**3GPP TSG-WG SA4 #127 meeting *S4-240318***

**Sophia-Antipolis, France, Jan. 29 – Feb. 2, 2024 S4-240144**

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| *CR-Form-v12.2* | | | | | | | | |
| **Pseudo CHANGE REQUEST** | | | | | | | | |
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|  | **26.113** | **CR** |  | **rev** | **0** | **Current version:** | **1.0.0** |  |
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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 | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | [iRTCW] pCR on 26113: Procedure | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Samsung Electronics, Co., LTD | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | iRTCW | | | | |  | ***Date:*** | | | 23 Jan. 2024 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
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| ***Reason for change:*** | |  | | | | | | | | |
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| ***Summary of change:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | |  | | | | | | | | |
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| ***Clauses affected:*** | |  | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  |  | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  |  | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  |  | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| **First Change** |

# 4 Procedures for real-time media communication

## 4.1 General

This clause defines all procedures for real-time media communication using the different RTC reference points. Table 4.1-1 summarises the APIs used to provision and use RTC features specified in TS 26.506 [2].

Table 4.1‑1: Summary of APIs relevant to RTC features

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| RTC  feature | Abstract | Relevant APIs | | |
| Interface | API name | Clause |
| Content configuration | Content delivery is configured according to Configuration Provisioning associated with a Provisioning Session. | RTC-1 | Provisioning Sessions API | 6.2 |
| Configuration Provisioning API | 6.3 |
| RTC-5 | Configuration Information API | 10.3 |
| Service Access Information API | 10.2 |
| Metrics reporting | The RTC endpoint uploads metrics reports to the RTC AF according to a provisioned Metrics Reporting Configuration it obtains from the Service Access Information for its Provisioning Session. | RTC-1 | Provisioning Sessions API | 6.2 |
| Metrics Reporting Provisioning API | 6.7 |
| RTC-5 | Service Access Information API | 10.2 |
| Metrics Reporting API | 10.6 |
| Consumption reporting | The RTC endpoint provides feedback reports on currently consumed content according to a provisioned Consumption Reporting Configuration it obtains from the Service Access Information for its Provisioning Session. | RTC-1 | Provisioning Sessions API | 6.2 |
| Consumption Reporting Provisioning API | 6.4 |
| RTC-5 | Service Access Information API | 10.6 |
| Consumption Reporting API | 10.7 |
| Dynamic Policy invocation | The RTC endpoint activates different traffic treatment policies selected from a set of Policy Templates configured in its Provisioning Session. | RTC-1 | Provisioning Sessions API | 6.2 |
| Policy Templates Provisioning API | 6.6 |
| RTC-5 | Service Access Information API | 10.6 |
| Dynamic Policies API | 10.4 |
| Network Assistance | The RTC enpoint requests bit rate recommendations and delivery boosts from the RTC AF. | RTC-5 | Service Access Information API | 10.6 |
| Network Assistance API | 10.5 |
| Edge content processing | Edge resources are provisioned for processing content in RTC sessions. | RTC-1 | Provisioning Sessions API | 6.2 |
| Edge Resources Provisioning API | 6.5 |
| RTC-5 | Service Access Information API | 10.6 |

## 4.2 Procedures for media session handling

### 4.2.1 Provisioning (RTC-1) procedures

A RTC Application Provider may use the procedure in this clause to provision the network for WebRTC sessions that are operated by that RTC Application Provider. In order to configure ICE candidates, dynamic policies, and/or reporting, the RTC Application Provider shall create a new Provisioning session in the RTC AF and shall use the interactions specified in clause 5.2.2 of TS 26.510 [3] at reference point RTC-1 to create and subsequently manipulate Provisioning session in the RTC AF.

Throughout the Provisioning session established, reference point RTC-1 offers the following set of procedures:

- Discovery of ICE candidates: relays the configuration information for STUN, TURN, and SWAP servers in the trusted domain to RTC MSH in UE, at RTC-5, if required by the Provisioning session. The list of associated server information depends on the collaboration scenarios as identified in TS 26.506 [2].

- Configuration of dynamic policies: allows the configuration of Policy Templates at RTC-5 that can be applied to RTC-4m media sessions.

- Configuration of reporting: permits the MNO to collect, at RTC-5, QoE metrics and consumption reports about RTC-4m media sessions.

A RTC Application Provider may use any of these procedures, in any combination, to support its WebRTC sessions.

### 4.2.2 Network media session handling (RTC-3, RTC-5) procedures

The following operations at reference point RTC-5 are used by a RTC MSH in an UE to invoke services relating to WebRTC session on the RTC AF. Reference point RTC-3 may be involved to a subset of operations such as the exchange of QoS flow information as well as QoE and consumption report.

- Service Access Information: It is the set of parameters and addresses needed by RTC endpoint to activate transmission and/or reception of WebRTC session. It additionally includes configuration information to invoke the subsequent procedures. The detailed procedure to acquire Service Access Information is specified in clause 5.3.2 of TS 26.510 [3].

- Configuration Information: It is the set of addresses needed by RTC endpoint to acquire the service URL. It may include the addresses of trusted STUN/TURN servers as well as trusted WebRTC signalling servers that supports the SWAP protocol. If it is activated by RTC Application Provider at reference point RTC-1, RTC MSH shall use the procedures and operations specified in clause 5.3.x of TS 26.510 [3].

- Dynamic policy invocation: It is used by RTC MSH to manage Dynamic Policy Instance resources in the RTC AF. RTC MSH shall use the interaction specified in clause 5.3.3 of TS 26.510 [3] to instantiate Policy Template in the RTC AF that are described in the Dynamic Policies API in clause 10.4.

- Metrics reporting: It is used to submit a QoE metrics report to the RTC AF by RTC MSH of RTC endpoint at reference point RTC-5 or by the RTC AS at reference point RTC-3, if metrics reporting is applied for a media streaming session. To determine whether and how to send metrics reports the RTC AF, the RTC MSH shall use the procedures and operations specified in clause 5.3.5 of TS 26.510 [3].

- Consumption reporting: It is used to submit a consumption report to the RTC AF by the RTC MSH of the RTC endpoint at reference point RTC-5 or by the RTC AS at reference point RTC-3, if consumption reporting is applied for WebRTC session. This is indicated by the presence of a Client Consumption Reporting Configuration in the Service Access Information. To determine whether and how to send consumption reports to the RTC AF, the RTC MSH shall use the procedures and operations specified in clause 5.3.6 of TS 26.510 [3].

Editor’s NOTE: Data model for consumption reporting should be newly specified in 26.510.

- Network assistance: It is used by the RTC endpoint to request Network Assistance from one of the RTC AF instances listed in the Network Assistance Configuration of the Service Access Information. To do this, the RTC MSH shall use the procedures and operations specified in clause 5.3.4 of TS 26.510 [3].

### 4.2.3 UE media session handling (RTC-6, RTC-11) procedures

The reference point RTC-6 is used to exchange the report of media consumption as configured by Service Access Information. When consumption reporting is active for a particular WebRTC session, the RTC MSH shall use procedures and operations specified in clause 5.4.6 of TS 26.510 [3].

The reference point RTC-11 is used to exchange the QoE metric reporting as configured by Service Access Information. When metric reporting is active for a particular WebRTC session, the RTC MSH shall use procedures and operations specified in clause 15.

## 4.3 Procedures for media content and signalling transport

### 4.3.1 Media-centric transport (RTC-4) procedures

#### 4.3.1.1 General

Reference point RTC-4 may be further split into signalling part (RTC-4s) and media transport part (RTC-4m), depending on the collaboration scenario as specified in TS 26.506 [2]. Table 4.3.1.1-1 describes the associated reference points for collaboration scenarios.

Table 4.3.1.1‑1: Associated reference point RTC-4s/4m for collaboration scenarios

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Reference point | Collaboration scenario 1 | Collaboration scenario 2 | Collaboration scenario 3 | Collaboration scenario 4 |
| RTC-4m | N/A | Required\* | Required | Required |
| RTC-4s | N/A | N/A | Required | Required |
| \* For the case when TURN server within ICE Function is involved  NOTE) N/A is meant that the corresponding reference point is not the scope of this specification | | | | |

#### 4.3.1.2 Signalling (RTC-4s) procedures

This reference point is used for the exchange of signalling messages related to the WebRTC session between two or more WebRTC endpoints. The RTC aware application (i.e., Native WebRTC app and Web app) send/receive signalling message to/from RTC AS (i.e., WebRTC Signalling function) at RTC-4s. Signalling procedures for RTC-4s refer to the procedure specified in the signalling protocol for RTC in clause 13.2.

If trusted WebRTC signalling servers is provided, a RTC endpoint shall configure to one of the listed signalling servers (e.g., use Configuration Information provided at RTC-5). The configured signalling server information may be sent to WebRTC Framework at RTC-11. Using this information, Native WebRTC application and Web app communicate to the signalling server for media session set up (e.g., SDP negotiation) at RTC-4s.

#### 4.3.1.3 Media transport (RTC-4m) procedures

This reference point is used for transmission of media and other related data between two or more WebRTC endpoints. The WebRTC framework of the RTC endpoint sends/receives the media data, application data and/or media related meta-data to/from RTC AS (e.g., trusted Media Function) or other RTC endpoint based on the input from the RTC aware application (e.g., Native WebRTC app and Web app). Media transport at RTC-4m is established based on the collaboration scenario defined in TS 26.506 [2] and the signalling protocol applied for the media session establishment.

### 4.3.2 UE media delivery (RTC-7) procedures

This reference point RTC-7 is used to following purposes:

- To use WebRTC framework for media handling (e.g., gathering media capability information of the UE, controlling media transport). The functionalities provided on this interface are equivalent to WebRTC API defined in W3C [xx].

NOTE: There is nothing to be specified for procedures on RTC-7 in this release.