

**Source:** SA5 (Telecom Management)  
**Title:** Updated WID Rel-6 CH  
**Document for:** Approval  
**Agenda Item:** 7.5.3

**Title:** Work Item Description: [Charging Management] WI type: [Feature]

## Work Item Description

**Title:** (35016) Charging Management (Feature: CH)

### 1 3GPP Work Area

|   |              |
|---|--------------|
| X | Radio Access |
| X | Core Network |
| X | Services     |
|   | Terminals    |

### 2 Linked work items

- (2499) Support of Presence Capability (SA1 Feature)
- (31028) Presence Service Enhancements (SA1 Feature)
- (31015) Priority Service (SA1 Feature)
- (32021) IMS Phase 2 (SA1 Feature)
- (15010) Rel 6 OSA Enhancements (SA1 Feature)
- (31012) WLAN-UMTS Inter-working (SA1 Feature)
- (2544) Multimedia Broadcast and Multicast Service (SA1 Feature)
- (32023) Location Services enhancements 2 (SA2 Feature)
- (2047) Interworking between IMS and CS networks (CN3 Feature)
- (32005) IMS Local services (SA2 Feature)
- (31022) IMS Messaging (SA1 Feature)
- (31025) IMS Group Management (SA1 Feature)
- (1365) Support of Push Services (SA1 Feature)
- (34001) Extended Transparent End-to-End PS Streaming Service (SA4 Feature)
- (1826) MMS Enhancements (T2 Feature)
- (31018) Network Sharing (SA1 Feature)
- (31008) Generic User Profile (SA1 Feature)
- (2062) Subscription Management (SA5 Feature)
- (32030) Overall Architectural Aspects of IP-Flow-based bearer level charging (SA2 Feature)
  - (35017) Charging Management for Bearer level (CH-BC) - SA5 BB
  - (35018) Charging Management for IM Subsystem (CH-IC) - SA5 BB
  - (35019) Charging Management for Service domain (CH-SC) - SA5 BB

### 3 Justification

The 3GPP specifications need to evolve in Rel-6 to allow Charging additions and enhancements. This comprises both the enhancements to existing services and access technologies that are further evolved in other 3GPP WGs, and the provision of charging capabilities for new Rel-6 services and access technologies.

### 4 Objective

The objective of this work item (Feature) is to continue to lay down the Charging Framework (stage 2 and stage 3 descriptions) for 3GPP Release 6 covering all aspects of Bearer, IMS and Service Charging as required by all other 3GPP Release 6 work items as well as enhancements to the existing framework. Harmonisation of interfaces and protocols across all domains and subsystems is sought. To better reflect the emerging network and service enhancements this work also includes a definition of the future structure of the charging TSs.

**5 Service Aspects**  
Charging enhancements arising from Service Aspects (as defined by SA1) of Rel-6.

**6 MMI-Aspects**  
None identified at this time.

**7 Charging Aspects**  
**Charging Management - 32.2xx-series**

The structure of the SA5 charging specifications comprises:

- 1) a set of Implementers' Guides (stage3 level descriptions) and
- 2) an umbrella specification (32.240) that applies to all of the Implementers' Guides.

TS 32.240 is a tutorial (stage2 level description) to the charging systems to which the stage3 TSs apply and describes charging principles, scenarios, architecture, and requirements.

The Implementers' Guides are specialised according to several operating domains.

Currently, Implementers' Guides has to be generate for the CS Domain (32.250), the PS domain (32.251), the IMS (32.260), and MMS (32.270).

Further Implementers Guides are foreseen for the new Rel-6 services, i.e. LCS (32.271) and new WLAN access technology (32.252) as well as the addition of online charging, both for some existing and the new services and access technologies.

The stage2 description for charging, i.e. TS 32.240, will have to be enhanced and aligned accordingly.

**8 Security Aspects**  
None identified at the present time.

**9 Impacts**

| Affects:   | USIM | ME | AN       | CN | Others |
|------------|------|----|----------|----|--------|
| Yes        |      |    | X (WLAN) | X  |        |
| No         | X    | X  |          |    |        |
| Don't know |      |    |          |    | X      |

WLAN AN may be affected if the AAA server is considered to be part of the AN.

**10 Expected Output and Time scale (to be updated at each plenary)**

| New specifications               |   |                |                      |                                       |                                     |          |  |
|----------------------------------|---|----------------|----------------------|---------------------------------------|-------------------------------------|----------|--|
| Spec No.                         | Title   | Prime resp. WG | 2ndary resp. WG(s)   | Presented for information at plenary# | Approved at plenary#                | Comments |  |
| 32.240                           | Charging Architecture and Principles                      | SA5            |                      | 12/2003                               | 09/2004                             | CH       |  |
| 32.250                           | CS domain Charging  | SA5            |                      | 06/2003                               | 03/2004                             | CH-BC    |  |
| 32.251                           | PS domain Charging  | SA5            |                      | 06/2003                               | 09/2004                             | CH-BC    |  |
| 32.252                           | WLAN Charging   | SA5            |                      | 03/2005                               | 06/2005                             | CH-BC    |  |
| 32.260                           | IMS charging  | SA5            |                      | 03/2004                               | 12/2004                             | CH-IC    |  |
| 32.270                           | MMS Charging  | SA5            |                      | 06/2003                               | 09/2004                             | CH-SC    |  |
| 32.271                           | LCS charging  | SA5            |                      | 09/2003                               | 12/2004                             | CH-SC    |  |
| 32.272                           | PoC charging  | SA5            |                      | 03/2005                               | 06/2005                             | CH-SC    |  |
| 32.273                           | MBMS charging   | SA5            |                      | 03/2005                               | 06/2005                             | CH-SC    |  |
| 32.295                           | Charging Data Record (CDR) transfer                       | SA5            |                      | 09/2004                               | 09/2004                             | CH-BC    |  |
| 32.297                           | Billing Domain Interface Description                      | SA5            |                      | 06/2003                               | 03/2004                             | CH       |  |
| 32.298                           | Encoding Rules Description                                | SA5            |                      | 06/2003                               | 06/2005                             | CH       |  |
| 32.299                           | Charging Protocol Description based on Diameter           | SA5            |                      | 09/2003                               | 09/2004                             | CH       |  |
| 32.815                           | Online Charging System (OCS) architecture study           | SA5            |                      |                                       | 09/2003                             | CH       |  |
| 32.296                           | Online Charging System (OCS): Applications and interfaces | SA5            |                      | 09/2004                               | 12/2004                             | CH       |  |
| Affected existing specifications |   |                |                      |                                       |                                     |          |  |
| Spec No.                         | CR  | Subject        | Approved at plenary# |                                       | Comments                            |          |  |
| n/a                              |   |                |                      |                                       | No Rel-5 TS was propagated to Rel-6 |          |  |

**11 Work item rapporteurs**  
Karl-Heinz NENNER (SA5 SWGB Chair [karl-heinz.nenner@t-mobile.net])

**12 Work item leadership**  
SA5

**13 Supporting Companies**

Ericsson, Nokia, Nortel Networks, Siemens, T-Mobile, Orange, Telecom Italia, , TeliaSonera, Amdocs, Vodafone.

**14 Classification of the WI (if known)**

|   |                            |
|---|----------------------------|
| X | Feature (go to 14a)        |
|   | Building Block (go to 14b) |
|   | Work Task (go to 14c)      |

14a The WI is a **Feature**: List of **Building Blocks** under this **Feature**

- (35017) Charging Management for Bearer level (SA5 BB)
- (35018) Charging Management for IM Subsystem (SA5 BB)
- (35019) Charging Management for Service domain (SA5 BB)

**15 Work Tasks**

WT: Online Charging System (OCS)

|     |           |   |  |
|-----|-----------|---|--|
| WID | S5-034547 | Work Item Description on WT: New Rel-6 TS 32.296 on Online Charging System - Rating Application | SA5 Approved.<br>For SA#21 Information<br>as a Rel-6 TR 32.815 spin-off<br>activity. |
|-----|-----------|---|--|

TR 32.815: "Charging management; Online Charging System (OCS) architecture study".

TS 32.296: "Online Charging System (OCS): Applications and interfaces"

**Source:** SA5 (Telecom Management)  
**Title:** Updated WID Rel-6 CH  
**Document for:** Approval  
**Agenda Item:** 7.5.3

~~Technical Specification Group Services and System Aspects Meeting #19, Birmingham, UK, 17-20 March 2003~~ ~~TSGS#19(03)0047~~

~~**Source:** SA5 (Telecom Management)  
**Title:** Revised SP-020729 Rel-6 Feature WID on Charging Management  
**Document for:** Approval  
**Agenda Item:** 7.5.3~~

~~3GPP TSG-SA5 (Telecom Management) Meeting #33, Phoenix, USA, 24-28 February 2003~~ ~~S5-034147~~

**Title:** Work Item Description: [Charging Management] WI type: [Feature]

## Work Item Description

**Title:** [\(35016\)](#) Charging Management (Feature: CH)

### 1 3GPP Work Area

|   |              |
|---|--------------|
| X | Radio Access |
| X | Core Network |
| X | Services     |
|   | Terminals    |

### 2 Linked work items

- (2499) Support of Presence Capability (SA1 Feature)
- (31028) Presence Service Enhancements (SA1 Feature)
- (31015) Priority Service (SA1 Feature)
- (32021) IMS Phase 2 (SA1 Feature)
- (15010) Rel 6 OSA Enhancements (SA1 Feature)
- (31012) WLAN-UMTS Inter-working (SA1 Feature)
- (2544) Multimedia Broadcast and Multicast Service (SA1 Feature)
- (32023) Location Services enhancements 2 (SA2 Feature)
- (2047) Interworking between IMS and CS networks (CN3 Feature)
- (32005) IMS Local services (SA2 Feature)
- (31022) IMS Messaging (SA1 Feature)
- (31025) IMS Group Management (SA1 Feature)
- (1365) Support of Push Services (SA1 Feature)
- (34001) Extended Transparent End-to-End PS Streaming Service (SA4 Feature)
- (1826) MMS Enhancements (T2 Feature)
- (31018) Network Sharing (SA1 Feature)
- ~~(35013) User Equipment Management (SA5-BB)~~
- (31008) Generic User Profile (SA1 Feature)
- (2062) Subscription Management (SA5 Feature)
- (32030) Overall Architectural Aspects of IP-Flow-based bearer level charging (SA2 Feature)
  - [\(35017\)](#) Charging Management for Bearer level [\(CH-BC\)](#) - SA5 BB ~~(SA5-BB)~~
  - [\(35018\)](#) Charging Management for IM Subsystem [\(CH-IC\)](#) - SA5 BB ~~(SA5-BB)~~
  - [\(35019\)](#) Charging Management for Service domain [\(CH-SC\)](#) - SA5 BB ~~(SA5-BB)~~

**3 Justification**

The 3GPP specifications need to evolve in Rel-6 to allow Charging additions and enhancements. This comprises both the enhancements to existing services and access technologies that are further evolved in other 3GPP WGs, and the provision of charging capabilities for new Rel-6 services and access technologies.

**4 Objective**

The objective of this work item (Feature) is to continue to lay down the Charging Framework (stage 2 and stage 3 descriptions) for 3GPP Release 6 covering all aspects of Bearer, IMS and Service Charging as required by all other 3GPP Release 6 work items as well as enhancements to the existing framework. Harmonisation of interfaces and protocols across all domains and subsystems is sought. To better reflect the emerging network and service enhancements this work also includes a definition of the future structure of the charging TSs.

**5 Service Aspects**

Charging enhancements arising from Service Aspects (as defined by SA1) of Rel-6.

**6 MMI-Aspects**

None identified at this time.

**7 Charging Aspects  
Charging Management - 32.2xx-series**

The structure of the SA5 charging specifications comprises:

- 1) a set of Implementers' Guides (stage3 level descriptions) and
- 2) an 'umbrella' specification (32.240) that applies to all of the Implementers' Guides.

TS 32.240 is a tutorial (stage2 level description) to the charging systems to which the stage3 TSs apply and describes charging principles, scenarios, architecture, and requirements.

The Implementers' Guides are specialised according to several operating domains. Currently, Implementers' Guides has to be generate for the CS Domain (32.250), the PS domain (32.251), the IMS (32.260), and MMS (32.270).

Further Implementers Guides are foreseen for the new Rel-6 services, i.e. LCS (32.271) and new WLAN access technology (32.252) as well as the addition of online charging, both for some existing and the new services and access technologies.

The stage2 description for charging, i.e. TS 32.240, will have to be enhanced and aligned accordingly.

**8 Security Aspects**

None identified at the present time.

**9 Impacts**

| Affects:   | USIM | ME | AN       | CN | Others |
|------------|------|----|----------|----|--------|
| Yes        |      |    | X (WLAN) | X  |        |
| No         | X    | X  |          |    |        |
| Don't know |      |    |          |    | X      |

WLAN AN may be affected if the AAA server is considered to be part of the AN.

Expected Output and Time scale (to be updated at each plenary)

| New specifications |   |                |                    |                                       |                      |          |
|--------------------|---|----------------|--------------------|---------------------------------------|----------------------|----------|
| Spec No.           | Title   | Prime resp. WG | 2ndary resp. WG(s) | Presented for information at plenary# | Approved at plenary# | Comments |
| 32.240             | Charging Architecture and Principles                      | SA5            |                    | 12/2003                               | 09/2004              | CH       |
| 32.250             | CS domain Charging  | SA5            |                    | 06/2003                               | 03/2004              | CH-BC    |
| 32.251             | PS domain Charging  | SA5            |                    | 06/2003                               | 09/2004              | CH-BC    |
| 32.252             | WLAN Charging   | SA5            |                    | <del>03/2005</del> 12/200312/2004     | 09036/20042005       | CH-SBC   |
| 32.260             | IMS charging  | SA5            |                    | 03/2004                               | 12/2004              | CH-IC    |
| 32.270             | MMS Charging  | SA5            |                    | 06/2003                               | 09/2004              | CH-SC    |
| 32.271             | LCS charging  | SA5            |                    | 09/2003                               | 0912/2004            | CH-SC    |
| 32.27x             | xxx-service Charging                                      | SA5            |                    | 12/2003                               | 09/2004              |          |
| 32.272             | PoC charging  | SA5            |                    | 03/200512/2004                        | 036/2005             | CH-SC    |
| 32.273             | MBMS charging   | SA5            |                    | 03/2005                               | 063/2005             | CH-SC    |
| 32.295             | Charging Data Record (CDR) transfer                       | SA5            |                    | 09/2004                               | 09/2004              | CH-BC    |
| 32.297             | Billing Domain Interface Description                      | SA5            |                    | 06/2003                               | 03/2004              | CH       |
| 32.298             | Encoding Rules Description                                | SA5            |                    | 06/2003                               | 0912/200406/2005     | CH       |
| 32.299             | Charging Protocol Description based on Diameter           | SA5            |                    | 09/2003                               | 09/2004              | CH       |
| 32.815             | Online Charging System (OCS) architecture study           | SA5            |                    |                                       | 09/2003              | CH       |
| 32.296             | Online Charging System (OCS): Applications and interfaces | SA5            |                    | 09/2004                               | 12/2004              | CH       |

| Affected existing specifications |    |         |                      |                                     |
|----------------------------------|----|---------|----------------------|-------------------------------------|
| Spec No.                         | CR | Subject | Approved at plenary# | Comments                            |
| n/an/a                           |    |         |                      | No Rel-5 TS was propagated to Rel-6 |

- 11 **Work item rapporteurs**  
Karl-Heinz NENNER (SA5 SWGB Chair [karl-heinz.nenner@t-mobile.net])
- 12 **Work item leadership**  
SA5
- 13 **Supporting Companies**  
Ericsson, ~~Lucent~~, Nokia, Nortel Networks, Siemens, T-Mobile, Orange, Telecom Italia, ~~Cingular Wireless~~, TeliaSonera, ~~AWS~~, Amdocs, ~~Vodafone~~.
- 14 **Classification of the WI (if known)**

|   |                            |
|---|----------------------------|
| X | Feature (go to 14a)        |
|   | Building Block (go to 14b) |
|   | Work Task (go to 14c)      |

14a The WI is a **Feature**: List of **Building Blocks** under this **Feature**

| SA Tdoc#  | SA5 Tdoc# | Title  |
|-----------|-----------|--|
| SP-030048 | S5-034149 | Rel-6 BB (BB1): Charging Management for Bearer level (CH-BC)       |
| SP-030049 | S5-034164 | Rel-6 BB (BB2): Charging Management for the IM Subsystem (CH-IC)   |
| SP-030050 | S5-034163 | Rel-6 BB (BB3): Charging Management for the Service domain (CH-SC) |

- (35017) Charging Management for Bearer level (CH-BC) - SA5 BB
- (35018) Charging Management for IM Subsystem (CH-IC) - SA5 BB
- (35019) Charging Management for Service domain (CH-SC) - SA5 BB

15 **Work Tasks under these Building Blocks**  
See WIDs for the above BB1 ñ BB3 (SP-030048/49/50)  
WT: Online Charging System (OCS)

|     |           |   |  |
|-----|-----------|---|--|
| WID | S5-034547 | Work Item Description on WT: New Rel-6 TS 32.296 on Online Charging System - Rating Application | SA5 Approved.<br>For SA#21 Information as a Rel-6 TR 32.815 spin-off activity. |
|-----|-----------|---|--|

TR 32.815: "Charging management; Online Charging System (OCS) architecture study".

TS 32.296: "Online Charging System (OCS): Applications and interfaces"