

TSGS#20(03)0265

Meeting #20, Hämeenlinna, FINLAND, 09 - 12 June 2003



TSG-SA WG5 (Telecom Management) Status Report

Reported by

Michael TRUSS
TSG-SA WG5 Chair

Agenda Item: 7.5.1

Document for: Information

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3GPP SA5 Officers



OAM&P (Operations, Administration, Maintenance & Provisioning)

- **Chair**
Michael TRUSS (Motorola Ltd/ ETSI) – elected 04/2002
- **Vice Chair**
Thomas RICHTER (Cingular Wireless LLC/ T1) – elected 04/2002
– **resigned (elections 07/2003 at SA5#34bis, Cork, IRELAND)**
Christian TOCHE (Nortel Networks/ ETSI) – elected 04/2002
- **MCC Support: Adrian ZOICAS (MCC)** – since 01/2000
- **Four (4) SWGs**
SWGA: Telecom Management - Architecture and Requirements
SWGB: Charging Management
SWGC: Telecom Network Infrastructure Management
SWGD: Performance Management and Trace Management

SA5's Sub-WG structure (1/4)



SWGA Telecom Management - Architecture and Requirements

- Michael TRUSS (Motorola) – Chair

RG OEM-AR: Tommy BERGGREN (TeliaSonera) – Rapporteur, VC

- Architecture (32.101), Principles & Requirements (32.102)

RG OEM-UEM: John MUDGE (Vodafone) – Rapporteur

– resigned (no New Rapp => no updated UEM WID to SA#20)

- User Equipment Management (UEM) (32.150, 32.802)

RG OEM-SM: Michael EDER (Nokia) – Rapporteur

– resigned (New Rapp => ABA Istvan (T-Mobile AUSTRIA))

- Subscription Management (SM) (32.140/1, new 32.17x)

Liaison: ITU-T SG4 (Architecture / Conformance),
OMA & T2 (UEM),
T2 & CN4 (GUP/Subscription Management)
TMF (MMC, Mobile Management Team, MTEM),
CN5 (OSA Management).

SA5's Sub-WG structure (2/4)



SWGB Charging Management - (32.2xy, 32.005/015)

Problems: Lack of human resources (see later)

- Karl-Heinz NENNER (T-Mobile) – Chair

RG CH-BC: Benni ALEXANDER (Nokia) – Rapporteur

- Charging Management for Bearer level

RG CH-IC: Ariel SHARON (Lucent) – Rapporteur

- Charging Management for the IMS

RG CH-SC: Gerald GÖRMER (Siemens) – Rapporteur

- Charging Management for the Service domain

Liaison: GSM Association (BARG, IREG, SERG),
IETF-AAA/ 3GPP CN4 (Diameter, Credit-Control),
T2 (MMS Charging), CN5 (OSA Charging), IPDR (Charging),
3G.IP (IP/Charging requirements for IMS).

SA5's Sub-WG structure (3/4)



SWGCG Telecom Network Infrastructure Management (TM Solutions)

- **Thomas TOVINGER (Ericsson)** – Chair SWGC
- **Joerg SCHMIDT (Motorola)** – Vice Chair SWGC
- **Frédéric BONNEAU (Nortel Networks)** – Vice Chair SWGC
 - WTC1 RG (Maintenance of Configuration Management 32.6xx series)
 - WTC2 RG (Maintenance of Fault Management 32.111-x & 32.3xx series)
 - WT01 RG (Security Management)
 - WT02 RG (Communication Surveillance)
 - WT03 RG (Entry Point)
 - WT04 RG (Alignment of CMCC/SA5 CM framework)
 - WT05 RG (Alignment of CMCC/SA5 NRMs)
 - WT06 RG (Alignment of CMCC/SA5 FM framework)
 - WT07 RG (Generic File Transfer IRP)
 - WT08 RG (Log Management IRP)
 - WT09 RG (Backward Compatibility)
 - WT10 RG (State Management Enhancements)
 - WT11 RG (Inventory Management)
 - WT12 RG (General Network Resource Model Enhancements)
 - WT13 RG (ATM-UTRAN Interface Management)
 - WT14 RG (XML Reconciliation)
 - WT15 RG (Align Notification IRP with ITU)
 - WT16 RG (UTRAN NRM Enhancements for TDD and FDD modes)

Liaison:

ITU-T SG 4 (CORBA, tML/XML)

T1M1 (CORBA, tML)

3GPP2 (Delta Specification to 3GPP SA5 OAM&P TSs)

SA5's Sub-WG structure (4/4)



SWG D Performance Management and Trace Management

- **Christian TOCHE (Nortel Networks) – Chair SWGD**

RG OAM-PM: Ulf HUBINETTE (Ericsson) – Rapporteur, VC SWGD

- **Performance Management: measurements, concepts, definition, requirements, PM IRP (32.40x, 32.41x, 52.402)**

RG OAM-Trace: Kari RONKA (Nokia) - Rapporteur , VC SWGD

- **Subscriber and UE Tracing (32.42x, 52.008)**

Liaison: ITU-T SG4 (IMT2000 Management),
TMF (Wireless Service Measurement Team),
CN1/4 , RAN 2/3, GERAN (Trace)

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Meetings held



SA5 #33bis

- Berlin, GERMANY, 07-11 April 2003, hosted by EF3
- Attended by 48 delegates
- Full report in S5-030300

Joint SA2-SA5-SWGB ad-hoc on Charging

- San Diego, CA, USA, 12-16 May 2003, hosted by NAF
- Draft report in S5-034352 (S2-03xxxx)

SA5 #34

- Sophia Antipolis, FRANCE, 19-23 May 2003, hosted by ETSI
- Attended by 38 delegates (SARS-impact) & 10+ delegates from CHINA through conference calls and NetMeeting
- Draft report in S5-030320

Inter-Organizational Co-operation with:



3GPP2 TSG-S on Management standards

- **3GPP2 TSG-S is referencing SA5's TSs in its specification S.S0028-B "OAM&P for cdma2000 (3GPP R4 Delta Specification)", which also documents some exception areas as well as providing specifications for cdma2000 Network Resource Models.**
- **A presentation on S.S0028-A "OAM&P for cdma2000 (3GPP R4 Delta Specification)" has been made to SA5 during SA5#33bis (04/2003).**
- **Further co-operation on XML Reconciliation and Rel-6 Delta TM Specification is ongoing.**

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Inter-Organizational Co-operation with:



ITU-T SG4 & T1M1 on CORBA framework, IS Methodology and XML/tML standardization

- **Discussions in progress on IS Template & UML Repertoire:**
 - ITU-T SG4 are using 3GPP 32.102 material in M.3020 status document.
 - SA5 working on responses to questions and further input to next ITU-T SG4 meeting.

TMF on 3G-mobile Management standards

- **ongoing with Wireless Service Measurement Team on BB OAM-PM.**

Open Mobile Alliance (OMA)

- **with OMA Requirements Group on UEM Requirements.**

Overview of SA5's Rel-6 Work Items



**Feature: SM
Subscription**
(SP-020448)

**Feature: OAM&P
Operations,
Administration,
Maintenance &
Provisioning**
(SP-020445)

**BB: OAM-AR Principles,
high level Requirements
and Architecture** (SP-020446)

**BB: OAM-Trace
Trace** (SP-020332)
Management

**BB: OAM-NIM
Network** (SP-020754)
**Infrastructure
Management**

**BB: OAM-UEM
User** (SP-020608)
**Equipment
Management**

**BB: OAM-PM
Performance
Management**
(SP-020499)

**Feature: CH
Charging
Management**
(SP-030047)

**BB: CH-BC
Charging
Management
for Bearer
Level** (SP-030048)

**BB: CH-IC
Charging
Management
for IMS**
(SP-030049)

**BB: CH-SC
Charging
Management
for Service
domain** (SP-030050)

Status of Rel-6 Feature: Subscription Management



SA5 Rel-6 Feature: Subscription Management (SM)

– progress from 30% (SA#18) => 45% (SA#19) => **50%** (SA#20)

- Work done against WID in SP-020448 - SA#17 approved (09/02)
- Request to SA to accept delaying TSG Approval target: **09/03** to **03/04**.
The reason for delay is slower than anticipated progress with GUP co-ordination and Use Case analysis.

Specification overview/status:

- 32.140 SM Requirements - SA#19 Approved
- 32.141 SM Architecture - SA#19 Information

Approval target **09/03** to **12/03** for:

- 32.141 SM Architecture
- 32.171 Service Operations Management (SOM): SM Resources IRP: Requirements
- 32.172 SOM; SM Resources IRP: Network Resource Model

Approval target **09/03** to **03/04** for:

- 32.173 Protocols (IRP Solution Set)

Status of Rel-6 Feature OAM&P (1/6): OAM



SA5 Rel-6 Feature: OAM&P - progress from 30% to **40%**

- Work done against WID SP-020445 - SA#17 approved (09/02)
- TSG Approval target remains: **03/2004.**

<u>Title of Feature/Building Block/</u>	<u>//Time</u>	<u>TSG#18</u>	<u>#19</u>	<u>#20</u>
Feature: OAM&P		22% =>	30% =>	40%
BB: Principles, high level Requirements and Architecture		10% =>	20% =>	35%
BB: Performance Management		15% =>	20% =>	30%
BB: User Equipment Management		10% =>	<u>10% =></u>	12%
BB: Network Infrastructure Management		05% =>	15% =>	25%
BB: Trace Management		50% =>	<u>55% =></u>	55%

- See BB status on the next slides

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Status of Rel-6 Feature OAM&P (2/6): OAM-AR



SA5 Rel-6 BB: Principles, high level Requirements and Architecture

– progress from 20% to **35%**

- **Work done against WID SP-020446 - SA#17 approved (09/02).**
- **TSG Approval target remains: 03/2004.**

- **Work on-going on Management of Service Specific Entities.**
- **Work on-going on Network Sharing.**
- **UEM and SuM Release 6 updates to be done.**
- **No progress or support for linkage to OSA.**
- **Further updates based on IETF under investigation.**

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Status of Rel-6 Feature OAM&P (3/6): OAM-PM



SA5 Rel-6 BB: Performance Management (PM)

– progress from 20% to **30%**

- Work done against WID SP-020499 - SA#17 approved (09/02).
- TSG Approval target remains: **03/2004.**
- **additional meeting time needed** especially to address Work Tasks initiated by China Mobile Com. Corporation (CMCC)

- **32.411 PM IRP: Requirements - for SA Approval**
- **32.412 PM IRP: Information service - for SA Information**

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Status of Rel-6 Feature

OAM&P (4/6): OAM-UEM



SA5 Rel-6 BB: User Equipment Management (impacts OMA & other TSGs) – slow progress from 10% to 12%

- Work done against WID SP-020608 - SA#17 approved (09/02).
- TSG Approval target remains: **03/2004**.
- SA5 (involving T2,SA1,SA3,T3) analysis of “OMA draft Requirements specification for Device Management” revealed that there is a high degree of overlap between the 3GPP UEM and the OMA Device Management work. The OAM-UEM BB WID has been re-drafted to focus only on the UEM work not being done in OMA.
- **Downstream SA5 work** identified (32.150 UEM Requirements. & Architecture).
- **Stopped T2 work** (27.150 UEM protocol specification; Stage 3).
- Revised WID prepared but **not submitted** to SA#20. Reason: Rapporteur **resigned** (Vodafone). **No new** Rapporteur.

Status of Rel-6 Feature OAM&P (5/6): OAM-NIM



SA5 Rel-6 BB: Network Infrastructure Management - progress from 15% to **25%**

- Work done against WID SP-020754 - SA#18 approved (12/02).
- TSG Approval target remains: **03/2004.**
- **additional meeting time needed** especially to address Work Tasks initiated by China Mobile Com. Corporation (CMCC)
- Ongoing work on:
 - Security Management,
 - Inventory Management,
 - Entry Point IRP,
 - CM Alignment,
 - FM Alignment,
 - Log Management IRP,
 - XML Reconciliation,
 - Generic File Transfer IRP,
 - Communication Surveillance,
 - Network Resource Model Alignment,
 - State Management Enhancements,
 - UTRAN NRM Enhancements for TDD and FDD modes,
 - General Network Resource Model Enhancements,
 - Backward Compatibility,
 - ATM-UTRAN interface management,
 - Notification IRP alignment with ITU.
- 32.341 File Transfer IRP: Requirements - **for SA Information**

Status of Rel-6 Feature OAM&P (6/6): OAM-Trace



SA5 Rel-6 BB: Trace Management (impacts other TSGs) - stagnates at **55%**

- Work done against WID SP-020332 - SA#16 approved (06/02).
- TSG Approval target remains: **03/2004.**
- 32.421 Trace Concepts and Requirements – **already** approved at SA#18 (**12/2002**).
- **Still** pending replies from previous meetings to LSs from CN4 (**08/02**) & CN1 (**12/02**). The replies shall include detailed Trace requirements to CN.
- LS reply from RAN needed for SA5#35 (**09/03**) at the latest. RAN#20 developments:
 - Trace WID approved;
 - IMSI will not be used at RNC level for Early UE.

Need to get moving again following **recent deadlock** on trace activation :
Signalling- vs. **Management-based**

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Status of Rel-6 Feature: Charging Management: CH



SA5 Feature Charging Management (CH) - progress from 5% to **15%**

- Work done against WIDs SP-030047/48/49/50 - SA#19 approved (03/2003).
- TSG Approval target remains: **03/2004.**

New TS 32.297 Charging interface description to the billing domain – for SA information
New TR 32.815 On-line Charging System (OCS) architecture study – for SA information

Active communication with GSMA BARG (MMS etc.)

WLAN Charging & IP-flow based bearer level charging

- Joint meeting held with SA2 (**05/03**) on Work split between SA2/SA5 and planning of transfer of work to SA5.

Problems: Lack of human resources

- Small number of active participants. Two main vendors & many operators are not represented at all.
- Large number of Charging TSs under SA5's responsibility lead to Editors/Rapporteurs overload and lack of progress on some TSs.
- While in other WGs the Rel-6 Features are progressed by large numbers of experts, in SA5 the small number of Charging delegates makes it very hard to even follow the work in the other WGs.

Future SA5 Meetings



Meeting	Date	Location	Host
TSG#20	03-12 Jun 2003	HÄMEENLINNA, FINLAND	NOKIA
SA5#34bis/ter	10-18 Jul 2003	Cork, IRELAND	Motorola
SA5#35	28 Aug-10 Sep 2003	Sophia Antipolis, FRANCE	ETSI
TSG#21	16-25 Sep 2003	Berlin, GERMANY	EF3
SA5#35bis	06-11 Oct 2003	New Orleans, USA	NA Friends
SA5#36	17-21 Nov 2003	Europe	EF3
TSG#22	09-18 Dec 2003	Hawaii, USA	
SA5#33	04-13 Feb 2004	Shanghai CHINA or Sophia Antipolis, FRANCE	CMCC or ETSI
TSG#23	Mar 2004		

Abbreviations commonly used in SA5



BS	Billing System		
CDR	Charging Data Record		
CM	Configuration Management		
CMIP	Common Management Information Protocol		
COPS	Common Open Policy Service		
CORBA	Common Object Request Broker Architecture		
FM	Fault Management		
GDMO	Guidelines for the Definition of Managed Objects		
IDL	Interface Definition Language		
IMS	IP Multimedia Subsystem	IOC	Information Object Class
IRP	Integration Reference Point	IS	Information Service
MOC	Managed Object Class	NRM	Network Resource Model
OAM&P	Operations, Administration, Maintenance & Provisioning		
OS	Operations System		
OSS	Operations Support System		
PDP	Policy Decision Point		
PM	Performance Management		
SNMP	Simple Network Management Protocol (IETF)		
SOM	Service Operations Management		
SS	Solution Set		
TM	Telecom Management		
TMF	TeleManagement Forum		
TMN	Telecommunications Management Network (ITU-T)		
TOM	Telecom Operations Map (TMF)		
UML	Unified Modelling Language		

***Documents and issues for
discussion, information
and approval***

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SA5 Documents provided to this Plenary

SP-030265	Status report of SA5 to SA #19
SP-030266	Rel-5 CR 32.101 (Telecommunication management; Principles and high level requirements)
SP-030267	2 Rel-4/5 CR 32.235 (Charging data description for application services)
SP-030268	2 Rel-5 CR 32.200 (Charging principles)
SP-030269	3 Rel-5 CR 32.205 (Charging data description for the Circuit Switched (CS) domain)
SP-030270	Rel-5 CR 32.215 (Charging data description for the Packet Switched (PS) domain)
SP-030271	5 Rel-5 CR 32.225 (Charging data description for the IP Multimedia Subsystem (IMS))
SP-030272	Rel-5 CRs 32.235 (Charging data description for application services)
SP-030273	New Rel-6 TS 32.297 (Charging management; Charging interface description to the billing domain) - for Information
SP-030274	New Rel-6 TR 32.815 (Charging management; On-line Charging System (OCS) architecture study) - for Information
SP-030316	Rel-5 CR 32111-2 (Fault Management; Part 2: Alarm IRP: Information Service)
SP-030276	Rel-5 CR 32111-3 (Fault Management; Part 3: Alarm IRP: CORBA solution set)
SP-030277	2 Rel-5 CR 32111-4 (Fault Management; Part 4: Alarm IRP: CMIP solution set)
SP-030278	2 Rel-4/5 CR 32.302 (Configuration Management; Notification IRP: Information Service)
SP-030279	Rel-5 CR 32.603 (Basic Configuration Management IRP: CORBA solution set)
SP-030280	3 Rel-4/5 CR 32.622 (Configuration Management; Generic network resources IRP: Network Resource Model)
SP-030281	Rel-5 CR 32.632 (Configuration Management; Core Network Resources IRP: Network Resource Model)
SP-030282	8 Rel-4/5 CR 32.642/652 (Configuration Management; UTRAN/GERAN network resources IRP: Network Resource Model)
SP-030283	15 Rel-4/5 CR 32.64x/65x/615 (Configuration Management; UTRAN/GERAN/Bulk CM IRP)
SP-030284	2 Rel-4/5 CR 32.615 (Configuration Management; Bulk CM IRP: XML file format definition)
SP-030285	Rel-5 CR 32.645 (UTRAN network resources IRP: Bulk CM XML file format definition)
SP-030286	Rel-5 CR 32.654 (Configuration Management; GERAN network resources IRP: CMIP solution set)
SP-030287	5 Rel-5 CR 32.615/25/35/45/55 (Configuration Management; Bulk CM/ Generic/ Core/ UTRAN/ GERAN network resources IRP: Bulk CM XML)
SP-030288	5 Rel-5 CR 32.615/25/35/45/55 (Configuration Management; Bulk CM/ Generic/ Core/ UTRAN/ GERAN network resources IRP: Bulk CM XML)
SP-030289	Rel-6 CR 32.664 (Configuration Management; Kernel CM IRP: CMIP solution set)
SP-030290	New Rel-6 TS 32.341 (File transfer Integration Reference Point (IRP): Requirements) - for Information
SP-030291	5 Rel-99/4/5 CR 32104/32.401 (Performance Management; Concept and requirements)
SP-030292	3 Rel-4/5 CR 32403 (Performance Management; Performance measurements - UMTS and combined UMTS/GSM)
SP-030293	2 Rel-6 CR 32403 (Performance Management; Performance measurements - UMTS and combined UMTS/GSM)
SP-030294	New Rel-6 TS 32.411 (Performance Management IRP: Requirements) - for Approval
SP-030295	New Rel-6 TS 32.412 (Performance Management IRP: Information service) - for Information

***BB: Principles, high level Requirements
and Architecture (OAM-AR)***



SA approval is requested for

SP-030266

**Rel-5 CR 32.101 (Telecommunication management;
Principles and high level requirements) : Correction and
update of Management System Interactions**

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Feature: Charging Management (CH) 1/2



SA approval is requested for

- SP-030267** 2 Rel-4/5 CR 32.235 (Charging data description for application services) : Correction on charging for roaming MMS subscribers - alignment with 22.140, 29.061 and 29.060
- SP-030268** 2 Rel-5 CR 32.200 (Charging principles)
- SP-030269** 3 Rel-5 CR 32.205 (Charging data description for the Circuit Switched (CS) domain)
- SP-030270** Rel-5 CR 32.215 (Charging data description for the Packet Switched (PS) domain) :
Correction of "Cause Code"
- SP-030271** 5 Rel-5 CR 32.225 (Charging data description for the IP Multimedia Subsystem (IMS))
- SP-030272** Rel-5 CRs 32.235 (Charging data description for application services) : Corrections of inconsistencies in the "Charge information" field description

Feature: Charging Management (CH) 2/2



SA is invited to note

- SP-030273** **New Rel-6 TS 32.297 (Charging management; Charging interface description to the billing domain)**
- for Information
- SP-030274** **New Rel-6 TR 32.815 (Charging management; On-line Charging System (OCS) architecture study)**
- for Information

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BB: Network Infrastructure Management (OAM-NIM) 1/4



WTC2 RG (Maintenance of 32.111-x & 32.3xx series)

SA approval is requested for

- SP-030316** Rel-5 CR 32111-2 (Fault Management; Part 2: Alarm IRP: Information Service) : Correction of imported references table for managedGeneric
- SP-030276** Rel-5 CR 32111-3 (Fault Management; Part 3: Alarm IRP: CORBA solution set) : Correction of CORBA type definition in struct "AlarmInformationIdAndSev
- SP-030277** 2 Rel-5 CR 32111-4 (Fault Management; Part 4: Alarm IRP: CMIP solution set)
- SP-030278** 2 Rel-4/5 CR 32.302 (Configuration Management; Notification IRP: Information Service) : Correction of the description of the objectClass and objectInstance parameter of the notification header

BB: Network Infrastructure Management (OAM-NIM) 2/4



WTC1 RG (Maintenance of 32.6xx series) 1/2

SA approval is requested for

- SP-030279** Rel-5 CR 32.603 (Basic Configuration Management IRP: CORBA solution set) :
Alignment with Basic CM IRP information service (32.602)
- add one exception for the operation createMO
- SP-030280** 3 Rel-4/5 CR 32.622 (Configuration Management; Generic network resources IRP: Network Resource Model)
- SP-030281** Rel-5 CR 32.632 (Configuration Management; Core Network Resources IRP: Network Resource Model) :
CN Network Resource Model changed to the New Methodology - alignment with 32.102
- SP-030282** 8 Rel-4/5 CR 32.642/652 (Configuration Management; UTRAN/GERAN network resources IRP: Network Resource Model)
- SP-030283** 15 Rel-4/5 CR 32.64x/65x/615 (Configuration Management; UTRAN/GERAN/Bulk CM IRP) :
Deletion of attribute relationType

BB: Network Infrastructure Management **(OAM-NIM) 3/4**



WTC1 RG (Maintenance of 32.6xx series) **2/2**

SA approval is requested for

- SP-030284** 2 Rel-4/5 CR 32.615 (Configuration Management; Bulk CM IRP: XML file format definition) : Correction of Bulk CM session log file XML element "log" declaration
- SP-030285** Rel-5 CR 32.645 (UTRAN network resources IRP: Bulk CM XML file format definition) : Remove UTRAN NRM XML schema duplicate MOC attribute XML declarations
- SP-030286** Rel-5 CR 32.654 (Configuration Management; GERAN network resources IRP: CMIP solution set):
Alignment of object class names to externalGsmCell
- Alignment with 32.624
- SP-030287** 5 Rel-5 CR 32.615/25/35/45/55 (Configuration Management; Bulk CM/ Generic/ Core/ UTRAN/ GERAN network resources IRP: Bulk CM XML file format definition):
Correction of namespace URIs
- SP-030288** 5 Rel-5 CR 32.615/25/35/45/55 (Configuration Management; Bulk CM/ Generic/ Core/ UTRAN/ GERAN network resources IRP: Bulk CM XML file format definition):
Generic NRM XML schema dependencies removal

BB: Network Infrastructure Management (OAM-NIM) 4/4



WT04 RG (Alignment of CMCC/SA5 CM framework)

SA approval is requested for

SP-030289 Rel-6 CR 32.664 (Configuration Management; Kernel CM
IRP: CMIP solution set) :
Correction to notifyCMSynchronizationRecommendedInfo

WT07 RG (Generic File Transfer IRP)

SA is invited to note

SP-030290 **New** Rel-6 TS 32.341 (File Transfer Integration Reference
Point (IRP): Requirements) - **for Information**

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BB: Performance Management (OAM-PM)



SA approval is requested for

- SP-030291** 5 Rel-99/4/5 CR 32104/32.401 (Performance Management; Concept and requirements)
- SP-030292** 3 Rel-4/5 CR 32403 (Performance Management; Performance measurements - UMTS and combined UMTS/GSM)
- SP-030293** 2 Rel-6 CR 32403 (Performance Management; Performance measurements - UMTS and combined UMTS/GSM)
- SP-030294** **New** Rel-6 TS 32.411 (Performance Management IRP: Requirements) - **for Approval**

SA is invited to note

- SP-030295** **New** Rel-6 TS 32.412 (Performance Management IRP: Information service) - **for Information**

The End

See you next time !

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