3GPP TSG SA WG5 Meeting 137-e TDoc S5-213252rev2

electronic meeting, online, 10 - 19 May 2021

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **32.290** | **CR** | **0160** | **rev** | **1** | **Current version:** | **17.1.0** |  |
|  | | | | | | | | |
| *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:*** | Add IMS Information in Offline Only Charging | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GSIMSCH | | | | |  | ***Date:*** | | | 2021-04-29 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | IMS nodes are missing in Offline Only Charging service. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add IMS nodes in Offline Only Charging service. | | | | | | | | |
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| ***Consequences if not approved:*** | | IMS cannot use Offline Only Charging | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 6.5.1, 6.5.2, 6.5.3, 6.5.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

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| **First change** |

# 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] 3GPP TS 32.240: "Telecommunication management; Charging management; Charging architecture and principles".

[2] - [29] Void.

[30] 3GPP TS 32.255: "Telecommunication management; Charging management; 5G Data connectivity domain charging; stage 2".

[31] 3GPP TS 32.260: "Telecommunication management; Charging management; IP Multimedia Subsystem (IMS) charging".

[32] - [49] Void.

[50] 3GPP TS 32.299: "Telecommunication management; Charging management; Diameter charging application".

[51] - [54] Void.

[55] - [57] Void.

[58] 3GPP TS 32.291: "Telecommunication management; Charging management; 5G system; Charging service, stage 3.

[59] - [99] Void.

[100] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[101] - [200] Void.

[201] 3GPP TS 23.501: "System Architecture for the 5G System; Stage 2".

[202] 3GPP TS 23.502: "Procedures for the 5G System; Stage 2".

[203] - [206] Void.

[207] - [299] Void.

[300] 3GPP TS 29.510: " 5G System; Network function repository services; Stage 3".

[301] - [370] Void.

[371] - [399] Void.

[400] - [499] Void.

[500] - [599] Void.

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| **Next change** |

### 6.5.1 General

**Service description:** The OfflineOnlyCharging service provides charging for session based NF services. This OfflineCharging service offers charging information record generation.

The following table shows the CHF Services and CHF Service Operations.

Table 6.5.1-1: NF services provided by the CHF

|  |  |  |  |
| --- | --- | --- | --- |
| Service Name | Service Operations | Operation  Semantics | Example Consumer(s) |
| Nchf\_OfflineOnlyCharging | Create | Request/Response | SMF, IMS-Node |
| Update | Request/Response | SMF, IMS-Node |
| Release | Request/Response | SMF, IMS-Node |
|  | | | |

The OfflineOnlyCharging service to SMF as NF consumer is specified in TS 32.255 [30] for 5G data connectivity domain charging. The OfflineOnlyCharging service to IMS-Node as NF consumer is specified in TS 32.260 [31] for IMS charging.

The input and output parameters described in the clauses below are common to all NF Consumers. The usage of these common parameters and additional NF Consumer specific parameters are specified in dedicated charging specifications.

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| **Next change** |

### 6.5.2 Nchf\_OfflineOnlyCharging\_Create service operation

**Service operation name:** Nchf\_OfflineOnlyCharging\_Create

**Description:** Provides charging capabilities before service delivery, offers charging information record generation. Provides means for the NF Consumer to create the resource of the charging session.

The service operation shall open a CDR in the CHF, based on the information provided by the NF Consumer.

**Known NF Consumers:** SMF, IMS-Node.

**Inputs, Required:** Subscriber identifier, either service identification or rating group.

**Inputs, Optional:** destination address, provider, location information, time and date.

**Outputs, Required:** Result indication.

**Outputs, Optional:** triggers.

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| **Next change** |

### 6.5.3 Nchf\_OfflineOnlyCharging\_Update service operation

**Service operation name:** Nchf\_OfflineOnlyCharging\_Update

**Description:** Provides charging capabilities during service delivery, charging information record generation.

If the trigger conditions occurs, this operation may cause update of the CDR or production of an interim CDR in the CHF.

**Known NF Consumers:** SMF, IMS-Node.

**Inputs, Required:** Subscriber identifier (exception for emergency session), session identifier, reporting reason.

**Inputs, Optional:** None.

**Outputs, Required:** Result indication.

**Outputs, Optional:** triggers.

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| **Next change** |

### 6.5.4 Nchf\_OfflineOnlyCharging\_Release service operation

**Service operation name:** Nchf\_OfflineOnlyCharging\_Release

**Description:** Provides charging capabilities after service delivery, charging information record generation. Provides means for the NF Consumer to release the resource of charging session information.

The charging delete request is used to close the CDR in the CHF if it has been opened.

**Known NF Consumers:** SMF, IMS-Node.

**Inputs, Required:** Subscriber identifier, session identifier, release reason.

**Inputs, Optional:** None.

**Outputs, Required:** Result indication.

**Outputs, Optional:** None.

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| **End of changes** |