3GPP TR 30.821 V0.4.0 (2011-09)

Technical Report

3rd Generation Partnership Project;
Technical Specification Group Services and System Aspects;
Telecommunication management;
Project scheduling and open issues for SA5
(Release 11)

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Contents

1 Scope

The present document contains the up-to-date SA5 Work Item Descriptions (WIDs) and captures the status of all SA5 work items in the current Release.
This TR is used as a mean to provide input to the 3GPP work plan handled by MCC.
Status list of Work items can be found in Annex A of the present document.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] http://www.3gpp.org/ftp/Information/WORK_PLAN/
[2] http://www.3gpp.org/ftp/Information/WI_Sheet/

1 Charging for Network Provided Location Information for IMS

1.1 Charging for Network Provided Location Information for IMS (NWK-PL2IMS_CH) UID_490029

TSG SA Meeting #51SP-110125
21 - 23 Mar 2011, Kansas City, USA

3GPP TSG-SA5 (Telecom Management) S5-110356
SA5#75, 24 - 28 Jan 2011; Sorrento, ITALY *revision of SP-100638*
TSG SA Meeting #49SP-100638
20-23 Sep 2010, San Antonio, USA

1 3GPP Work Area

	Radio Access
x	Core Network
	Services

2 Classification of WI and linked work items
2.0 Primary classification
This work item is a …

	Study Item (go to 2.1)
	Feature (go to 2.2)
X	Building Block (go to 2.3)
	Work Task (go to 2.4)

2.1 Study Item

Related Work Item(s) (if any]		
Unique ID	Title	Nature of relationship

Go to §3.
2.2 Feature

Related Study Item or Feature (if any)		
Unique ID	Title	Nature of relationship

Go to §3.
2.3 Building Block

Parent Feature (or Study Item)		
Unique ID	Title	TS
480038	Network Provided Location Information for IMS	The present WI is a Building Block under this SA2-led Rel-11 Feature

This work item is …

	Stage 1 (go to 2.3.1)
X	Stage 2 (go to 2.3.2)
X	Stage 3 (go to 2.3.3)
	Test spec (go to 2.3.4)
	Other (go to 2.3.5)

2.3.1 Stage 1

Source of external requirements (if any)		
Organization	Document	Remarks
3GPP SA1	TS 22.115	

Go to §3.
2.3.2 Stage 2

Corresponding stage 1 work item		
Unique ID	Title	TS

Other source of stage 1 information		
TS or CR(s)	Clause	Remarks

If no identified source of stage 1 information, justify:
Go to §3.

2.3.3 Stage 3

Corresponding stage 2 work item (if any)		
Unique ID	Title	TS

Else, corresponding stage 1 work item		
Unique ID	Title	TS
-	-	SA1 TS 22.115

Other justification		
TS or CR(s) Or external document	Clause	Remarks

If no identified source of stage 2 information, justify:
Go to §3.

2.3.4 Test spec

Related Work Item(s)		
Unique ID	Title	TS

Go to §3.

2.3.5 Other

Related Work Item(s)			
Unique ID	Title	Nature of relationship	TS / TR

Go to §3.

2.4 Work task

Parent Building Block		
Unique ID	Title	TS

3 Justification

In the IMS Charging, location information is provided currently by the UE via SIP P-Access-Network-Information header. As this information provided by the UE cannot be trusted, it is not usable for a list of features:
IMS Charging records need the current location information. The CDRs generated within IMS have to contain network provided location information, e.g. cell-ID. This applies for all CDRs from any user/session.
The destination for VoIP emergency calls shall be recorded by IMS Charging with trusted location information.
IMS Charging needs the location information to charge localized services. Network provided location information shall be available to any IMS AS subject to appropriate charging and billing.
For this reason it is required that a network trusted location information both for mobile and for fixed networks is provided.

4 Objective

The intention of this work item is to specify the solutions for IMS Charging with trusted Location information, e.g. add the cell-ID / PLMN ID the UE is camped on available for LTE to the IMS Charging when the operator needs to record this information for charging purposes.

5 Service Aspects

Not identified in this work item.

6 MMI-Aspects

N/A

7 Charging Aspects

Trusted location information shall be added to IMS Charging. The location information shall be provided for both offline and online charging mechanisms, irrespective of the access type, and across a comprehensive set of services.
Additionally, network operators require that this information can be exchanged between and evaluated by several network operators.

8 Security Aspects

Not identified in this work item.

9 Impacts

Affects:	UICC apps	ME	AN	CN	Others
Yes				X	
No	X	X			
Don't know			x		X

10 Expected Output and Time scale

New specifications [If Study Item, one TR is anticipated]						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments

Affected existing specifications [None in the case of Study Items]				
Spec No.	CR	Subject	Approved at plenary#	Comments
32.240		Charging information utilization	SA#54 (12/2011)	**Stage 2:**Charging architecture and principles
32.260		Describe the addition of Network provide location information to IMS Charging	SA#54 (12/2011)	**Stage 2:** IMS Charging architecture and principles
32.298		Define the corresponding ASN.1 definition	SA#55 (03/2012)	**Stage 3:** CDR definition

11 Work item rapporteur(s)

Gerald Görmer, Nokia Siemens Networks

12 Work item leadership

SA5

13 Supporting Individual Members

Supporting IM name
AT&T
Deutsche Telekom
Ericsson
Nokia Siemens Networks
Openet

2 QoS Control Based on Subscriber Spending Limits

2.1 Charging for QoS Control Based on Subscriber Spending Limits (QoS_SSL) UID_500029

3GPP TSG SA Meeting #53 SP-110519
Fukoka, Japan; 19-21 Sep 2011
3GPP TSG-SA5 (Telecom Management) S5-112662
SA5#78, 22-26 August 2011, Istanbul, Turkey

Source: SA5
Title: Revised SP-100644 WID on QoS Control Based on Subscriber Spending Limits (QoS_SSL)
Document for: Approval
Agenda Item: 7.2 New Charging Work Item proposals

1 3GPP Work Area *

	Radio Access
X	Core Network
X	Services

2 Classification of WI and linked work items
2.0 Primary classification *
This work item is a … *

	Study Item (go to 2.1)
X	Feature (go to 2.2)
	Building Block (go to 2.3)
	Work Task (go to 2.4)

2.1 Study Item

Related Work Item(s) (if any]		
Unique ID	Title	Nature of relationship

Go to §3.
2.2 Feature

Related Study Item or Feature (if any) *		
Unique ID	Title	Nature of relationship

Go to §3.
2.3 Building Block

Parent Feature (or Study Item)		
Unique ID	Title	TS

This work item is … *

X	Stage 1 (go to 2.3.1)
X	Stage 2 (go to 2.3.2)
X	Stage 3 (go to 2.3.3)
	Test spec (go to 2.3.4)
	Other (go to 2.3.5)

2.3.1 Stage 1

Source of external requirements (if any) *		
Organization	Document	Remarks

Go to §3.
2.3.2 Stage 2 *

Corresponding stage 1 work item

Unique ID	Title	TS

Other source of stage 1 information		
TS or CR(s)	Clause	Remarks

If no identified source of stage 1 information, justify: *
Go to §3.
2.3.3 Stage 3 *

Corresponding stage 2 work item (if any)		
Unique ID	Title	TS

Else, corresponding stage 1 work item		
Unique ID	Title	TS

Other justification		
TS or CR(s) Or external document	Clause	Remarks

If no identified source of stage 2 information, justify: *
Go to §3.
2.3.4 Test spec *

Related Work Item(s)		
Unique ID	Title	TS

Go to §3.
2.3.5 Other *

Related Work Item(s)			
Unique ID	Title	Nature of relationship	TS / TR

Go to §3.
2.4 Work task *

Parent Building Block		
Unique ID	Title	TS

3 Justification *
Currently, a mobile operator has several means to control subscribers' usage of the network resources, such as admission control policies, negotiation of QoS at session setup, etc. However, a mobile operator needs to have a much finer granularity of control of the subscribers' usage of the network resources by linking the subscribers' data session QoS with a spending limit. This gives the operator the ability to deny a subscriber access to particular services if the subscriber has reached his allocated spending limit within a certain time period. It would be useful if, in addition, the bandwidth of a subscriber's data session could be modified when this spending level is reached. This could be done depending on e.g. the type of service being used by the subscriber, the subscriber's spending limit and amount already spent, and operator's charging models. This allows the operator to have an additional means of shaping the subscriber's traffic in order to avoid subscribers monopolising the network resource at any one time. Since support for roaming scenarios is needed, it needs to be possible to provide support for roaming subscribers without having dedicated support in the visited network.
Upon triggers based on the operator's charging models, the subscriber could be given the opportunity to purchase additional credit that increases the spending limit.
4 Objective *
Stage 1 objectives. To provide use cases and service requirements that allow:
Modification of QoS based on subscriber's spending limits
Enforcing of spending limits for roaming subscribers without having dedicated support in the visited network
The work item is expected to create CRs to TS 22.115.
Stage 2 objectives:
Provide stage 2 specification for the requirements identified in TS 22.115.
SA5 TS 32.240 for charging document umbrella
SA5 TS 32.296 for the modification of the OCS architecture and logical function definition for spending limit control

SA5 TS 32.299 for potential impact on Diameter application description

5 Service Aspects
This work item aims to provide the operator a means to control access to certain services and QoS of data sessions based on a subscriber's spending limits.
6 MMI-Aspects
None identified.
7 Charging Aspects
Charging aspects are part of this work item.
8 Security Aspects
None identified.
9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes				x	
No			x		
Don't know	x	x			X

10 Expected Output and Time scale *

New specifications * [If Study Item, one TR is anticipated]						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications * [None in the case of Study Items]						
Spec No.	CR	Subject		Approved at plenary#		Comments
22.115				SA#53 (Sep 2011)	Stage 1 CRs	
23.203		Policy and charging control architecture		SA#54(Dec 2011)	SA2 Stage 2 CRs	
32.240		Potential new description for charging document umbrella		SA#55(Mar 2012)	SA5 Stage 2 CRs	
32.296		New feature description will be considered		SA#55(Mar 2012)	SA5 Stage 2 CRs Modification of the OCS architecture and logical function definition for spending limit control	
32.299		Potential impact on Diameter application description will be considered		SA#56 (Jun 2012)	SA5 Stage 3 CRs Potential impact on Diameter application description will be considered	

11 Work item rapporteur(s) *
SA1: Mona Mustapha, Vodafone
SA2: TBD
SA5: Gerald GOERMER (Nokia Siemens Networks), Mingjun SHAN (Huawei)
12 Work item leadership *
SA1
13 Supporting Individual Members *

Supporting IM name
Vodafone
Verizon Wireless
AT&T
Alcatel-Lucent
Ericsson
NTT DoCoMo
NEC
Nokia Siemens Networks
Openet
Huawei
China Mobile
ZTE

3 OAM&P 11

3.1 Network Infrastructure Management

3.1.1 IRP framework enhancements to support Management of Converged Networks (OAM-FMC-IRP) UID_510056

TSG SA Meeting #51SP-110139
21 - 23 Mar 2011, Kansas City, USA

3GPP TSG-SA5 (Telecom Management) S5-111490
SA5#76, 28 Feb - 4 Mar 2011; San Diego, USA *revision of S5-111199*

1 3GPP Work Area *

x	Radio Access
x	Core Network
	Services

2 Classification of WI and linked work items
2.0 Primary classification *
This work item is a … *

	Study Item (go to 2.1)
X	Feature (go to 2.2)
	Building Block (go to 2.3)
	Work Task (go to 2.4)

2.1 Study Item

Related Work Item(s) (if any]		
Unique ID	Title	Nature of relationship

Go to §3.
2.2 Feature

Related Study Item or Feature (if any) *		
Unique ID	Title	Nature of relationship

Go to §3.
2.3 Building Block

Parent Feature (or Study Item)		
Unique ID	Title	TS

This work item is … *

	Stage 1 (go to 2.3.1)
	Stage 2 (go to 2.3.2)
	Stage 3 (go to 2.3.3)
	Test spec (go to 2.3.4)
	Other (go to 2.3.5)

2.3.1 Stage 1

Source of external requirements (if any) *		
Organization	Document	Remarks

Go to §3.
2.3.2 Stage 2 *

Corresponding stage 1 work item		
Unique ID	Title	TS

Other source of stage 1 information		
TS or CR(s)	Clause	Remarks

If no identified source of stage 1 information, justify: *
Go to §3.
2.3.3 Stage 3 *

Corresponding stage 2 work item (if any)		
Unique ID	Title	TS

Else, corresponding stage 1 work item		
Unique ID	Title	TS

Other justification		
TS or CR(s) Or external document	Clause	Remarks

If no identified source of stage 2 information, justify: *
Go to §3.
2.3.4 Test spec *

Related Work Item(s)		
Unique ID	Title	TS

Go to §3.
2.3.5 Other *

Related Work Item(s)			
Unique ID	Title	Nature of relationship	TS / TR

Go to §3.
2.4 Work task *

Parent Building Block		
Unique ID	Title	TS

3 Justification *
In a fixed mobile convergent (FMC) network, the services offered to end users need resources from networks of different technologies.
NM standards of different technologies are the responsibilities of various standardization organizations (SDOs). Various SDOs may have defined different NM protocols to manage their respective network resources. Their managed resource models are mostly different from one another. Different parts of the large FMC network may be managed by different organizations.
Our key challenge of IRP Framework Enhancements in support of Management of Converged Networks is to recommend a set of specifications whose implementations would a) reduce FMC operators' CAPEX and OPEX and b) facilitate OSS to integrate the various NM services consumed into the so-called "end-to-end" view of the FMC network under management.
Since definitions of network resource models are from different SDOs and the provision of the "end-to-end" view requires defined relations among network resource models, this WI will produce a model architecture, called Federated Network Model (FNM), that identifies various network resource models and their relations among each other.
Since some specifications recommended, including the network resource models, are from other SDO than 3GPP, this WI needs also to produce recommendations on NM standard governance and working procedures with SDOs involved.
4 Objective *
Based on the recommendations and studied results of [1, 2, 3], the objectives of this WI are to:
Create a new TS series on Management of Converged Networks; its stage 1 specification will capture the Requirements, benefits, context and use cases for the Management of Converged Networks; its stage 2 specification will capture the list of NRM IRPs and Interface IRPs that support the requirements for Management of Converged Networks; this new TS series will also capture the Working Procedures and Governance that are required to be established to support requirements for Management of Converged Networks
Issue CRs to "TS 32.101: Telecommunication management; Principles and high level requirements" to capture the concept, general requirement and FNM;

Issue CRs to "TS 32.622: Telecommunication management; Configuration Management (CM); Generic network resources Integration Reference Point (IRP); Network Resource Model (NRM)" to align its model to support the Management of Converged Networks;
Issue CRs to various NRM IRP specifications (e.g. Transport Network Interface IRP) to support the Management of Converged Networks;
Issue CRs to "TS 32.152: Telecommunication management; IRP IS UML repertoire to capture new stereotypes required for the support of Resource Model Enhancements in support of Management of Converged Networks;
Keep backward compatibility with existing 3GPP NRMs as much as possible.
This WI will also take into account use cases and requirements developed by NGMN relating to the management of converged networks.

Ref [1]: 3GPP TR 32.833: Study on Management of Converged Networks;
Ref [2]: 3GPP TR 32.828: Study on Alignment of 3GPP Generic NRM IRP and TMF SID Model;
Ref [3]: 3GPP TR 32.831: Study on Alignment of 3GPP Performance Management and TIP Performance Management;

5 Service Aspects

No impact.

6 MMI-Aspects

No impact.

7 Charging Aspects

No impact.

8 Security Aspects

No impact.

9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes			X	X	
No	X	X			X
Don't know					

10 Expected Output and Time scale *

New specifications * **[If Study Item, one TR is anticipated]**						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
32.xy1	Management of Converged Networks; Requirements	SA5		Dec 2011 SA-54	March 2012 SA-55	
32.xy2	Management of Converged Networks; Stage 2	SA5		Dec 2011 SA-54	March 2012 SA-55	
32.xy3	Management of Converged Networks; Governance & Working Procedures	SA5		Dec 2011 SA-54	March 2012 SA-55	

Affected existing specifications * **[None in the case of Study Items]**				
Spec No.	CR	Subject	Approved at plenary#	Comments
32.xyz		Various NRM IRPs	December 2011 SA-54	
32.101		Principles and high level requirements	December 2011 SA-54	
32.152		UML repertoire	December 2011 SA-54	
32.622		Generic network resources Integration Reference Point (IRP); Network Resource Model (NRM)	December 2011 SA-54	

11 Work item rapporteur(s) *

Thomas Tovinger, Ericsson
Olaf Pollakowski, Nokia Siemens Networks

12 Work item leadership *

SA5

13 Supporting Individual Members *

Supporting IM name
Alcatel-Lucent
Ericsson
Huawei
Motorola
NEC
Nokia Siemens Networks

3.1.2 Management for Carrier Aggregation for LTE (CA-OAM) UID_ 530049

3GPP TSG SA Meeting #53 SP-110520
Fukoka, Japan; 19-21 Sep 2011
3GPP TSG SA WG5 (Telecom Management) Meeting #78 S5-112694
22 - 26 August 2011; Istanbul, Turkey *revision of S5-112339*

1 3GPP Work Area *

X	Radio Access
	Core Network
	Services

2 Classification of WI and linked work items
2.0 Primary classification *
This work item is a … *

	Study Item (go to 2.1)
	Feature (go to 2.2)
	Building Block (go to 2.3)
X	Work Task (go to 2.4)

2.1 Study Item

Related Work Item(s) (if any)		
Unique ID	Title	Nature of relationship

Go to §3.
2.2 Feature

Related Study Item or Feature (if any) *		
Unique ID	Title	Nature of relationship

Go to §3.
2.3 Building Block

Parent Feature (or Study Item)		
Unique ID	Title	TS
510051	Rel-11 Operations, Administration, Maintenance and Provisioning (OAM&P)	N/A

This work item is … *

	Stage 1 (go to 2.3.1)
	Stage 2 (go to 2.3.2)
X	Stage 3 (go to 2.3.3)
	Test spec (go to 2.3.4)
	Other (go to 2.3.5)

2.3.1 Stage 1

Source of external requirements (if any) *		
Organization	Document	Remarks

Go to §3.
2.3.2 Stage 2 *

Corresponding stage 1 work item		
Unique ID	Title	TS

Other source of stage 1 information		
TS or CR(s)	Clause	Remarks

If no identified source of stage 1 information, justify: *
Go to §3.

2.3.3 Stage 3 *

Corresponding stage 2 work item (if any)		
Unique ID	Title	TS
460007	Carrier Aggregation for LTE (LTE_CA)	TSG RAN Rel-10 Feature
460107	Core part: Carrier Aggregation for LTE (LTE_CA-Core)	36.101, 36.104, 36.133, 36.211, 36.212, 36.213, 36.300, 36.302, 36.306, 36.321, 36.331, 36.413, 36.423, 37.104
460207	Perf. part: Carrier Aggregation for LTE (LTE_CA-Perf)	36.101, 36.104, 36.133, 36.141, 37.141, new TR (36.807, 36.808)

Else, corresponding stage 1 work item		
Unique ID	Title	TS

Other justification		
TS or CR(s) Or external document	Clause	Remarks

If no identified source of stage 2 information, justify: *
Go to §3.

2.3.4 Test spec *

Related Work Item(s)		
Unique ID	Title	TS

Go to §3.

2.3.5 Other *

Related Work Item(s)			
Unique ID	Title	Nature of relationship	TS / TR

Go to §3.

2.4 Work task *

Parent Building Block		
Unique ID	Title	TS
510151	Network Infrastructure Management	N/A
510251	Performance Management	N/A
510351	Self-Organizing Networks (SON) - OAM aspects	N/A

3 Justification *

Carrier Aggregation (CA) in LTE is a feature supported from Rel-10. In *Carrier Aggregation* (CA), two or more *component carriers* (CCs) are aggregated in order to support wider transmission bandwidths (up to 100MHz).
CCs are LTE Rel-8/9 compatible. Nevertheless, existing mechanisms (e.g. barring) may be used to avoid Rel-8/9 UEs to camp on a CC.
CA is supported for both contiguous and non-contiguous CCs.
CCs originating from the same eNB need not to provide the same coverage.
When CA is configured, the UE only has one RRC connection with the network.
At RRC connection establishment/re-establishment/handover, only the Primary Cell (PCell) provides the NAS mobility information (e.g. TAI), and at RRC connection re-establishment/handover, only the PCell provides the security input.
PCell can only be changed with handover procedure (i.e. with security key change and RACH procedure).
Depending on UE capabilities, Secondary Cells (SCells) can be configured to form together with the PCell a set of serving cells. For each SCell the usage of uplink resources by the UE in addition to the downlink ones is configurable (the number of DL SCCs (*Secondary Component Carriers)* configured must always be larger or equal to the number of UL SCCs and no SCell can be configured for usage of uplink resources only).
To support CA, the management aspects required for CA also need to be addressed.
The management aspects that need to be particularly taken into account for CA include:
performance measurements and KPIs to evaluate the E-UTRAN that supports CA, for example how to measure number of users/E-RABs in the measured EUtran Cell which acts as Pcell or Scell for some UEs;
required configurations to support CA;
enhancements to support SON functionalities for CA in NM-centralized, EM-centralized and distributed SON architectures, e.g., to take the radio bearer reconfiguration/failures with Scell(s) also into account in MRO;
energy saving perspective in CA.

4 Objective *

The objectives of this work item are to:

identify required performance measurements and KPIs to support CA management
specify required configurations for CA management
identify the use cases and requirements for SON functionality Self-establishment of eNodeB, E-UTRAN ANR, MRO, MLB, CCO and Self-healing in CA, and provide solutions
identify the use cases and requirements for Energy Saving in CA and provide solution extensions
address other management aspects for CA if any
To fulfil the objectives above, coordination with RAN groups may be needed.
To minimize the backward impact introduced by CA management, the existing mechanisms and definitions shall be reused as much as possible.

5 Service Aspects

N/A

6 MMI-Aspects

N/A

7 Charging Aspects

N/A

8 Security Aspects

N/A

9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes			X		
No	X			X	X
Don't know		X			

10 Expected Output and Time scale *

New specifications * [If Study Item, one TR is anticipated]						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments

Affected existing specifications * [None in the case of Study Items]				
Spec No.	CR	Subject	Approved at plenary#	Comments
32.425			SA#57 Sep 2012	E-UTRAN performance measurements
32.761			SA#57 Sep 2012	E-UTRAN NRM IRP Requirements
32.762			SA#57 Sep 2012	E-UTRAN NRM IRP Information Service
32.766			SA#57 Sep 2012	E-UTRAN NRM IRP Solution Sets
32.521			SA#57 Sep 2012	SON Policy NRM IRP Requirements
32.522			SA#57 Sep 2012	SON Policy NRM IRP Information Service
32.526			SA#57 Sep 2012	SON Policy NRM IRP Solution Sets
32.450			SA#57 Sep 2012	E-UTRAN KPI: Definitions
32.451			SA#57 Sep 2012	E-UTRAN KPI: Requirements
32.511			SA#57 Sep 2012	ANR Concepts and Requirements
32.541			SA#57 Sep 2012	Self-healing Requirements
32.551			SA#57 Sep 2012	Energy Saving Management: Concepts and Requirements
32.501			SA#57 Sep 2012	Self-establishment of eNodeBs: Requirements
32.502			SA#57 Sep 2012	Self-establishment of eNodeBs: Information Service
32.506			SA#57 Sep 2012	Self-establishment of eNodeBs: Solution Sets

11 Work item rapporteur(s) *

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12 Work item leadership *

SA5

13 Supporting Individual Members *

Supporting IM name
Nokia Siemens Networks
Ericsson
China Mobile
China Unicom
ZTE
HUAWEI Technologies
Alcatel-Lucent

3.1.3 Network Management for 3GPP Interworking WLAN (IWLAN-OAM&P) UID_530050

3GPP TSG SA Meeting #53 SP-110521
Fukoka, Japan; 19-21 Sep 2011
3GPP TSG SA WG5 (Telecom Management) Meeting #78 S5-112696
22 - 26 August 2011; Istanbul, Turkey *revision of S5-112557*

1 3GPP Work Area *

X	Radio Access
X	Core Network
	Services

2 Classification of WI and linked work items
2.0 Primary classification *
This work item is a … *

	Study Item (go to 2.1)
	Feature (go to 2.2)
	Building Block (go to 2.3)
X	Work Task (go to 2.4)

2.1 Study Item

Related Work Item(s) (if any]		
Unique ID	Title	Nature of relationship

Go to §3.
2.2 Feature

Related Study Item or Feature (if any) *		
Unique ID	Title	Nature of relationship

Go to §3.
2.3 Building Block

Parent Feature (or Study Item)		
Unique ID	Title	TS
510051	Rel-11 Operations, Administration, Maintenance and Provisioning (OAM&P)	N/A

This work item is … *

	Stage 1 (go to 2.3.1)
	Stage 2 (go to 2.3.2)
X	Stage 3 (go to 2.3.3)
	Test spec (go to 2.3.4)
	Other (go to 2.3.5)

2.3.1 Stage 1

Source of external requirements (if any) *		
Organization	Document	Remarks

Go to §3.
2.3.2 Stage 2 *

Corresponding stage 1 work item		
Unique ID	Title	TS

Other source of stage 1 information		
TS or CR(s)	Clause	Remarks

If no identified source of stage 1 information, justify: *
Go to §3.

2.3.3 Stage 3 *

Corresponding stage 2 work item (if any)		
Unique ID	Title	TS
31012	Rel-6 WLAN-UMTS Interworking Rel-6 (WLAN)	TS 23.234
32110	Rel-7 WLAN Interworking – Private Network access from WLAN 3GPP IP Access (WLANPNA)	TS 23.234
370049	Rel-8 Mobility between 3GPP-WLAN Interworking and 3GPP Systems (IWLAN_Mob)	TS 23.327

Else, corresponding stage 1 work item		
Unique ID	Title	TS

Other justification		
TS or CR(s) Or external document	Clause	Remarks

If no identified source of stage 2 information, justify: *
Go to §3.

2.3.4 Test spec *

Related Work Item(s)		
Unique ID	Title	TS

Go to §3.

2.3.5 Other *

Related Work Item(s)			
Unique ID	Title	Nature of relationship	TS / TR

Go to §3.

2.4 Work task *

Parent Building Block		
Unique ID	Title	TS
510151	Network Infrastructure Management	N/A
510251	Performance Management	N/A

3 Justification *

Network Resource Model (NRM) and Performance Management (PM) are important for operators to manage their networks.

However, information management objects and performance data serving for inter-working architecture between 3GPP system and WLAN have not been defined yet.

The inter-working architecture between 3GPP system and WLAN has been specified in several SA2 specifications.

Regarding to 3GPP network interworking with WLAN, the following TS specification is proposed to specify IWLAN architecture and corresponding procedures

3GPP TS 23.234: "3GPP system to Wireless Local Area Network (WLAN) interworking; System description".
3GPP TS 23.327: "Mobility between 3GPP-Wireless Local Area Network(WLAN) interworking and 3GPP systems".

TS 23.234 provides the system description for inter-working between 3GPP systems and WLANs. Specifically, the non-roaming and roaming WLAN inter-working reference models are presented. Some new network elements have been introduced as listed below.

WAG WLAN Access Gateway
PDG Packet Data Gateway
3GPP AAA Server
3GPP AAA proxy

Accordingly, some new reference points (Wn, Wi, Wu, Gn', etc) have been introduced as well.

Depending on the the IWLAN architecture, TS 23.327 has addressed some issues related to IP mobility, in which Home Agent (HA) and a new reference point H1 are introduced.

Regarding to evolved 3GPP interworking with WLAN, the following TS specification is proposed to specify IWLAN architecture and corresponding procedures

3GPP TS 23.402: "Architecture enhancements for non-3GPP accesses".

TS 23.402 provides the architecture for interworking between Evolved 3GPP Packet Switched network and WLAN. Evolved Packet Data Gateway (ePDG) has been introduce to handle untrusted non-3GPP IP access. Several new reference points(s2a, s2b and s2c) have been introduced to perform IP mobility.

Management Information Objects and Performance Management data for these new network elements and interfaces should be added in order to fulfil the management requirements from the growing 3GPP/WLAN interworking network.

4 Objective *

The objectives for this work item are to:

Specify NRM IRP requirements for 3GPP inter-working WLAN

Specify NRM for 3GPP inter-working WLAN including new defined network elements (WAG, PDG, 3GPP AAA server/proxy and HA) and related reference points (Wn, Wi, Wp, etc)

Specify Solution Set for 3GPP inter-working WLAN

Specify performance measurements for 3GPP inter-working WLAN

Specify NRM IRP requirements for evolved 3GPP network inter-working WLAN

Specify NRM for evolved 3GPP network inter-working WLAN including new defined network elements (ePDG, 3GPP AAA server/proxy, HA, LMA and MAG) and related reference points (s2a, s2b and s2c)

Specify performance measurements for evolved 3GPP inter-working WLAN

Specify Solution Set for evolved 3GPP inter-working WLAN

5 Service Aspects

N/A

6 MMI-Aspects

N/A

7 Charging Aspects

N/A

8 Security Aspects

N/A

9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes			X	X	
No	X	X			X
Don't know					

10 Expected Output and Time scale *

New specifications * [If Study Item, one TR is anticipated]						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
TS xx.xxx	3GPP interworking WLAN Resource Model (NRM); Integration Reference Point (IRP); Requirements	SA5		SA#56 Jun 2012	SA#57 Sep 2012	
TS xx.xxx	3GPP interworking WLAN Network Resource Model (NRM); Integration Reference Point (IRP); Information Service (IS)	SA5		SA#56 Jun 2012	SA#57 Sep 2012	
TS xx.xxx	3GPP interworking WLAN Network Resource Model (NRM); Integration Reference Point (IRP); Solution Set (SS) definitions	SA5		SA#56 Jun 2012	SA#57 Sep 2012	
TS xx.4xx	Performance Management (PM); Performance measurements for 3GPP interworking WLAN	SA5		SA#56 Jun 2012	SA#57 Sep 2012	

TS xx.xxx	Evolved 3GPP interworking WLAN Resource Model (NRM); Integration Reference Point (IRP); Requirements	SA5		SA#56 Jun 2012	SA#57 Sep 2012	
TS xx.xxx	Evolved 3GPP interworking WLAN Network Resource Model (NRM); Integration Reference Point (IRP); Information Service (IS)	SA5		SA#56 Jun 2012	SA#57 Sep 2012	
TS xx.xxx	Evolved 3GPP interworking WLAN Network Resource Model (NRM); Integration Reference Point (IRP); Solution Set (SS) definitions	SA5		SA#56 Jun 2012	SA#57 Sep 2012	
TS xx.4xx	Performance Management (PM); Performance measurements for evolved 3GPP interworking WLAN	SA5		SA#56 Jun 2012	SA#57 Sep 2012	

Affected existing specifications *
[None in the case of Study Items]

Spec No.	CR	Subject	Approved at plenary#	Comments
TS 32.632		Add 3GPP interworking WLAN management	SA#57 Sep 2012	Configuration Management; Core Network Resources IRP; Network Resource Model
TS 32.636		Add 3GPP interworking WLAN management	SA#57 Sep 2012	Configuration Management; Core network resources IRP; Solution Set Definitions
TS 32.752		Add 3GPP interworking WLAN management	SA#57 Sep 2012	Configuration Management; GERAN network resources IRP; Network Resource Model
TS 32.756		Add 3GPP interworking WLAN management	SA#57 Sep 2012	Configuration Management; GERAN network resources IRP; Solution Set definitions

11 Work item rapporteur(s) *
Gang Chen (Chengang@chinamobile.com), Jian Li (lijian@chinamobile.com)
12 Work item leadership *
SA5
13 Supporting Individual Members *

Supporting IM name
China Mobile
AT&T
Intel
Huwei
ZTE
ETRI
Deutsche Telecom

3.2 Performance Management

3.2.1 IMS Performance Management enhancements (OAM-ePM-IMS) UID_510057

TSG SA Meeting #51SP-110134
21 - 23 Mar 2011, Kansas City, USA

3GPP TSG-SA5 (Telecom Management) S5-110518
SA5#75, 24 - 28 Jan 2011; Sorrento, ITALY *revision of S5-110494*

1 3GPP Work Area *

	Radio Access
X	Core Network
	Services

2 Classification of WI and linked work items
2.0 Primary classification *
This work item is a … *

	Study Item (go to 2.1)
	Feature (go to 2.2)
	Building Block (go to 2.3)
X	Work Task (go to 2.4)

This work item is … *

	Stage 1 (go to 2.3.1)
	Stage 2 (go to 2.3.2)
X	Stage 3 (go to 2.3.3)
	Test spec (go to 2.3.4)
	Other (go to 2.3.5)

2.3.3 Stage 3 *

Corresponding stage 2 work item (if any)		
Unique ID	Title	TS
410034	Stage 2 - IMS Service Continuity Enhancements: Service, Policy and Interactions Rel-9	23.838, 23.237, 23.292, 23.216
410035	Stage 2 - IMS Centralized Services Rel-9	23.292, 23.883
450029	Stage 2 - IMS Inter-UE Transfer enhancements	23.237, 23.292, 23.831
470028	Stage 2 for IMS Emergency Session Enhancements Rel-10	23.167

Else, corresponding stage 1 work item		
Unique ID	Title	TS
400044	Stage 1 for eMMTel Rel-9	22.173
440152	Stage 1 - IMS Service Continuity – Inter Device Transfer enhancements	22.228
470027	Stage 1 for IMS Emergency Session Enhancements Rel-10	22.101

2.4 Work task *

Parent Building Block		
Unique ID	Title	TS
5100xy	Performance Management (OAM11-PM)	Note: this is a Rel-11 umbrella BB (no dedicated WID needed)

3 Justification *
Performance Management (PM) is important for operators to manage their networks. Currently performance measurements for IMS have been defined in SA5 TS 32.409 but the content is still far away from completion. Although some IMS supplementary services related measurements have been described in TS 32.409, a number of additional ones still need to be defined such as ACR, MCID, ECT, CCBS, CCNR, CW, CF, CD, CUG, 3PTY, MWI, FA, CAT, etc.
Furthermore, with the evolved IMS specifications in 3GPP stage 1 and stage 2, not only MMTel AS supplementary services but also other IMS based services e.g., emergency call services IMS Centralized Services and IMS Service Continuity have been studied and standardised in 3GPP. In order to monitor and evaluate the whole IMS network performance, the related IMS services performance management enhancements should be made.
4 Objective *
For IMS performance measurement enhancement work, a set of performance management measurement definitions shall be defined based on well described use cases.

The following are examples of IMS performance measurements for standardization:
Emergency session related measurements
MMTel AS and supplementary services related measurements
IMS Service Continuity related measurements
5 Service Aspects
N/A
6 MMI-Aspects
N/A
7 Charging Aspects
N/A
8 Security Aspects
N/A
9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes				X	
No	X	X	X		X
Don't know					

10 Expected Output and Time scale *

New specifications * [If Study Item, one TR is anticipated]						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications * [None in the case of Study Items]						
Spec No.	CR	Subject			Approved at plenary#	Comments
32.409					SA#54 Dec 2011	Performance measurements IP Multimedia Subsystem (IMS)

11 Work item rapporteur(s) *
Guo Wenjie, ZTE Corporation
12 Work item leadership *
SA5
13 Supporting Individual Members *

Supporting IM name
ZTE
China Mobile
China Unicom
Vodafone
Orange

3.2.2 Enhanced Management of UE based network performance measurements (OAM-ePM-UE) UID_510058

TSG SA Meeting #51SP-110135
21 - 23 Mar 2011, Kansas City, USA

3GPP TSG-SA5 (Telecom Management) S5-110537
SA5#75, 24 - 28 Jan 2011, Sorrento, ITALY *revision of S5-110517*

1 3GPP Work Area *

X	Radio Access
X	Core Network
	Services

2 Classification of WI and linked work items
2.0 Primary classification *
This work item is a … *

	Study Item (go to 2.1)
	Feature (go to 2.2)
	Building Block (go to 2.3)

X	Work Task (go to 2.4)

Go to §3.

2.3 Building Block

Parent Feature (or Study Item)		
Unique ID	Title	TS
5100xy	OAM&P 11 (OAM11)	Note: this is a Rel-11 umbrella Feature (no dedicated WID needed)

This work item is … *

	Stage 1 (go to 2.3.1)
X	Stage 2 (go to 2.3.2)
X	Stage 3 (go to 2.3.3)
	Test spec (go to 2.3.4)
	Other (go to 2.3.5)

Go to §3.

2.4 Work task *

Parent Building Block		
Unique ID	Title	TS
5100xy	Performance Management (OAM11-PM)	Note: this is a Rel-11 umbrella BB (no dedicated WID needed)

3 Justification *

SA5 Rel-10 work on "Management of UE based network performance measurements" (UID_470042) provides the solutions for supporting of MDT RAN functionality in Rel-10. But there are some important enhancement required to be further investigated based on Rel-10 agreement on the following aspect:

Accurate location acquisition:

From operator point of view, accurate location is important for MDT and it's the base for accurate analysis. Accurate location information can improve the granularity in coverage hole detection, coverage map visualization, and further coverage optimization, etc.

The location availability was intensively discussed in Rel-10 but could not be finalized due to time limitation.

The following location coordination options were discussed to acquire the accurate location for MDT measurements in Rel-10. It would be beneficial to continue the work in Rel-11:

Location coordination in eNB

Location coordination in MME

Location coordination in UE

Device capability: More operator controllable device capability criteria like battery status, memory size, position capabilities etc. may be needed for better control of the selection of UE for the MDT campaign.

Support of more MDT measurements according to the TSG RAN discussion on MDT (if needed).

The work in SA5 has dependencies with other SA or RAN groups and the features in this work item will require co-ordination/discussion with the related groups.

Investigate whether MDT needs to be enhanced to further reduce OPEX.

4 Objective *

Enhance MDT OAM requirements and solutions for UMTS and LTE in line with the RAN Rel-10 work on "Minimization of Drive Tests for E-UTRAN and UTRAN" (UID_460003).

The following aspects are required to be specified:

Define the procedures/mechanisms to get accurate location information.

Investigate the possible enhanced device capability criteria to provide better operator control for UE selection and define the corresponding management and procedure support.

Define the configuration support to more MDT measurements according to RAN working progress.

Investigate whether MDT can be further enhanced to further reduce OPEX and define the corresponding solutions.

The operations for MDT management and procedures for MDT data propagation will make use of the existing SA5 solutions as much as possible.

5 Service Aspects

N/A

6 MMI-Aspects

N/A

7 Charging Aspects

N/A

8 Security Aspects

N/A

9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes			X	X	

No	X	X			
Don't know					X

10 Expected Output and Time scale *

New specifications * [If Study Item, one TR is anticipated]						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications * [None in the case of Study Items]						
Spec No.	CR	Subject			Approved at plenary#	Comments
32.421		Enhanced Management of UE based network performance measurements			SA#56 Jun 2012	Trace concepts and requirements
32.422		Enhanced Management of UE based network performance measurements			SA#57 Sep 2012	Trace control and configuration management
32.423		Enhanced Management of UE based network performance measurements			SA#58 Dec 2012	Trace data definition and management
32.441		Enhanced Management of UE based network performance measurements			SA#56 Jun 2012	Trace Management IRP Requirements
32.442		Enhanced Management of UE based network performance measurements			SA#57 Sep 2012	Trace Management IRP Information Service (IS)
32.446		Enhanced Management of UE based network performance measurements			SA#58 Dec 2012	Trace Management IRP Solution Set (SS) definitions

11 Work item rapporteur(s) *

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12 Work item leadership *

SA5

13 Supporting Individual Members *

Supporting IM name
Huawei
Alcatel-Lucent
Orange
China Mobile
Nokia Siemens Networks
Ericsson
Motorola Solutions
Vodafone
ZTE
NEC
AT&T
Deutsche Telekom

3.2.3 CN performance measurements enhancement (OAM-ePM-CN) UID_520034

3GPP TSG SA Meeting #52 SP-110275
Bratislava, Slovakia, 06 – 08 June, 2011
3GPP TSG-SA5 (Telecom Management) S5-112134
SA5#77, 9-13 May 2011; Shenzhen, P.R. China *revision of S5-111868, S5-112111*

1 3GPP Work Area *

	Radio Access
X	Core Network
	Services

2 Classification of WI and linked work items
2.0 Primary classification *
This work item is a … *

	Study Item (go to 2.1)
	Feature (go to 2.2)
	Building Block (go to 2.3)
X	Work Task (go to 2.4)

2.4 Work task *

Parent Building Block		
Unique ID	Title	TS
510251	Performance Management (OAM11-PM)	Note: this is a Rel-11 umbrella BB (no dedicated WID needed)

3 Justification *
Performance Management (PM) is important for operators to manage their networks. Currently performance measurements for core network have been defined in TS 32.406 and TS 32.407. According to network operation and management requirement, specific measurements related to common core network for GSM and UMTS need to be enhanced, such as handover, MO and MT related measurements must be distinguished with GSM and UMTS, since they are very useful to analyze network load balance and predict traffic etc.
In the case of Direct Tunnel function enabled, which is in Iu mode that allows the SGSN to establish a direct user plane tunnel between RAN and GGSN (for connectivity with GGSN through Gn/Gp) or S-GW (for connectivity through S4) within the PS domain, the network performance should be monitored, but the related measurements are not defined in current specification TS 32.406 and TS 32.426.
4 Objective *
For core network performance measurement enhancement work, a set of performance management measurement definitions shall be defined based on well described use cases.
The following are examples of core network performance measurements for standardization:
- Intra-MscServer or inter-MscServer handover performance based on ALink and IucsLink
- MO and MT calls related measurements based on ALink and IucsLink
- Direct Tunnel related measurements.
5 Service Aspects
N/A
6 MMI-Aspects
N/A
7 Charging Aspects
N/A
8 Security Aspects
N/A
9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes				X	
No	X	X	X		X
Don't know					

10 Expected Output and Time scale *

New specifications * [If Study Item, one TR is anticipated]						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications * [None in the case of Study Items]						

Spec No.	CR	Subject	Approved at plenary#	Comments
32.406			SA#54 Dec 2011	Performance measurements; Core Network (CN) Packet Switched (PS) domain
32.407			SA#54 Dec 2011	Performance measurements; Core Network (CN) Circuit Switched (CS) domain
32.426			SA#54 Dec 2011	Performance measurements Evolved Packet Core network (EPC)

11 Work item rapporteur(s) *

Liang Shuangchun (liangshuangchun@cmdi.chinamobile.com), Li Jian (lijian@chinamobile.com)

12 Work item leadership *

SA5

13 Supporting Individual Members *

Supporting IM name
China Mobile
Deutsche Telekom
ZTE
Nokia Siemens Networks
Huawei

3.3 Self-Organizing Networks (SON) - OAM aspects

3.3.1 UTRAN Self-Organizing Networks (SON) management (OAM-SON-UTRAN) UID_510059

3GPP TSG SA Meeting #53 SP-110518
Fukoka, Japan; 19-21 Sep 2011
3GPP TSG SA WG5 (Telecom Management) Meeting #78 S5-112587
22 - 26 August 2011; Istanbul, Turkey revision of S5-112325
1 3GPP Work Area *

X	Radio Access
	Core Network
	Services

2 Classification of WI and linked work items
2.0 Primary classification *
This work item is a … *

	Study Item (go to 2.1)
	Feature (go to 2.2)
	Building Block (go to 2.3)
X	Work Task (go to 2.4)

2.4 Work task *

Parent Building Block		
Unique ID	Title	TS
5100xy	Self-Organizing Networks (SON) - OAM aspects	Note: this is a Rel-11 umbrella BB (no dedicated WID needed)

3 Justification *
For LTE, SON (Self-Organizing Networks) concept and many features have been discussed and standardised.
The SON target is to maintain network quality and performance with minimum manual intervention from the operator.
Introducing SON functions into the UTRAN legacy is also very important for operators to minimize OPEX.
Automatic Neighbour Relation (ANR) function, specified in the LTE context, automates the discovery of neighbour relations. ANR can help the operators to avoid the burden of manual neighbour cell relations management.
TSG RAN introduced SON ANR in UTRAN as well (UID_480020 Automatic Neighbour Relation (ANR) for UTRAN).
Self-optimization functionalities will monitor and analyze performance measurements, notifications, and self-test results and will automatically trigger re-configuration actions on the affected network node(s) when necessary.
This will significantly reduce manual interventions and replace them with automatically triggered re-optimizations or re-configurations thereby helping to reduce operating expenses.
Minimization of Drive Tests (MDT) for E-UTRAN and UTRAN is an important topic in 3GPP Rel-10.
With the help of standardized UTRAN MDT solutions, Capacity and Coverage Optimization (CCO) for UTRAN should also be considered in UTRAN SON activities.
4 Objective *
A) Identify the management aspects for the following SON use cases in the context of UTRAN:
Automatic Neighbour Relation (ANR), including
- Intra-UTRAN ANR,
- UTRAN IRAT ANR from UTRAN to GERAN, and
- UTRAN IRAT ANR from UTRAN to E-UTRAN.

Self-optimization
Capacity and Coverage Optimization (CCO)
Other self-optimization use cases are FFS
B) Specify UTRAN SON management solutions capturing the unique aspects of UTRAN SON management
C) Specify common SON management solution capturing the common SON management part of E-UTRAN and UTRAN
D) Update if needed existing SON management specs according to UTRAN SON and common SON management agreement
E) In addition to UTRAN ANR, identify management aspect for E-UTRAN IRAT ANR, i.e:
- ANR from E-UTRAN to GERAN,
- ANR from E-UTRAN to UTRAN, and
- ANR from E-UTRAN to CDMA2000.

5 Service Aspects
N/A
6 MMI-Aspects
N/A
7 Charging Aspects
N/A

8 Security Aspects
N/A
9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes			X		
No	X	X			
Don't know				X	X

10 Expected Output and Time scale *

New specifications * [If Study Item, one TR is anticipated]						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications * [None in the case of Study Items]						
Spec No.	CR	Subject		Approved at plenary#	Comments	
32.405		Add UTRAN SON Management		SA#57 Sep 2012	PM; Performance measurements (UTRAN)	
32.500		Add UTRAN SON Management		SA#56 Jun 2012	SON Concepts and requirements	
32.511		Add UTRAN SON Management		SA#56 Jun 2012	Automatic Neighbour Relation (ANR) management; Concepts and requirements	
32.521		Add UTRAN SON Management		SA#56 Jun 2012	SON Policy NRM IRP Requirements	
32.522		Add UTRAN SON Management		SA#57 Sep 2012	SON Policy NRM IRP Information Service (IS)	
32.526		Add UTRAN SON Management		SA#57 Sep 2012	SON Policy NRM IRP Solution Set (SS) definitions	
32.642		Add UTRAN SON Management		SA#57 Sep 2012	CM; UTRAN network resources IRP NRM	
32.646		Add UTRAN SON Management		SA#57 Sep 2012	CM; UTRAN network resources IRP Solution Set (SS) definitions	

11 Work item rapporteur(s) *
Huawei (Kai ZHANG, kai.zhangkai@huawei.com)
12 Work item leadership *
SA5
13 Supporting Individual Members *

Supporting IM name
Huawei Technologies
Orange
Deutsche Telekom
Vodafone
AT&T
Ericsson
QUALCOMM
Alcatel-Lucent
Telecom Italia
Nokia Siemens Networks

3.3.2 LTE Self-Organizing Networks (SON) coordination management (OAM-SON-COOR) UID_510051

3GPP TSG SA Meeting #53 SP-110522
Fukoka, Japan; 19-21 Sep 2011
3GPP TSG SA WG5 (Telecom Management) Meeting #78 S5-112711
22 - 26 August 2011; Istanbul, Turkey *revision of S5-112708*

1 3GPP Work Area *

X	Radio Access
	Core Network
	Services

2 Classification of WI and linked work items
2.0 Primary classification *
This work item is a … *

	Study Item (go to 2.1)
	Feature (go to 2.2)
	Building Block (go to 2.3)
X	Work Task (go to 2.4)

2.1 Study Item

Related Work Item(s) (if any]		
Unique ID	Title	Nature of relationship

Go to §3.

2.2 Feature

Related Study Item or Feature (if any) *		
Unique ID	Title	Nature of relationship

Go to §3.

2.3 Building Block

Parent Feature (or Study Item)		
Unique ID	Title	TS

This work item is … *

	Stage 1 (go to 2.3.1)
	Stage 2 (go to 2.3.2)
	Stage 3 (go to 2.3.3)
	Test spec (go to 2.3.4)
	Other (go to 2.3.5)

2.3.1 Stage 1

Source of external requirements (if any) *		
Organization	Document	Remarks

Go to §3.

2.3.2 Stage 2 *

Corresponding stage 1 work item		
Unique ID	Title	TS

Other source of stage 1 information		
TS or CR(s)	Clause	Remarks

If no identified source of stage 1 information, justify: *

Go to §3.

2.3.3 Stage 3 *

Corresponding stage 2 work item (if any)		
Unique ID	Title	TS

Else, corresponding stage 1 work item		
Unique ID	Title	TS

Other justification		
TS or CR(s) Or external document	Clause	Remarks

If no identified source of stage 2 information, justify: *

Go to §3.

2.3.4 Test spec *

Related Work Item(s)		
Unique ID	Title	TS

Go to §3.

2.3.5 Other *

Related Work Item(s)			
Unique ID	Title	Nature of relationship	TS / TR

Go to §3.

2.4 Work task *

Parent Building Block		
Unique ID	Title	TS
5100xy	Self-Organizing Networks (SON) - OAM aspects	Note: this is a Rel-11 umbrella BB (no dedicated WID needed)

3 Justification *

For LTE, SON (Self-Organizing Networks) concept and many features have been discussed and standardised. 3GPP Rel-10 work mainly focused on independent SON function. As more and more SON function management solutions being standardized, the SON coordination is becoming more important. The SON coordination has the following aspects:

1) Coordination between Configuration Management via Itf-N and configuration changes made by SON functions below Itf-N.

2) Coordination between different SON functions. Note the coordination here is not a general statement which means the coordination is needed between every SON functions. The coordination should be analyzed on a case by case basis. The coordination is usually needed for preventing or resolving the conflicting configuration parameter changes triggered by different SON functions and/or between SON function(s) and bulk/basic CM.

Besides this kind of typical case, the coordination includes other cases that there are some relations between SON functions and these relations should be cared to make these SON functions run well and not make negative impacts on each other. The coordination between Cell Outage Compensation and Energy Saving Management, which is described in TS 32.522, is a good example of that.

4 Objective *

Specify SON coordination solutions for the following aspects:

1) Coordination between Configuration Management (bulk/basic CM) via Itf-N and configuration parameters changes made by SON functions below Itf-N. The SON coordination solutions may include management of SON policies (e.g., preference, weight, etc.) and methods for preventing or resolving conflicts between bulk/basic CM and SON functions.

2) Coordination between different SON functions below Itf-N based on case by case approach. SA5 will do any necessary changes on the Itf-N interface, and may send liaison to RAN work groups for any changes required on the X2 interface. The SON coordination solutions may include management of SON policies (e.g., preference, weight, etc.) and methods for preventing or resolving conflicts between SON functions. The coordination includes several typical scenarios:

Coordination between configuration changes triggered by EM centralized SON functions and distributed SON functions.

Coordination between configuration changes triggered by distributed SON functions.

Coordination between SON functions to make these SON functions run well and not make negative impacts on each other.

5 Service Aspects

N/A

6 MMI-Aspects

N/A

7 Charging Aspects

N/A

8 Security Aspects

N/A

9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes			X		
No	X	X			
Don't know				X	X

10 Expected Output and Time scale *

New specifications * [If Study Item, one TR is anticipated]						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments

Affected existing specifications * [None in the case of Study Items]				
Spec No.	CR	Subject	Approved at plenary#	Comments
32.500		Add LTE SON Coordination Management	SA#56 Jun 2012	SON Concepts and requirements
32.521		Add LTE SON Coordination Management	SA#56 Jun 2012	SON Policy NRM IRP Requirements

32.522		Add LTE SON Coordination Management	SA#57 Sep 2012	SON Policy NRM IRP Information Service (IS)
32.526		Add LTE SON Coordination Management	SA#57 Sep 2012	SON Policy NRM IRP Solution Set (SS) definitions
32.762		Add LTE SON Coordination Management	SA#57 Sep 2012	E-UTRAN Network Resource Model (NRM) Integration Reference Point (IRP): Information Service (IS)
32.766		Add LTE SON Coordination Management	SA#57 Sep 2012	E-UTRAN Network Resource Model (NRM) Integration Reference Point (IRP): Solution Set (SS) definitions
32.425		Add LTE SON Coordination Management	SA#57 Sep 2012	Performance Management (PM); Performance measurements Evolved Universal Terrestrial Radio Access Network (E-UTRAN)

11 Work item rapporteur(s) *

Huawei (Kai ZHANG, kai.zhangkai@huawei.com),

Nokia Siemens Networks (Clemens Suerbaum, clemens.suerbaum@nsn.com)

12 Work item leadership *

SA5

13 Supporting Individual Members *

Supporting IM name
Huawei Technologies
Nokia Siemens Networks
AT&T
China Unicom
Deutsche Telekom
ETRI
Intel
Ericsson
PIWorks
ZTE
Alcatel-Lucent

4 Charging Management small Enhancements (CH11) UID_510052

4.1 Add solutions for Rc - reference point within the Online Charging System (OCS) (CH-Rc) UID_470045 Moved from Rel-10

TSG SA Meeting #51SP-110129
21 - 23 Mar 2011, Kansas City, USA

3GPP TSG-SA5 (Telecom Management) S5-111437
Meeting SA5#76, 28 February - 4 March 2011, San Diego, USA *revision of SP-100078*

Technical Specification Group Services and System AspectsTSGS#47(10)0078
Meeting #47; Vienna, Austria; 22-25 March 2010
3GPP TSG-SA5 (Telecom Management) S5-100993
Meeting SA5#70, 1 - 5 Mar 2010, Xiamen, China *revision of S5-100822*

1 3GPP Work Area *

	Radio Access
X	Core Network
	Services

2 Classification of WI and linked work items
2.0 Primary classification *
This work item is a … *

	Study Item (go to 2.1)
	Feature (go to 2.2)
X	Building Block (go to 2.3)
	Work Task (go to 2.4)

2.3 Building Block

Parent Feature (or Study Item)		
Unique ID	Title	TS
5100xy	Charging Management small Enhancements (CH11)	Note: this is a Rel-11 umbrella Feature (no dedicated WID needed)

This work item is … *

	Stage 1 (go to 2.3.1)
	Stage 2 (go to 2.3.2)
X	Stage 3 (go to 2.3.3)
	Test spec (go to 2.3.4)
	Other (go to 2.3.5)

2.3.3 Stage 3 *

Corresponding stage 2 work item (if any)		
Unique ID	Title	TS
410044	Rel-10 SA5 Study on Rc Reference Point Functionalities and Message Flows (FS_CH_Rc)	TR 32.825

Else, corresponding stage 1 work item		
Unique ID	**Title**	**TS**
SA1 various	Charging	TS 22.115 (Service aspects; Charging and billing)

3 Justification *
This work item is triggered by the SA5 Rel-10 study TR 32.825 containing the analysis for requirements, functionality, basic operations and message flows of Rc reference point.
The output of TR 32.825 needs to be incorporated into the corresponding TSs as optional solutions for the Rc reference point (reference point between Online Charging Function (OCF) and Account Balance Management Function (ABMF) within OCS).

4 Objective *
This work item aims to specify the solutions for Rc reference point based on the recommendation in TR 32.825, including functionality, basic operations, message flows, parameter definitions and protocol implementation.

5 Service Aspects
None
6 MMI-Aspects
None
7 Charging Aspects
This is a charging work item.
8 Security Aspects
None
9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes				X	
No	X	X	X		X
Don't know					

10 Expected Output and Time scale *

New specifications * [If Study Item, one TR is anticipated]						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments

Affected existing specifications * [None in the case of Study Items]				
Spec No.	CR	Subject	Approved at plenary#	Comments
32.296		Options to add Rc functionality, basic operations, message flows and parameter definitions in informative Annex	SA#55 Mar 2012	Telecommunication management; Charging management; Online Charging System (OCS): Applications and interfaces
32.299		Diameter protocol Implications	SA#55 Mar 2012	Telecommunication management; Charging management; Diameter charging applications

11 Work item rapporteur(s) *
Mingjun Shan, Huawei [shan.mingjun@huawei.com]
12 Work item leadership *
SA5
13 Supporting Individual Members *

Supporting IM name
Huawei
China Mobile
ZTE
AT&T
Openet
Amdocs
Deutsche Telekom
Nokia Siemens Networks

4.2 Charging for Policy Enhancements for Sponsored Connectivity and Coherent Access to Policy related Data Bases (PEST-CH) UID_510060

TSG SA Meeting #51SP-110127
21 - 23 Mar 2011, Kansas City, USA

3GPP TSG-SA5 (Telecom Management) S5-110535
SA5#75, 24 - 28 Jan 2011; Sorrento, ITALY *revision of SP-110502*

TSG SA Meeting #51SP-110126
21 - 23 Mar 2011, Kansas City, USA

3GPP TSG-SA5 (Telecom Management) S5-111374
SA5#76, 28 Feb - 4 Mar 2011; San Diego, USA *revision of S5-111309* 3GPP Work Area *

	Radio Access
X	Core Network
	Services

2 Classification of WI and linked work items
2.0 Primary classification *
This work item is a … *

	Study Item (go to 2.1)
	Feature (go to 2.2)
X	Building Block (go to 2.3)
	Work Task (go to 2.4)

2.3 Building Block

Parent Feature (or Study Item)		
Unique ID	Title	TS
500006	Rel-10 PEST (Policy Enhancements for Sponsored Connectivity and Coherent Access to Policy related Databases)	-
5100xy	Charging for PEST is specified in Rel-11 due to the freezing of 3GPP Rel-10 in Mar 2011, as a Building Block under the generic SA5 Feature Umbrella: Charging Management small Enhancements (CH11).	-

This work item is … *

	Stage 1 (go to 2.3.1)
	Stage 2 (go to 2.3.2)
X	Stage 3 (go to 2.3.3)
	Test spec (go to 2.3.4)
	Other (go to 2.3.5)

2.3.3 Stage 3 *

Corresponding stage 2 work item (if any)		
Unique ID	**Title**	**TS**
500106	Stage 2 for Policy Enhancements for Sponsored Connectivity and Coherent Access to Policy related Data Bases (Rel-10)	23.002, 23.203 SA#49 work completed as SA2 CRs approved under TEI10 (SP-10557)

3 Justification *
This work item provides the Charging functionality for the Rel-10 Feature-Level work item PEST (Policy Enhancements for Sponsored Connectivity and Coherent Access to Policy related Databases) UID_500006.

With the emerging of innovative IP services, the transactional data usage is becoming more and more prevalent on the mobile. For example, the user downloads a purchased ebook from an online store; the user purchases and downloads a game from an operator store; the user views free trailer clip from an online library to determine whether to buy the entire movie or not. In many cases, the Sponsor (e.g., Application service provider) pays for the user's data usage in order to allow the user to access the Application Service Provider's services. This enables additional revenue opportunities for both the Application service providers and the operators.

In particular, such dynamic data usage provided by the Sponsor allows the operator to increase revenues from the users with limited data plans. The user may have limited data plans allowing only a nominal data volume per month and the Sponsor may dynamically sponsor additional volume for the user to allow access to the services offered by the Application service providers.

The PCC framework can be enhanced to enable such use cases, in particular, it allows the operator to provide service control based on such sponsored services. For example, it allows a dynamic IP flow to be excluded from the user's data plan since a Sponsor might sponsor the data usage for the identified IP flows. For example, the user may use the limited data plan to browse an online store for interested books; but once a book is purchased, the data usage for downloading the book can be granted for free. In addition, the IP flow may also be granted certain level of QoS (e.g. video streaming).

TR 23.813 studied the feasibility of these scenarios of sponsored connectivity in the key issue 1 and converged into a set of extensions to the PCC procedures which will allow the operator to provide sponsored connectivity to sponsor entities.

In addition to Key Issue 1, SA 2 also studied the feasibility of Key issue 2 - Coherent access to Policy related databases within TR 23.813. It enables UDR (User Data Repository) in the PCC architecture as an optional functional entity where PCC related subscriber data can be stored and retrieved by the PCRF through the Ud interface. This deployment scenario does not require SPR and allows the PCRF access to the PCC related subscriber data stored in the UDR.

4 Objective *

The objective is to enhance existing PS/EPS charging with support for the sponsored connectivity sessions in alignment of the Stage 2 TS 23.203.

5 Service Aspects

Covered by the Rel-10 Feature-Level work item PEST (Policy Enhancements for Sponsored Connectivity and Coherent Access to Policy related Databases) UID_500006.

6 MMI-Aspects

Covered by the Rel-10 Feature-Level work item PEST (Policy Enhancements for Sponsored Connectivity and Coherent Access to Policy related Databases) UID_500006.

7 Charging Aspects

This is a Charging Work Item

8 Security Aspects

Covered by the Rel-10 Feature-Level work item PEST (Policy Enhancements for Sponsored Connectivity and Coherent Access to Policy related Databases) UID_500006.

9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes				X	
No	X	X	X		X
Don't know					

10 Expected Output and Time scale *

New specifications * [If Study Item, one TR is anticipated]						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments

Affected existing specifications * [None in the case of Study Items]				
Spec No.	CR	Subject	Approved at plenary#	Comments
32.251		Sponsored connectivity sessions charging enhancements	SA#56 Jun 2012	Charging Data Record (CDR) parameter description
32.298		CDR enhancements	SA#56 Jun 2012	Packet Switched (PS) domain charging
32.299		Diameter charging application enhancements	SA#56 Jun 2012	Diameter charging applications

11 Work item rapporteur(s) *

Patrik Teppo (patrik teppo at ericsson dot com)

12 Work item leadership *

SA5

13 Supporting Individual Members *

Supporting IM name
Alcatel-Lucent
AT&T
Ericsson
Nokia Siemens Networks

5 Transit Inter Operator Identifier for IMS Interconnection Charging in multi operator environment (IOI_IMS_CH) UID_510029

TSG SA Meeting #51SP-110132
21 - 23 Mar 2011, Kansas City, USA

3GPP TSG-SA5 (Telecom Management) S5-110422
SA5#75, 24 - 28 Jan 2011; Sorrento, ITALY *revision of S5-110248*

1 3GPP Work Area *

	Radio Access
X	Core Network
	Services

2 Classification of WI and linked work items
2.0 Primary classification *
This work item is a … *

	Study Item (go to 2.1)
X	**Feature (go to 2.2)**
	Building Block (go to 2.3)
	Work Task (go to 2.4)

This work item is … *

	Stage 1 (go to 2.3.1)
X	Stage 2 (go to 2.3.2)
X	Stage 3 (go to 2.3.3)
	Test spec (go to 2.3.4)
	Other (go to 2.3.5)

2.3.3 Stage 3 *

Corresponding stage 2 work item (if any)		
Unique ID	Title	TS
		Rel-11 CT1 TS 24.229 (IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3)

3 Justification *
Charging requirements defined in SA1 TS 22.115 contain Interconnection Charging (see Clause 4.3.3), where IMS transit scenarios are explicitely listed.
In IMS transit scenarios, one to many transit operators are between the originating and terminating operator. The interconnection business of operators may require to identify all carriers involved in the transit scenario for charging purposes.
Currently, interconnection charging in IMS is only possible where maximum two carriers are included in the charging process, since the P-Charging-Vector Header only contains two Inter Operator Identifiers (“orig-ioi” and “term-ioi”). Thus, transit carriers can not be identified so far. This work item intends to close this gap.
4 Objective *
In order to improve the IMS charging capabilities to reflect transit scenarios in multi operator environments, a Transit IOI shall be added to the IMS Charging data. This parameter will help to identify all carriers involved in the transit scenario.
Since IMS Charging already populates several charging parameters (orig-ioi, term-ioi, icid) based on the P-Charging-Vector defined in the CT1 TS 24.229 (IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3), and CT3 TS 29.165 (Inter-IMS Network to Network Interface (NNI), Stage 3) also supports the transfer of the P-Charging-Vector between interconnected networks in case of a trust relationship, the Transit IOI shall be added to the P-Charging-Vector as well.
Enhancements of the P-Charging-Vector affect 3GPP specifications outside SA5 (e.g. CT1 TS 24.229) and therefore need to be coordinated with CT1 and CT3.
A new Offline- and/or Online Charging AVP for the Transit IOI needs to be added to IMS charging.
5 Service Aspects
None
6 MMI-Aspects
None
7 Charging Aspects
This is a Charging work item

8 Security Aspects

None

9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes				X	
No	X	X	X		x
Don't know					

10 Expected Output and Time scale *

New specifications * [If Study Item, one TR is anticipated]						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments

Affected existing specifications * [None in the case of Study Items]				
Spec No.	CR	Subject	Approved at plenary#	Comments
32.240		Charging Architecture and Principles	SA#54 Dec 2011	Modify the description for Inter-network correlation
32.260		Update Charging Principles for Inter Operator Identifier description (Stage 2)	SA#54 Dec 2011	Add new Transit IOI parameter to IP Multimedia Subsystem (IMS) charging
32.298		Align TS 32.298 with Stage 2 TS 32.260	SA#55 Mar 2012	Add new Transit IOI parameter to Charging Data Record (CDR) parameter description
32.299		Align TS 32.299 with Stage 2 TS 32.260	SA#55 Mar 2012	Add new Transit IOI AVP to Diameter charging application

11 Work item rapporteur(s) *

Matthias Seibel, Deutsche Telekom [matthias.seibel@telekom.de]

12 Work item leadership *

SA5

Coordination needed with CT1 and CT3.

13 Supporting Individual Members *

Supporting IM name
AT&T
China Mobile
Deutsche Telekom
Ericsson
Huawei
Nokia Siemens Network

6 Studies

6.0 Study on Usage Monitoring Control Enhancement (FS_UMONC) UID_520035

TSG SA Meeting #51SP-110349
Bratislava, Slovakia, 06 - 08 June, 2011

1 3GPP Work Area *

	Radio Access
X	Core Network
	Services

2 Classification of WI and linked work items
2.0 Primary classification *
This work item is a … *

X	Study Item (go to 2.1)
	Feature (go to 2.2)
	Building Block (go to 2.3)

3 Justification *
Usage monitoring control has been introduced into PCC since Rel-9 which provides the operator the capability to enforce dynamic policy decisions based on total network usage in real-time. It was enhanced under SAPP Work Item in rel-11 to support usage monitoring for services that are detected by the TDF. It need to be studied if the following requirements can be fulfilled within the existing PCC framework or extensions are needed:
How one service/application can be included in more than one monitoring group.
How a service data flow/application can be disabled from the existing usage monitoring group of services/group of applications.
How to exclude the usage of a particular service data flow/application from the accumulated usage for the IP-CAN session/TDF session.
Operators may have different usage allowance for the same service data flow/application or IP-CAN/TDF session in the different condition, e.g. leisure and busy hour, roaming and non-roaming. It is useful to optimize the procedure to reduce concurrent signalling caused by allowance change due to such condition, e.g. by keeping the accumulated usage value when the usage threshold is changed, but report it only when the next report (e.g. session termination, report on demand from PCRF etc.) is done i.e. to avoid many simultaneous reports .
Furthermore it is needed to study following capability:

How to apply usage control for a subscriber group e.g. the members of a family or a company, or a group of devices belonging to a subscriber, that share the same usage allowance threshold.
4 Objective *
This Study item aims to investigate if enhancements to the existing PCC architecture are needed.
For those that are needed, specify the enhancements to the policy control architecture to lift the possible restrictions of the usage monitoring control as mentioned in the justification part
Specifically, potential enhancements may include:
Derive possible requirements and architecture enhancement for monitoring of one service/application for multiple purposes (can be included in more than one monitoring group).
Derive possible requirements for and study how a service data flow/application can be disabled from the existing usage monitoring group of services/group of applications.
Study the need for and derive possible requirements for excluding the usage of a particular service data flow/application from the accumulated usage for the IP-CAN session/TDF session.
How to optimize the procedure to reduce IP-CAN session/TDF session signalling in general , e.g. by keeping the accumulated usage value when the usage threshold is changed, but report it only when the next report (e.g. session termination, report on demand from PCRF etc.) is done .
Furthermore this study item will investigate various solutions on:
Derive possible requirements and architecture enhancement for usage control for a subscriber group e.g. the members of a family or a company subscriber, or a group of devices belonging to a subscriber that share the same usage allowance threshold.

5 Service Aspects
The proposed work will not impact specific services but is likely to have some impact on aspects of service delivery.
6 MMI Aspects
N/A

7 Charging Aspects
N/A.
8 Security Aspects
N/A
9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes				X	
No	X	X	X		
Don't know					X

10 Expected Output and Time scale *

New specifications * [If Study Item, one TR is anticipated]						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
23.8xx	Usage Monitoring Control Enhancement	SA2		SA#54(Dec 2011)	SA#55(Mar 2012)	
32.8xx	Study on Usage Monitoring Control OCS enhancement	SA5		SA#54(Dec 2011)	SA#55(Mar 2012)	

Affected existing specifications * [None in the case of Study Items]				
Spec No.	CR	Subject	Approved at plenary#	Comments

11 Work item rapporteur(s) *
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Mian Li (Li.Mian@zte.com.cn) (SA1)
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12 Work item leadership *
SA2 (primary)
SA1 (secondary)
SA5 (secondary)
13 Supporting Individual Members *

Supporting IM name
China Telecom
China Unicom
KDDI
BT
Telecom Italia
ZTE
Allot Communications
Tekelec
Bridgewater
GENBAND
Hitachi
Huawei
Openet
Vodafone
NTT Docomo

6.1 Study on version handling (FS_OAM_VH) UID_470050 Moved from Rel-10

Technical Specification Group Services and System Aspects TSGS#47(10)0082
Meeting #47; Vienna, Austria; 22-25 March 2010
3GPP TSG-SA5 (Telecom Management) S5-100338
Meeting SA5#70, 1-5 Mar 2010, Xiamen, P.R. China

1 3GPP Work Area *

X	Radio Access
x	Core Network

	Services

2 Classification of WI and linked work items
2.0 Primary classification *
This work item is a … *

x	Study Item (go to 2.1)
	Feature (go to 2.2)
	Building Block (go to 2.3)
	Work Task (go to 2.4)

2.1 Study Item

Related Work Item(s) (if any)		
Unique ID	Title	Nature of relationship

Go to §3.
2.2 Feature

Related Study Item or Feature (if any) *		
Unique ID	Title	Nature of relationship

Go to §3.
2.3 Building Block

Parent Feature (or Study Item)		
Unique ID	Title	TS

This work item is … *

	Stage 1 (go to 2.3.1)
	Stage 2 (go to 2.3.2)
	Stage 3 (go to 2.3.3)
	Test spec (go to 2.3.4)
	Other (go to 2.3.5)

2.3.1 Stage 1

Source of external requirements (if any) *		
Organization	Document	Remarks

Go to §3.
2.3.2 Stage 2 *

Corresponding stage 1 work item		
Unique ID	Title	TS

Other source of stage 1 information		
TS or CR(s)	Clause	Remarks

If no identified source of stage 1 information, justify: *
Go to §3.
2.3.3 Stage 3 *

Corresponding stage 2 work item (if any)		
Unique ID	Title	TS

Else, corresponding stage 1 work item		
Unique ID	Title	TS

Other justification		
TS or CR(s) Or external document	Clause	Remarks

If no identified source of stage 2 information, justify: *
Go to §3.
2.3.4 Test spec *

Related Work Item(s)		
Unique ID	Title	TS

Go to §3.
2.3.5 Other *

Related Work Item(s)			
Unique ID	Title	Nature of relationship	TS / TR

Go to §3.
2.4 Work task *

Parent Building Block		
Unique ID	Title	TS

3 Justification *
There are a number of issues and inconsistencies with version handling in the current set of SA5 specifications (e.g. IRP specifications, PM specifications, Trace specifications).
Issue 1: Network Resource Model (NRM) object version handling
In today's set of standard IRP specifications, there is support for an IRPManager to retrieve a list from the IRPAgent about which IRPVersion(s) (of the NRM IRP SSs) that the IRPAgent supports, one or more. But if the IRPAgent supports more than one IRPVersion, there is no standardised way to know which IRPVersion that a particular Managed Object (MO) instance belongs to. Thus, there is an information gap on Itf-N which needs to be filled.
Issue 2: Version handling of Interface IRPs versus NRM IRPs
For IRPManager to obtain the IRPVersion(s) of an IRPAgent's supported Interface IRPs and supported NRM IRPs, IRPManager needs different operations. It might be beneficial for IRPManager to use identical/similar/same operation (to achieve some level of consistency) to obtain the two different kind of information.
Issue 3: Version handling of management information such as alarms, measurements and trace data
Currently there is no version handling defined in SA5 for management information such as alarms, measurements and trace data.
Issue 4: SOA support
As we have recently (Rel-9) introduced SOA (Service Oriented Architecture) for IRPs, we should also study if and how the version handling can satisfy the needs of SOA, and how SOA may provide capabilities for a coherent version handling (e.g. registration & discovery).

4 Objective *
To perform a study comprising the following steps:
Document current version handling in SA5 specifications
Identify and agree on the use cases and requirements for for a coherent version handling approach.
Identify alternative solutions with their pros and cons to support the identified requirements. The solutions may comprise rules in the IRP methodology documentation as well as enhancements of existing or new IRP specifications, while utilizing SOA capabilities.
Agree on one of the proposed alternative solutions and document that as a recommendation in the Technical Report's conclusions.

5 Service Aspects
N/A
6 MMI-Aspects
N/A
7 Charging Aspects
N/A
8 Security Aspects
N/A
9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes			X	X	
No	X	X			
Don't know					X

10 Expected Output and Time scale *

New specifications * [If Study Item, one TR is anticipated]						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
TR 32.830	Study on version handling	SA5		TSG SA#50 Dec 2010	TSG SA#54 Dec 2011	

Affected existing specifications * [None in the case of Study Items]				
Spec No.	CR	Subject	Approved at plenary#	Comments

11 Work item rapporteur(s) *
Thomas Tovinger, Ericsson
12 Work item leadership *
SA5
13 Supporting Individual Members *

Supporting IM name
Ericsson
Nokia Siemens Networks
Huawei
Alcatel-Lucent
China Mobile

6.2 Study on Management of Converged Networks (FS_ManCon) UID_480047 Moved from Rel-10

1 3GPP Work Area *

X	Radio Access
X	Core Network
	Services

2 Classification of WI and linked work items
2.0 Primary classification *
This work item is a … *

X	Study Item (go to 2.1)
	Feature (go to 2.2)
	Building Block (go to 2.3)
	Work Task (go to 2.4)

2.1 Study Item

Related Work Item(s) (if any)		
Unique ID	Title	Nature of relationship

Go to §3.
2.2 Feature

Related Study Item or Feature (if any) *		
Unique ID	Title	Nature of relationship

Go to §3.
2.3 Building Block

Parent Feature (or Study Item)		
Unique ID	Title	TS

This work item is … *

	Stage 1 (go to 2.3.1)

	Stage 2 (go to 2.3.2)
	Stage 3 (go to 2.3.3)
	Test spec (go to 2.3.4)
X	Other (go to 2.3.5)

2.3.1 Stage 1

Source of external requirements (if any) *		
Organization	Document	Remarks

Go to §3.

2.3.2 Stage 2 *

Corresponding stage 1 work item		
Unique ID	Title	TS

Other source of stage 1 information		
TS or CR(s)	Clause	Remarks

If no identified source of stage 1 information, justify: *

Go to §3.

2.3.3 Stage 3 *

Corresponding stage 2 work item (if any)		
Unique ID	Title	TS

Else, corresponding stage 1 work item		
Unique ID	Title	TS

Other justification		
TS or CR(s) Or external document	Clause	Remarks

If no identified source of stage 2 information, justify: *

Go to §3.

2.3.4 Test spec *

Related Work Item(s)		
Unique ID	Title	TS

Go to §3.

2.3.5 Other *

Related Work Item(s)			
Unique ID	Title	Nature of relationship	TS / TR

Go to §3.

2.4 Work task *

Parent Building Block		
Unique ID	Title	TS

3 Justification *

The management of fixed and mobile networks is currently structured along silos with different management approaches and little interaction between them. Also the operations departments of the service providers operate today in a quite independent manner. All this leads to high CAPEX and OPEX.

Ever increasing cost pressure requires reducing OPEX and CAPEX. One possibility to do so is by common management of existing as well as converged networks. Common management of existing as well as converged networks is here defined by the following:

- **Harmonisation and alignment of management approaches**: For harmonisation of generic model parts and FM Interface between TMF and 3GPP there are already two Study Items in place in 3GPP. Additionally joint working groups have been formed to drive the work forward. A new study on the PM Interface is under consideration as well.

- **Identification of operational problems and their solutions**: In today's networks there is little or no interaction between the management silos for wireless and wireline management. Removal of these silos will provide solutions for management problems that cannot be addressed today. A main challenge lies in the identification of the potential that can be leveraged by the new harmonized and converged management approach.

- **Management of the converged network**: As the network converges and allows for more services, also this network as such needs to be managed.

The challenges of convergence cannot be solved by 3GPP alone. Instead a close cooperation with other relevant SDOs and industry fora is required.

4 Objective *

The main objectives of this study can be summarized as follows

- Develop use case for
    - (a) Common management of existing multi-technology networks (e.g. wireline, wireless)
    - (b) Management of converged networks
- Identify the main operational problems to be addressed and for which solutions should be provided
- Provide a high level solution proposal for each of the main problems identified above
- Identify SDOs and industry fora which should be involved in the work on convergence
- Set up the required relationships to the above identified bodies

It is not within the scope of this study to address harmonisation of management interfaces. As mentioned above, this is addressed in dedicated study and work items.

5 Service Aspects
None.
6 MMI-Aspects
None.
7 Charging Aspects
None.
8 Security Aspects
None.
9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes			X	X	
No	X	X			X
Don't know					

10 Expected Output and Time scale *

New specifications * [If Study Item, one TR is anticipated]						
Spec No.	Title	Prime rsp WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
32.833	Study on Management of Converged Networks	SA5		SA#54 Dec 2011	SA#54 Dec 2011	

Affected existing specifications * [None in the case of Study Items]				
Spec No.	CR	Subject	Approved at plenary#	Comments

11 Work item rapporteur(s) *
Olaf Pollakowski, Nokia Siemens Networks
12 Work item leadership *
SA5
13 Supporting Individual Members *

Supporting IM name
Alcatel-Lucent
Deutsche Telekom
Ericsson
Huawei
Nokia Siemens Networks
Vodafone
ZTE
Motorola
Orange
Piworks
China Unicom

6.3 Study on User Data Convergence (UDC) information model handling and provisioning: Example Use Cases (FS_UDC_AppUseCase) UID_490039 Moved from Rel-10

1 3GPP Work Area *

	Radio Access
x	Core Network
	Services

2 Classification of WI and linked work items

2.0 Primary classification *

This work item is a … *

X	Study Item (go to 2.1)
	Feature (go to 2.2)
	Building Block (go to 2.3)
	Work Task (go to 2.4)

2.1 Study Item

Related Work Item(s) (if any]		
Unique ID	Title	Nature of relationship

Go to §3.

2.2 Feature

Related Study Item or Feature (if any) *		
Unique ID	Title	Nature of relationship

Go to §3.

2.3 Building Block

Parent Feature (or Study Item)		
Unique ID	Title	TS

This work item is … *

	Stage 1 (go to 2.3.1)
	Stage 2 (go to 2.3.2)
	Stage 3 (go to 2.3.3)
	Test spec (go to 2.3.4)
	Other (go to 2.3.5)

2.3.1 Stage 1

Source of external requirements (if any) *		
Organization	Document	Remarks

Go to §3.

2.3.2 Stage 2 *

Corresponding stage 1 work item		
Unique ID	Title	TS

Other source of stage 1 information		
TS or CR(s)	Clause	Remarks

If no identified source of stage 1 information, justify: *

Go to §3.

2.3.3 Stage 3 *

Corresponding stage 2 work item (if any)		
Unique ID	Title	TS

Else, corresponding stage 1 work item		
Unique ID	Title	TS

Other justification		
TS or CR(s) Or external document	Clause	Remarks

If no identified source of stage 2 information, justify: *

Go to §3.

2.3.4 Test spec *

Related Work Item(s)		
Unique ID	Title	TS

Go to §3.

2.3.5 Other *

Related Work Item(s)			
Unique ID	Title	Nature of relationship	TS / TR

Go to §3.

2.4 Work task *

Parent Building Block		
Unique ID	Title	TS

3 Justification *

TS 32.181 *Framework for Model Handling and Management* discusses various types of information and data models associated with the architecture of User Data Convergence (UDC). These include the Common Baseline Information Model (CBIM), the Specialized Information Model (SpIM), Application Information Models (AIMs), Application Data Models (ADMs), and the Consolidated Data Model (CDM) of the User Data Repository (UDR). Consider Figure 8.1-1 of TS 32.181 showing the operational environment of the UDC displayed below.

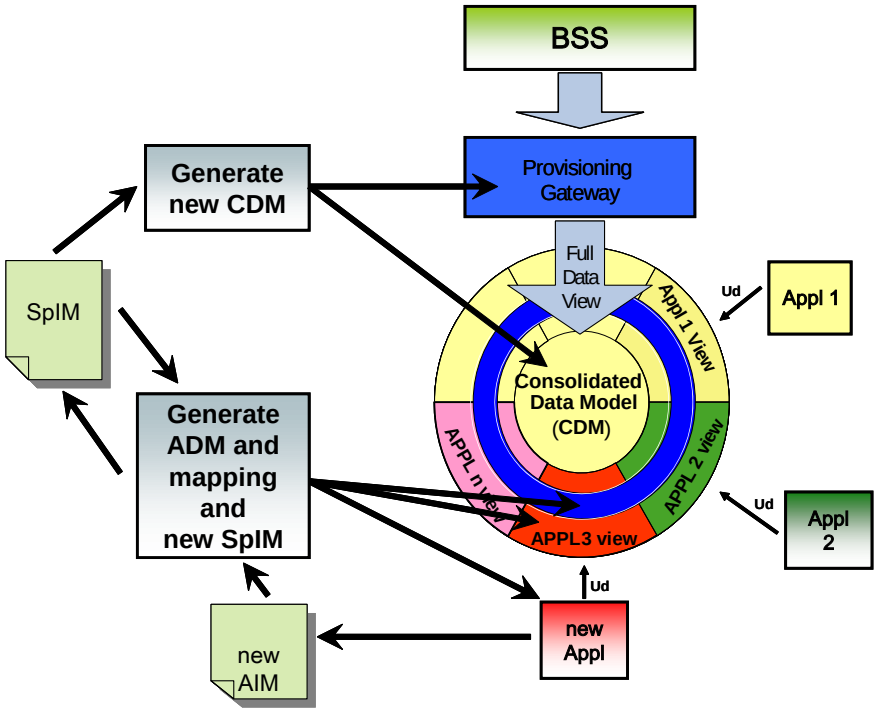

Figure 8.1-1: Evolution of the CDM in a UDR

In addition to the models previously mentioned, this figure introduces the aspect of the Provisioning Gateway, which is essential for the operation of the UDR. The Provisioning Gateway (part of the UDR) provides a single logical point for access to provisioning of user data for **all** services in the UDR. The Provisioning Gateway is shown supporting an interaction with the operator's BSS; by implication this interaction is associated with the provisioning of user subscription and service data in the UDR via the Provisioning Gateway. Although not stated in Release 9 of this specification, there must be a relationship between the BSS interaction with the Provisioning Gateway and the SA5 specifications dealing with Subscription Management, including TS 32.140, TS 32.141, TS 32.172, TS.32.175, and TS 32.176.

This study is proposed to analyze the progression of information models displayed on the left hand side of the above figure using some specific application examples, in particular the applications of HSS-IMS and MMTel. It is proposed to start with a list of Application Data Elements, standardized within 3GPP in such specifications as TS 23.008 and TS 29.364, and investigate how these Application data elements could be used to populate - CBIM-derived entities of an Application Information Model. The investigation would proceed to examine the integration and consolidation of the AIM with example scenario SpIMs to produce new SpIMs. This study also to provide preliminary findings concerning the requirements for the BSS interactions to the Provisioning Gateway as new applications become operational in the UDR and to explore the relationship between this interaction and the Subscription Management (SuM) Network Resource Model (NRM) Integration Reference Point (IRP) Information Service found in TS 32.172 especially for re-use by applications specified outside 3GPP.

4 Objective *

Develop understanding, guidelines, and preliminary requirements for the BSS provisioning capabilities and information model handling when new applications and related services are implemented in the operator's UDR by doing the following:

- Develop several example initial SpIMs for discussion purposes
- Examine what BSS interactions with the Provisioning Gateway would be required to support provisioning of user service and subscription data in the UDR for these SpIMs
- Study the relationship to the information model of TS 32.172
- Develop understanding of CBIM-derived entities of Application Information Models (AIM) for HSS-IMS and MMTel from application data elements available in TS 23.008, TS 29.364 and other relevant standards
- Discuss the integration and consolidation of these AIM entities with the example initial SpIMs above
- Evaluate the potential changes to the BSS provisioning interactions for the implementation of HSS-IMS and MMTel applications in the UDR and implications concerning the information model of TS 32.172.

This work item focuses on the progression of information models and resulting BSS provisioning implications as new applications and services are implemented in the UDR and do not seek to derive findings concerning the Ud reference point.

5 Service Aspects

N/A

6 MMI-Aspects

N/A

7 Charging Aspects

N/A

8 Security Aspects

N/A

9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes				X	
No	X	X	X		X
Don't know					

10 Expected Output and Time scale *

New specifications * [If Study Item, one TR is anticipated]						
Spec No	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
TR 32.901	Study on User Data Convergence (UDC) information model handling and provisioning: Example Use Cases	SA5		SA#54 Dec 2011	SA#55 Mar 2012	

Affected existing specifications * [None in the case of Study Items]				
Spec No	CR	Subject	Approved at plenary#	Comments

11 Work item rapporteur(s) *

Nick Mazzarella, Alcatel-Lucent

12 Work item leadership *
SA5
13 Supporting Individual Members *

Supporting IM name
Alcatel Lucent
Orange
AT&T
China Mobile
Deutsche Telekom

6.4 Study on OAM aspects of inter-RAT Energy Saving (FS_OAM_ES_iRAT) UID_510045

TSG SA Meeting #51SP-110138
21 - 23 Mar 2011, Kansas City, USA

3GPP TSG-SA5 (Telecom Management) S5-111491
Meeting SA5#76, 28 Feb – 4 March 2011, San Diego, USA revision of S5-111342

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Classification of WI and linked work items
2.0 Primary classification
This work item is a …

X	Study Item (go to 2.1)
	Feature (go to 2.2)
	Building Block (go to 2.3)
	Work Task (go to 2.4)

2.1 Study Item

Related Work Item(s) (if any]		
Unique ID	Title	Nature of relationship
430044	Study on Telecommunication Management; Energy Savings Management (FS_OAM_ESM) Rel-10	TR 32.826
470037	OAM aspects of Energy Saving in Radio Networks (OAM-ES) Rel-10	TSs 32.425, 32.762, 32.763, 32.765, 32.767, new 32.551

Go to §3.
3 Justification
Sustainable development is a long-term commitment in which all of us should take part. As part of sustainable development, our fight against global warming should be without respite.
Most mobile network operators aim at reducing their greenhouse emissions, by several means such as limiting their networks' energy consumption. Furthermore, energy costs are rising and form a growing share of the operational expenses of mobile network operators.
SA5 up to now has defined Energy Saving Management functionality for LTE (OAM aspects of Energy Saving in Radio Networks (OAM-ES) UID_470037. Such definitions are not yet present for 3G and 2G mobile networks. But also for these a standardized Energy Saving Management functionality is required. This study will also involve Inter-RAT Energy Saving Management, e.g. when network redundancy is leveraged.
By initiating this Study and the intended follow-up implementation Work Item about OAM aspects of Inter-RAT Energy Savings, SA5 hopes to contribute to the protection of our environment and the environment of future generations.
4 Objective
The objective of this study is to:
Identify the most important Inter-RAT energy saving scenarios and use cases
Identify OAM based concept and requirements for these use cases
Analyse how existing IRPs can be re-used, adapted or extended to fulfil these requirements or if a new IRP is needed.

Select information that should be used to decide if an energy saving cell shall enter or leave energy saving mode.

New elements in IRPs, adaptations or extensions to IRPs may be considered in this study item, but the study item is not limited to them:
LTE ES management functionality for Inter-RAT scenarios
Suitable traffic load measurements (potentially with short granularity periods)
Energy consumption measurements
"low consumption mode" of network resources
Adjust Network Resources Models

Note that SA5 is willing to work in cooperation with RAN WGs where needed.

The time frame for this study item is intentionally set very short. It is intended to create, based on the results of the study, within the Rel-11 time frame a dedicated work item for OAM aspects of Inter-RAT Energy Saving.

*) Note: The following concrete use cases were considered when this study item was created: General scenario: There are two RAT layers.
Use case 1: cells of the different RATs are collocated and have a similar coverage area.
Use case 2: cells of one RATs are not collocated and have a significantly smaller coverage area than the other RAT. Typically cells of the RAT working on higher frequency can be switched off / brought into lower energy consumption mode in low traffic periods, can be switched on again if traffic indicators shows higher traffic than typical in backing cell (potentially also other information can be used to decide if switching cell/s on can really bring benefits to the customer).

5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects:	UICC apps	ME	AN	CN	Others
Yes			X		
No	X	X			X
Don't know					

10 Expected Output and Time scale

New specifications [If Study Item, one TR is anticipated]					
Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
TR 32.834Study on OAM aspects of inter-RAT Energy Saving	SA5		SA#53, Sep 2011	SA#54, Dec 2011	The TR shall describe use cases, concepts and requirements for Inter-RAT Energy Savings Management and proposals how to re-use, adapt, extend existing IRPs.
Affected existing specifications [None in the case of Study Items]					
Spec No.	CR	Subject	Approved at plenary#	Comments	

11 Work item Rapporteur(s)

Nokia Siemens Networks (clemens.suerbaum@nsn.com)

12 Work item leadership

SA5

13 Supporting Individual Members

Supporting IM name
Deutsche Telekom
Nokia Siemens Networks
Telia Sonera
Orange
Motorola
Huawei
Vodafone
Ericsson
Alcatel-Lucent

China Mobile
China Unicom
NEC
ZTE

6.5 Study on management of Heterogeneous Networks (FS_OAM_HetNet) UID_510046

TSG SA Meeting #51SP-110140
21 - 23 Mar 2011, Kansas City, USA

3GPP TSG-SA5 (Telecom Management) S5-111492
SA5#76, 28 Feb - 4 Mar 2011; San Diego, USA *revision of S5-111345*

1 3GPP Work Area *

X	Radio Access
	Core Network
	Services

2 Classification of WI and linked work items
2.0 Primary classification *
This work item is a … *

X	Study Item (go to 2.1)
	Feature (go to 2.2)
	Building Block (go to 2.3)
	Work Task (go to 2.4)

2.1 Study Item

Related Work Item(s) (if any]		
Unique ID	Title	Nature of relationship

3 Justification *

A Heterogeneous Network consists of different types of Base Stations (BSs), such as macro, micro and pico BSs. These types of BSs will be mixed in an operating network. Using low power BSs like micro and pico to enhance coverage and capacity, it is foreseen that there will be very many of these low power BSs in operation. Each of them will cover an area that is significantly smaller than a macro BS. Each of the low power BSs will correspond to a number of objects with attributes and measurements to manage. At the same time, each low power BS is a node in itself and the requirement to manage them are similar as for macro BSs. What performance management information that is wanted is very similar as for macro. The configuration requirements for the cellular network supported by low power nodes are still very similar as for macro nodes. The requirements for being able to generate alarm are still very similar as for macro nodes. As the amount of low power nodes can be very many, a different approach to manage the nodes are needed. They do not necessarily always need be actively connected to the management system. They can use "On Demand" management paradigm. But it is up to the operator to choose which nodes shall use the "on demand" paradigm. "On Demand" paradigm means that nodes are not constantly connected over Itf-N to the IRPManager via the IRPAgent and that the IRPManager can connect to "On Demand" managed nodes via the IRPAgent to perform management actions. The IRPManager can also decide whether a node shall be managed via "On Demand Management" or "Constantly Connected management" paradigm.

Femto is not included in this study.

4 Objective *

The objective is to study "On Demand" management over Itf-N:

Nodes on which "On Demand" management can be applied to

A subscription mechanism for an "On Demand" paradigm for heterogeneous networks

The necessary operations, objects and attributes for an "On Demand" paradigm

5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts *

Affects:	UICC apps	ME	AN	CN	Others
Yes			X		
No	X	X		X	
Don't know					X

10 Expected Output and Time scale *

New specifications * [If Study Item, one TR is anticipated]						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
32.8xy	Study on management of Heterogeneous Networks	SA5		SA#54 Dec 2011	SA#54 Dec 2011	
Affected existing specifications * [None in the case of Study Items]						
Spec No.	CR	Subject		Approved at plenary#	Comments	

11 Work item rapporteur(s) *

YunXi Li, Ericsson (yunxi.li@ericsson.com)

12 Work item leadership *

SA5

13 Supporting Individual Members *

Supporting IM name
Ericsson
Vodafone
NEC
Huawei
AlcatelLucent
ZTE
Qualcomm

Annex A:
Status of SA5 Work Items

This list reflects work items that are, new, ongoing, completed or stopped.

Unique_ID	Name	Acronym
500029	**Charging for QoS Control Based on Subscriber Spending Limits (Stage 2)**	QoS_SSL
490029	**Charging for Network Provided Location Information for IMS**	NWK-PL2IMS_CH
510051	**Rel-11 Operations, Administration, Maintenance and Provisioning (OAM&P)**	OAM11
510151	**Network Infrastructure Management**	OAM11-NIM
510056	IRP framework enhancements to support Management of Converged Networks	OAM-FMC-IRP
530049	Management for Carrier Aggregation for LTE	OAM-CA
530050	Network Management for 3GPP Interworking WLAN	OAM-IWLAN
510251	**Performance Management**	OAM11-PM
510057	IMS Performance Management enhancements	OAM-ePM-IMS
510058	Enhanced Management of UE based network performance measurements	OAM-ePM-UE
520034	CN performance measurements enhancement	OAM-ePM-CN
510351	**Self-Organizing Networks (SON) - OAM aspects**	OAM11-SON
510059	UTRAN Self-Organizing Networks (SON) management	OAM-SON-UTRAN
530051	LTE Self-Organizing Networks (SON) coordination management	OAM-SON-LTE_COORD
510052	**Rel-11 Charging Management small Enhancements**	CH11
470045	**Add solutions for Rc - reference point within the Online Charging System (OCS)**	CH-Rc
510060	**Charging for Policy Enhancements for Sponsored Connectivity and Coherent Access to Policy related Data Bases**	PEST-CH
510229	**Stage 2/3 SA5 part of Transit Inter Operator Identifier for IMS Interconnection Charging in multi operator environment**	IOI_IMS_CH
520235	**SA5 part of FS_UMONC**	FS_UMONC
470050	**Study on version handling**	FS_OAM_VH
480047	**Study on Management of Converged Networks**	FS_ManCon
490039	**Study on User Data Convergence (UDC) information model handling and provisioning: Example Use Cases**	FS_UDC_AppUseCase
510045	**Study on OAM aspects of inter-RAT Energy Saving**	FS_OAM_ES_iRAT
510046	**Study on management of Heterogeneous Networks**	FS_OAM_HetNet

Annex B:
Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jan 2011	S5-75	S5-110019	--	--	First draft	---	0.1.0
Apr 2011	S5-77	S5-111618	--	--	Post SA#51 update	0.1.0	0.2.0
May 2011	S5-78	S5-112218	--	--	Post SA#52 update	0.2.0	0.3.0
May 2011	S5-78	S5-112262	--	--	Add 32.8xy Study on Usage Monitoring Control OCS enhancement	0.3.0	0.3.1
Sep 2011	S5-79	S5-112818	--	--	Post SA#53 update	0.3.1	0.4.0