**3GPP TSG-SA WG6 Meeting #61 S6-242344**

**Jeju, Korea 20th – 24th May 2024 (revision of S6-242317)**

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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 | **x** | Radio Access Network |  | Core Network | **x** |

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| ***Title:*** | Adding functional and | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
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| ***Work item code:*** |  | | | | |  | ***Date:*** | | | 2024-05-14 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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:*** | | Logging or Recording is not part of MCX Service. | | | | | | | | |
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| ***Summary of change:*** | | Adding Logging reference architecture and reference points in MCX service framework. This proposal mostly reuses the ideas the points described in 3GPP TS 23.784 from R16(Study on Discreet Listening and Logging for Mission Critical Services) | | | | | | | | |
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| ***Consequences if not approved:*** | | MCX Logging will not be realized. | | | | | | | | |
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| ***Clauses affected:*** | | Existing clause: 3.1 and following new clauses added: X, X.1 | | | | | | | | |
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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 ... | | |
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| ***Other comments:*** | | Previous version of this CR was presented in SA6 WG#59 meeting and based discussion and inputs it was decided to postpone allowing companies to review the proposal and provide inputs. | | | | | | | | |
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| ***This CR's revision history:*** | | This is revision of previously postponed CR S6-240034 | | | | | | | | |

\* \* \* \* First change \* \* \* \*

# 3 Definitions, symbols and abbreviations

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1]. Not all definitions are used in this document.

**Accuracy:** Reflects the uncertainty of the location at the moment of location measurement, e.g. see 3GPP TS 25.305 [30] and 3GPP TS 23.032 [31].

**ACM:** Administrative Configuration Management, which enables the exchange of administrative configuration data between interconnected MC systems.

**ACMC:** Administrative Configuration Management Client, client entity which initiates administrative configuration exchange request to an interconnected partner MC system and which could make decision on such request received from an ACMC of a partner MC system.

**ACMS:** Administrative Configuration Management Server, server entity which receives administrative configuration exchange requests from an ACMC belonging to the same primary MC system or via an ACMS of an interconnected partner MC system.

**Active MC service user profile:** The MC service user profile that is currently used by an MC service client of an MC service user while receiving MC service.

**Ad hoc Group Communication**: The combining of a multiplicity of MC service users into a group for the duration of a communication. When the communication is released, the group no longer exists. If the communication is associated with an alert, then the group continues to exist until the alert is also canceled.

**Ad hoc Group emergency alert**: The combining of a multiplicity of MC service users into a group for sending an emergency alert. When the alert is cancelled, the group no longer exists. If the alert is associated with a communication, then the group continues to exist until the communication is also canceled.

**Altitude:** Third dimension for the geographical coordinates at the moment of location measurement, e.g. see 3GPP TS 25.305 [30] and 3GPP TS 23.032 [31].

**Bearing:** Direction at the moment of location measurement, e.g. see 3GPP TS 25.305 [30].

**Chat group:** An MC service group that is pre-defined with MC service group ID and member list in the group management server. Group members must join the pre-estabslihed group call to participate.

**ECGI:** E-UTRAN Cell Global Identifier, which is used to identify cells globally, where the ECGI is constructed from the Mobile Country Code (MCC), Mobile Network Code (MNC) and the E-UTRAN Cell Identifier (ECI).

**Interconnection:** A means of communication between MC systems whereby MC service users obtaining MC service from one MC system can communicate with MC service users who are obtaining MC service from one or more other MC systems.

**Interconnection group:** An MC service group that is configured to allow inclusion of MC service group members who are MC service users from partner MC system(s).

**LCS network:** The 3GPP network that provides location service as defined in 3GPP TS 23.271 [29].

**Location:** The current physical location of the MC service UE.

**MBMS SAI:** Multimedia Broadcast Multicast Service Area Identity which is mapped to the MBMS service area.

**MC gateway server:** A server providing topology hiding for MC service interconnection with a partner MC system, where that partner MC system is in a different trust domain.

**MC Logging Function:** A functional entity that receives communications information and communications content relating to logged users and processes, store them as MC Logs and support retrieve/replay of the MC Logs to authorized user.

**MC Logging Replay Function:** A functional entity that retrieves logged information from the MC Log Function and presents the logged information to the authorized user.

**MC Logging client:** A client application that is responsible for receiving, processing and storing logging information.

**MC Logging Storage:** A MC Logging entity that securely stores the MC Log information and allow controlled access for replay/retrieve functions.

**MC service:** A generic name for any one of the three mission critical services: either MCPTT, or MCVideo, or MCData.

**MC service affiliated group member:** An MC service user who has indicated an interest in a particular MC service group and has been accepted to participate in MC service group communication for that MC service group.

**MC service client:** A generic name for the client application function of a specific MC service. MC service client could be replaced by MCPTT client, or MCVideo client, or MCData client depending on the context.

**MC service group:** A defined set of MC service users with associated communication dispositions (e.g. media restrictions, default priority and commencement directions) configured for the use with one or more MC services.

**MC service group affiliation:** A mechanism by which an MC service user's MC service(s) communication interest in one or more MC service groups is determined.

**MC service group call:** A mechanism by which an MC service user can make a one-to-many MC service(s) transmission to other users that are members of MC service group(s).

**MC service group de-affiliation:** A mechanism by which an MC service user's MC service(s) communication interest in one or more MC service groups is removed.

**MC service group home system:** The MC system where the MC service group is defined.

**MC service group host MC service server:** The MC service server within an MC system which provides centralised support for a particular MC service of an MC service group defined in a MC service group home system.

**MC service group member:** An MC service user, whose MC service ID is listed in a particular MC service group.

**MC service ID:** A generic name for the user ID of a mission critical user within a specific MC service. MC service ID could be replaced by MCPTT ID, or MCVideo ID, or MCData ID depending on the context.

**MC service server:** A generic name for the server application function of a specific MC service. MC service server could be replaced by MCPTT server, MCVideo server, or MCData server depending on the context.

**MC service user:** An authorized user, who can use an MC service UE to participate in one or more MC services.

**MC service user profile:** The set of information associated to an MC service user that allows that user to employ one or more MC services in a given role and from a given MC service UE.

**MC service UE:** A UE that can be used to participate in one or more MC services.

**MC service UE label:** A generic name for identification of a specific MC service UE.

**MC system:** The collection of applications, services, and enabling capabilities required to provide a single mission critical service or multiple mission critical services to one or more mission critical organizations.

**MC user:** A user, identified by an MC ID, who, after authorization, obtains mission critical service(s).

**Migration:** A means for an MC Service user to obtain MC service directly from a partner MC system.

**Partner MC system:** Allied MC system that provides MC services to an MC service user based on the MC service user profiles that are defined in the primary MC system of that MC service user.

**Preconfigured MC service group:** an MC service group used only for regrouping that has been configured in advance of a group or user regrouping operation to serve as the source of regroup group configuration.

**Pre-arranged group:** An MC service group that is pre-defined with MC service group ID and member list in the group management server. Affiliated group members are invited when the group communication is setup.

**Pre-selected MC service user profile:** The MC service user profile that is to be selected as the active MC service user profile through configuration, and applicable for an authenticated MC service user upon MC service authorization.

**Primary MC system:** MC system where the MC service user profiles of an MC service user are defined.

**Requested Priority:** A value for use in a MC service group or MC private communication that, if accepted, is used by the MCX service server to temporarily replace the priority level that is predefined in the MC service group or MC service user profile. This value is used in combination with other factors to determine the application priority for the requested communication.

**Selected MC service user profile:** The MC service user profile that is to be selected as the active MC service user profile for an MC service upon request by an MC service user.

**Serving MC service server:** The MC service server which is providing MC service to an MC service client.

NOTE 1: There is one serving MC service server for each MC service, which can be the primary MC service server of the MC service user of the MC service client, or can be a partner MC service server to which the MC service user has migrated.

**Serving MC system:** The MC system which is providing MC service to an MC user.

NOTE 2: The MC system can be the primary MC system of the MC service user, or can be a partner MC system to which the MC service user has migrated.

**Speed:** Movement at the moment of location measurement, e.g. see 3GPP TS 25.305 [30] and 3GPP TS 23.032 [31].

**Time of measurement:** Date and time expressed with a certain precision to reflect the moment of the location measurement.

For the purposes of the present document, the following terms given in 3GPP TS 22.280 [3] apply

**Mission Critical**

**Mission Critical Applications**

**Mission Critical Organization**

**Mission Critical Service**

**Functional alias**

For the purposes of the present document, the following terms given in 3GPP TS 22.179 [2] apply

**Multi-talker control**

**Group-broadcast group**

For the purposes of the present document, the following terms related to a MC gateway UE function apply

**MC gateway UE:** A functional entity that enables simultaneous access to the MC system for multiple MC clients.

**MC client:** Aggregates a set of clients (i.e. Group management client, Configuration management client, Identity management client, Key management client, Location management client and MC service client).

**MC server:** Aggregates a set of servers (i.e. Group management server, Configuration management server, Identity management server, Key management server, Location management server and MC service server) which serves the MC client accordingly.

**Non-3GPP device:** A device that enables connectivity towards an MC gateway UE using an access method not specified by 3GPP. A subset of these devices can host an MC client specified by 3GPP.

**MC gateway client:** A client that enables the authorized binding with one or more MC GW UEs in order to be able to handle MC services (only one MC gateway UE per MC service).

**MC gateway UE server:** A server on an MC gateway UE that controls authorized binding with multiple MC gateway clients.

**MC gateway UE function**: Functional block as part of the MC service server that authorises and manages the association between MC client and MC gateway UE.

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| \* \* \* Second Change \* \* \* |

# X MC Logging

## X.1 General

MC Logging provides an MC System the capability to capture, store and retain MCPTT, MCData, and MCVideo metadata (i.e. signalling, media and other related information). The MCPTT, MCData, or MCVideo signalling, media and metadata captured by an MC Logging Server may be presented to an authorized user at a later time by the MC Log Replay function.

## X.2 Functional model (On-Network)

To support on-network logging and replay, an MC Logging function and MC Logging replay functions are defined. The MC logging Function makes use of an MC Logging client which can receive communications information and communications content relating to logged users from MC Service Servers. MC Logging client cannot initiate or demand to take part in MCX communication (Call, Messages. Etc) with MCX clients.

The MC Logging Storage Function securely stores the MC Log information and allow controlled access for replay/retrieve functions. This component shall store processed logging related events (files, metadata, data, etc.).

Provision of call related information and call content is achieved by configuration in the MC service server by an authorized user with MC Logging parameters (i.e. triggers, targeted services, targeted identities, etc.).

The MC logging function uses an MC Logging Client ID to allow call related information and call content to be routed to the MC logging function.

Figure x.x.x.x below illustrates the functional entities and reference points of the common services core in the application plane that are used for logging.

A diagram of a computer server

Description automatically generated

Figure x.x.x.x: Common services core functional model for logging

In Figure x.x.x.x, The MC Log Capture function includes MC Logging client that receives the logging contents from MC Services Servers (i.e. MCPTT, MCDATA, MCVIDEO) over MCLog-1 interface and it stores the contents into MC Log Storage Function using MCLog-2 interface. The MC log capture function uses the applicable CSC-x interfaces with Common Services Core as follows:

* The identity management client in MC Log Capture Function allows the logging function to be authorized for logging service using reference point CSC-1, using security credentials supplied by an administrative user into Logging Function.
* The config management client in MC Log capture function utilizes CSC-4 interface to configure and retrieve the list of MC service IDs and MC service groups and any related configuration.
* The group management client in MC Log capture function receives configuration for groups that are to be logged.
* The key management client in the MC Log Capture function receives the necessary security information needed (e.g., keys used to decrypt the signalling information and media if the solution is intended to log communications with any end-to-end encryption removed) by CSC-8.

MC Log Storage function utilized for securely store the logged contents and allow replay of the Logged content by the authorized users.

A user of the replay function, or an automatic function of the replay function, will perform the necessary authorizations to retrieve logged communications using MCLog-11 and retrieves the logged communications using MCLog-10.

NOTE 1: The authentication and authorization mechanism between replay equipment and MC Log Storage using MCLog-11 interface is outside scope of this specifications.

\* \* \* \* End of changes \* \* \* \*