**3GPP TSG-CT WG3 Meeting #133C3-241107**

**Athens, Greece, 26 February-1 March 2024**

 **(revision of CP-233211)**

**3GPP TSG-CT WG1 Meeting #147C1-240713**

**Athens, Greece, 26 February-1 March 2024**

 **(revision of CP-233211)**

**3GPP TSG-CT WG4 Meeting #121C4-240402**

**Athens, Greece, 26 February-1 March 2024**

 **(revision of CP-233211)**

**3GPP TSG-CT WG6 Meeting #118C6-240087**

**Athens, Greece, 27 February-1 March 2024**

 **(revision of CP-233211)**

**Source: China Mobile**

**Title: Revised WID on Next Generation Real Time Communication services**

**Document For: Approval**

**Agenda Item: 18.1.2**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

Title: CT aspects of Next Generation Real Time Communication services

Acronym: NG\_RTC

Unique identifier: 990023

Potential target Release: Rel-18

# 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes | X | X |  | X |  |
| No |  |  | X |  |  |
| Don't know |  |  |  |  | X |

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a …

|  |  |
| --- | --- |
|  | Study  |
|  | Normative – Stage 1 |
|  | Normative – Stage 2 |
| X | Normative – Stage 3 |
|  | Normative – Other\* |

**\* Other = e.g. testing**

## 2.2 Parent Work Item

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| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| NG\_RTC | SA2 | 970014 | System architecture for Next Generation Real time Communication services |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
| 770003 | Study on enhancements to IMS for new real time communication services | Study Item of Stage 1 requirements |
| 790003 | Enhancements to IMS for new real time communication services | Work Item of Stage 1 requirements |
| 850042 | Study on evolution of IMS multimedia telephony service | Study Item of Stage 1 requirements |
| 920036 | Evolution of IMS Multimedia Telephony Service | Work Item of Stage 1 requirements |
| 940066 | Study on system architecture for next generation real time communication services | Study Item of Stage 2 architecture and procedures |

# 3 Justification

TSG-SA has approved work item "System architecture for Next Generation Real time Communication services" in TSG SA Meeting #97E (September 2022) to capture the required stage 2 requirements and work to support next generation real time communication services.

Considering the above, impacts on protocols, services and interfaces under CT WGs' responsibilities are foreseen and the related work in CT WGs should be carried out within Rel-18.

# 4 Objective

The objective of the work item is to specify new signalling and media functions, specify protocol details, enhance IMS protocols, define and extend NF services to support Data Channel, AR communication and SBA in IMS media control interface under remit of CT WGs for the stage 2 requirements agreed under the stage 2 work item NG\_RTC. Stage 3 work can start only when the applicable normative stage 2 work is available. The following areas of work are expected to be covered (non-exhaustive):

**CT1**

1. Specification of new signalling and media functions in IMS, including both existing and newly introduced network entities for NG-RTC.
2. Specification of protocol for IMS enhancements to support IMS Data Channel services and AR communication, including the corresponding new IMS network capabilities, the basic communication requirement, interaction with existing supplementary services, IMS signalling procedures and signalling flows.
3. Enhancement of IMS SIP and SDP protocols to support Data Channel and AR communication.
4. Support Data Channel usage with enhanced MRF.
5. Outline of SBA in IMS to address newly introduced SBI for non-SBI and SBI coexistence deployment for NG-RTC.
6. Update of MO requirement for IMS Data Channel.
7. Specify SRVCC not supported for IMS Data Channel.

**CT3**

1. Update the QoS parameter handling of Data Channel and AR communication for IMS.
2. Enhancement of inter-IMS Network to Network Interface to support Data Channel and AR communication.

**CT4**

1. Definition of IMS AS services for Nimsas to support IMS AS to interact with Data Channel Signalling Function (DCSF) via DC1.
2. Definition of MF services for Nmf to support IMS supporting DC usage with Data Channel Media Function (MF) and the interaction with IMS AS via DC2.
3. Definition of mechanism to support AR resource management.
4. Enhancement of NRF services to support the service registration of MF/MRF and the discovery of DCSF and MF/MRF.
5. Enhancement of HSS N70/Cx/Dx and N71/Sh interface to extend IMS subscription and application data to support Data Channel and AR communication.
6. Definition of N72/Sc interface between DCSF and HSS to support the retrieval of repository data for DC subscriptions.

**CT6**

Configuration about DC establishment in the UICC.

# 5 Expected Output and Time scale

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| --- |
| New specifications |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
| TS | 24.186 | IMS Data Channel applications; Protocol specification; | TSG CT #102(December 2023) | TSG CT #103 (March 2024) | CT1 Chen, Xu, China Mobile, chenxu@chinamobile.com |
| TS | 29.175 | IP Multimedia Subsystem (IMS); Application Server (AS) Services; Stage 3 | TSG CT #102(December 2023) | TSG CT #103 (March 2024) | CT4Wang, Rong, China Mobile, wangrongyjy@chinamobile.com |
| TS | 29.176 | IP Multimedia Subsystems (IMS);Media Function (MF) Services; Stage 3 | TSG CT #102(December 2023) | TSG CT #102(December 2023) | CT4Ji, Mengdi, Huawei,jimengdi@huawei.com |
| TS | 29.330 | IP Multimedia Subsystem (IMS); Sc Interface based on the Diameter protocol; | TSG CT #103(March 2024) | TSG CT #103 (March 2024) | CT4Wang, Rong, China Mobile, wangrongyjy@chinamobile.com |

Note : The Sc interface will re-use some of the existing Sh/Dh mechanism defined in 3GPP TS 29.328 and 3GPP TS 29.329 for transparent data store and retrieval.

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| Impacted existing TS/TR  |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| 24.229 | Specification of new signalling and media functions, enhancement of IMS SIP and SDP protocols, update of SBA in IMS for NG-RTC.  | TSG CT #103 (March 2024) | CT1 |
| 24.275 | Update of MO for IMS Data Channel. | TSG CT #103 (March 2024) | CT1 |
| 24.237 | Update of SRVCC for IMS Data Channel. | TSG CT #103 (March 2024) | CT1 |
| 29.213 | Update the QoS parameter mapping table. | TSG CT #103 (March 2024) | CT3 |
| 29.165 | Enhancement of inter-IMS Network to Network Interface to support Data Channel and AR communication. | TSG CT #103 (March 2024) | CT3 |
| 29.513 | Update to QoS parameter mapping table. | TSG CT #103 (March 2024) | CT3 |
| 29.510 | Enhancement of NRF services to support the service registration of MF/MRF and the discovery of DCSF and MF/MRF. | TSG CT #103 (March 2024) | CT4 |
| 29.562 | Enhancement of HSS services of N70/N71/72 to extend IMS subscription and application data to support Data Channel and AR communication. | TSG CT #103 (March 2024) | CT4 |
| 29.228 | Enhancement of Cx/Dx to extend IMS subscription data to support Data Channel and AR communication. | TSG CT #103 (March 2024) | CT4 |
| 29.229 | Update of AVPs in Cx/Dx to extend IMS subscription data to support Data Channel and AR communication. | TSG CT #103 (March 2024) | CT4 |
| 29.328 | Enhancement of Sh to extend IMS application data to support Data Channel and AR communication. | TSG CT #103 (March 2024) | CT4 |
| 29.329 | Update of AVPs in Sh to extend IMS application data to support Data Channel and AR communication. | TSG CT #103 (March 2024) | CT4 |
| 29.364 | Update of IMS AS service data IP Multimedia Subsystem (IMS) Application Server (AS) service data descriptions for AS interoperability | TSG CT #103 (March 2024) | CT4 |
| 29.333 | Enhancement of Mp to support Data Channel usage with enhanced MRF. | TSG CT #103 (March 2024) | CT4 |
| 23.333 | Enhancement of procedures for Mp to support Data Channel usage with enhanced MRF. | TSG CT #103 (March 2024) | CT4 |
| 29.571 | Enhancement on Common Data for IMS service based interface. | TSG CT #103 (March 2024) | CT4 |
| 31.102 | Configuration about DC establishment in the USIM. | TSG CT #103 (March 2024) | CT6 |
| 31.103 | Configuration about DC establishment in the ISIM. | TSG CT #103 (March 2024) | CT6 |

# 6 Work item Rapporteur(s)

Chen Xu, China Mobile, chenxu@chinamobile.com

# 7 Work item leadership

CT1

# 8 Aspects that involve other WGs

# 9 Supporting Individual Members

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| Supporting IM name |
| China Mobile |
| China Southern Power Grid |
| Huawei |
| Hisilicon |
| ZTE |
| T-Mobile USA |
| vivo |
| Deutsche Telekom |
| Ericsson |
| CATT |