 

3GPP TSG CN#27

# Tokyo, Japan, 9-17 March 2005 Other new WIs approved at TSG GERAN#23



- TD GP-050265 WID on LCS/LBS Enhancements (move to LCS3)
- TD GP-050284 WID on MS Antenna Performance **Evaluation Method and Requirements (new** feature)
- TD GP-050543 WID on Lower 700 MHz Inclusion in the GERAN Specifications (new feature)





# Other WIs for approval at TSG#27

## • SA4:

- Performance Characterization of VolMS over HSDPA/EUL channels (Release 7)
- Dynamic and interactive multimedia scenes (Release 7)
- Combining CS and IMS Services Stage 3 (Release 7)







## Content

- Review of non-Release related activities
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  - Features still not completed but asked to be part of Release 6
  - Release 7 Features



**Conclusion** 



# **Proposed Conclusions**

- TSG #27 is the date to freeze Release 6.
- At TSG#26, it was agreed that the content of Release 6 is composed of the features completed at that time plus potentially some other ones identified in the "Conclusion" of SP-040927, according to the progress they will make between TSG#26 and TSG#27. Here are these features and their status:
  - Features completed between TSG #26 and TSG #27:
    - OSA Improvements
    - IP flow based charging
    - Non-SIP based Trace (part of OAM&P)
    - ACBOP
  - Features still open due to codec issue Submission Form (SF) for audio codec in SP-050101:
    - AMR-WB+
    - MMS
    - Packet Switched Streaming Rel-6
    - IMS Messaging and Presence
  - Features still open due to other reasons:
    - MBMS: open due to several issues (SF provided in SP-050100)
    - FDD Uplink Enhancements (EDCH): open (SF provided)
    - Improvements of receiver performance of HSDPA UE: open (SF provided)
    - Generic User Profile: open (SF provided)
    - New: Some independent items of IMS2, open (SF provided)
- It is proposed that the Features completed between TSG#26 and TSG#27 belong to Release 6.
- For the ones still incomplete, individual decisions shall be taken during TSG#27