**3GPP TSG- Meeting #**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** |  | **rev** | **2** | **Current version:** |  |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** |  | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
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| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
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| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
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| ***Reason for change:*** | | The architecture for the IMS converged charging is missing. | | | | | | | | |
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| ***Summary of change:*** | | Adding the architecture including Ga and Bi reference points as well as the referenced clauses for the CDR. | | | | | | | | |
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| ***Consequences if not approved:*** | | Some architecture options won’t be specified. | | | | | | | | |
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| ***Clauses affected:*** | | 4.4, 5.4.x (new), 5.4.y (new), 5.4.z (new) | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Revison 1 of S5-205182  Revision 2 of S5-205424 | | | | | | | | |

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| **First change** |

## 4.4 IMS converged charging architecture

The architectural options for IMS converged charging are depicted in figure 4.4.1.



Figure 4.4.1: IMS converged charging architecture

The IMS Nodes for which this architecture applies are the MRFC, IMS-GWF (connected to S-CSCF using ISC) and SIP AS, the architecture for MMTel AS is described in TS 32.275 [35]. In addition MRFC and AS may support offline only charging via Nchf interface.

Editor's Note: whether other IMS Nodes use the Nchf interface is FFS.

The general architecture components can be found in TS 32.240 [2].

Ga is described in clause 5.4.y and Bi in clause 5.4.z of the present document, and Nchf is described in TS 32.290 [45].

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| **Second change** |

### 5.4.x CDR generation

#### 5.4.x.1 Introduction

The CHF CDRs for IMS charging are generated by the CHF to collect charging information that they subsequently transfer to the Charging Gateway Function (CGF).

The CHF shall support generating, opening updating and closing the CHF CDR as described in clause 5.4.x.2.

#### 5.4.x.2 Triggers for CHF CDR

##### 5.4.x.2.1 General

A IMS charging CHF CDR is used to collect charging information related to IMS chargeable events for SCUR, ECUR and IEC.

##### 5.4.x.2.2 Triggers for CHF CDR generation

A CHF CDR is generated by the CHF for each received Charging Data Request [Event].

##### 5.4.x.2.3 Triggers for CHF CDR opening

A CHF CDR shall be opened when the CHF receives Charging Data Request [Initial].

##### 5.4.x.2.4 Triggers for CHF CDR update

A CHF CDR shall be updated when the CHF receives Charging Data Request [Update].

##### 5.4.x.2.5 Triggers for CHF CDR closure

The CHF CDR shall be closed when the CHF receives Charging Data Request [Termination].

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| **Third change** |

### 5.4.y Ga record transfer flows

Details of the Ga protocol application are specified in TS 32.295 [6].

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| **Fourth change** |

### 5.4.z Bi CDR file transfer

Details of the Bi protocol application are specified in TS 32.297 [5].

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| **End of changes** |