**3GPP TSG-CT WG1 Meeting #130-eC1-213464**

**Electronic meeting, 20-28 May 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **24.282** | **CR** | **0232** | **rev** | **1** | **Current version:** | **16.6.0** |  |
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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:*** | FA indication in subscription request MCData\_16 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell, FirstNet | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | MONASTERY2 | | | | |  | ***Date:*** | | | 2021-04-28 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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:*** | | Current stage 3 specs reuse the very same procedures for  i) subscription to affiliation status and  ii) subscription to FA status  Thus, the receiving MCData server cannot distinquish the two requests.  **Interoperability impact analysis**: The proposed change is backwards compatible, as it simply extends a request type. | | | | | | | | |
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| ***Summary of change:*** | | 1) Specify a <request-type> element value, namely "functional-alias-status-determination"  2) Specify how the MCData originating client can include an indication that the subscription request is FA related.  3) Specify how the receiving MCData server identifies that the subscription request is FA related. | | | | | | | | |
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| ***Consequences if not approved:*** | | The two types of subscription cannot be distinquished at the server. An FA subscription could be perceived as an affiliation subscription. | | | | | | | | |
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| ***Clauses affected:*** | | 22.2.1.3, 22.2.2.2.4, D1.3 | | | | | | | | |
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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:*** | |  | | | | | | | | |

#### 22.2.1.3 Functional alias status determination procedure

NOTE 1: The MCData UE also uses this procedure to determine which functional alias have been successfully activated for the MCData ID.

In order to discover functional aliases:

1) which which are activated for the MCData user; or

2) which another MCData user has activated;

the MCData client shall generate an initial SIP SUBSCRIBE request according to TS 24.229 [5], IETF RFC 3856 [39], and IETF RFC 6665 [36].

In the SIP SUBSCRIBE request, the MCData client:

1) shall set the Request-URI to the public service identity identifying the originating participating MCData function serving the MCData user;

2) shall include an application/vnd.3gpp.mcdata-info+xml MIME body. In the application/vnd.3gpp.mcdata-info+xml MIME body, the MCData client shall include:

a) the <mcdata-request-uri> element set to the MCData ID of the targeted MCData user; and

b) the <request-type> element in the <mcdata-Params> element of the <mcdatainfo> element set to the value "functional-alias-status-determination";

3) shall include the ICSI value "urn:urn-7:3gpp-service.ims.icsi.mcdata" (coded as specified in TS 24.229 [5]), in a P-Preferred-Service header field according to IETF RFC 6050 [7];

4) if the MCData client wants to receive the current status and later notification, shall set the Expires header field according to IETF RFC 6665 [36], to 4294967295;

NOTE 2: 4294967295, which is equal to 232-1, is the highest value defined for Expires header field in IETF RFC 3261 [4].

5) if the MCData client wants to fetch the current state only, shall set the Expires header field according to IETF RFC 6665 [36], to zero;

6) shall include an Events header field set to "presence"; and

7) shall include an Accept header field containing the application/pidf+xml MIME type.

In order to re-subscribe or de-subscribe, the MCData client shall generate an in-dialog SIP SUBSCRIBE request according to TS 24.229 [5], IETF RFC 3856 [39], and IETF RFC 6665 [36]. In the SIP SUBSCRIBE request, the MCData client:

1) if the MCData client wants to receive the current status and later notification, shall set the Expires header field according to IETF RFC 6665 [36], to 4294967295;

NOTE 3: 4294967295, which is equal to 232-1, is the highest value defined for Expires header field in IETF RFC 3261 [4].

2) if the MCData client wants to de-subscribe, shall set the Expires header field according to IETF RFC 6665 [36], to zero;

3) shall include an Events header field set to "presence"; and

4) shall include an Accept header field containing the application/pidf+xml MIME type.

Upon receiving a SIP NOTIFY request according to TS 24.229 [5], IETF RFC 3856 [39], and IETF RFC 6665 [36], if SIP NOTIFY request contains an application/pidf+xml MIME body indicating per-user functional alias information constructed according to subclause 22.3.1, then the MCData client shall determine the status of the MCData user for each functional alias in the MIME body. If the <p-id-fa> child element of the <presence> root element of the application/pidf+xml MIME body of the SIP NOTIFY request is included, the <p-id-fa> element value indicates the SIP PUBLISH request which triggered sending of the SIP NOTIFY request.

If the MCData client detected a functional alias activation or deactivation, it shall perform the procedure specified in subclause 8.2.6.

\*\*\*\*\* Next change \*\*\*\*\*

##### 22.2.2.2.4 Receiving subscription to functional alias status procedure

Upon receiving a SIP SUBSCRIBE request such that:

1) Request-URI of the SIP SUBSCRIBE request contains either the public service identity identifying the originating participating MCData function serving the MCData user, or the public service identity identifying the terminating participating MCData function serving the MCData user;

2) the SIP SUBSCRIBE request contains an application/vnd.3gpp.mcdata-info+xml MIME body containing:

a) the<mcdata-request-uri> element which identifies an MCData ID served by the MCData server; and

b) the <mcdatainfo> element with the <mcdata-Params> element with the <request-type> element set to a value of "functional-alias-status-determination";

3) the ICSI value "urn:urn-7:3gpp-service.ims.icsi.mcdata" (coded as specified in TS 24.229 [5]), in a P‑Asserted-Service header field according to IETF RFC 6050 [7]; and

4) the Event header field of the SIP SUBSCRIBE request contains the "presence" event type;

the MCData server:

1) shall identify the served MCData ID in the <mcdata-request-uri> element of the application/vnd.3gpp.mcdata-info+xml MIME body of the SIP SUBSCRIBE request;

2) if the Request-URI of the SIP SUBSCRIBE request contains the public service identity identifying the originating participating MCData function serving the MCData user, shall identify the originating MCData ID from public user identity in the P-Asserted-Identity header field of the SIP SUBSCRIBE request;

3) if the Request-URI of the SIP SUBSCRIBE request contains the public service identity identifying the terminating participating MCData function serving the MCData user, shall identify the originating MCData ID in the <mcdata-calling-user-id> element of the application/vnd.3gpp.mcdata-info+xml MIME body of the SIP SUBSCRIBE request;

4) if the originating MCData ID is different than the served MCData ID and the originating MCData ID is not authorized to modify functional alias status of the served MCData ID, shall send a SIP 403 (Forbidden) response and shall not continue with the rest of the steps; and

5) shall generate a SIP 200 (OK) response to the SIP SUBSCRIBE request according to TS 24.229 [5], IETF RFC 6665 [36].

For the duration of the subscription, the MCData server shall notify the subscriber about changes of the information of the served MCData ID, as described in subclause 22.2.2.2.5.

\*\*\*\*\* Next change \*\*\*\*\*

## D.1.3 Semantic

Editor’s note: In the current release, support for emergency groups and emergency group communications (in particular the use of the <emergency-ind> element) may be absent, partial or limited, namely only provided to the extent of facilitating emergency alert functionality.

The <mcdatainfo> element is the root element of the XML document. The <mcdatainfo> element can contain subelements.

NOTE 1: The subelements of the <mcdata-info> are validated by the <xs:any namespace="##any" processContents="lax" minOccurs="0" maxOccurs="unbounded"/> particle of the <mcdata-info> element

If the <mcdatainfo> contains the <mcdata-Params> element then:

1) the <mcdata-access-token>, <mcdata-request-uri>, <mcdata-controller-psi>, <mcdata-calling-user-id>, <mcdata-called-party-id>, <mcdata-calling-group-id>, <alert-ind>, <originated-by> and <mcdata-client-id> can be included with encrypted content;

2) for each element in 1) that is included with content that is not encrypted:

a) the element has the "type" attribute set to "Normal";

b) if the element is the <mcdata-request-uri>, <mcdata-calling-user-id>, <mcdata-called-party-id> or <mcdata-calling-group-id> or <originated-by> then the <mcdataURI> element is included;

c) if the element is the <mcdata-access-token> or <mcdata-client-id>, then the <mcdataString> element is included; and

d) if the element is <alert-ind> then the <mcdataBoolean> element is included;

3) for each element in 1) that is included with content that is encrypted:

a) the element has the "type" attribute set to "Encrypted";

b) the <xenc:EncryptedData> element from the "[http://www.w3.org/2001/04/xmlenc#](http://www.w3.org/2001/04/xmlenc)" namespace is included and:

i) can have a "Type" attribute can be included with a value of "<http://www.w3.org/2001/04/xmlenc#Content>";

ii) can include an <EncryptionMethod> element with the "Algorithm" attribute set to value of "http://www.w3.org/2009/xmlenc11#aes128-gcm";

iii) can include a <KeyInfo> element with a <KeyName> element containing the base 64 encoded XPK-ID; and

iv) includes a <CipherData> element with a <CipherValue> element containing the encrypted data.

NOTE 2: When the optional attributes and elements are not included within the <xenc:EncryptedData> element, the information they contain is known to sender and the receiver by other means.

If the <mcdatainfo> contains the <mcdata-Params> element then:

1) the <mcdata-access-token> can be included with the access token received during authentication procedure as described in 3GPP TS 24.382 [49];

2) the <request-type> can be included with:

a) a value of "one-to-one-sds" to indicate that the MCData client wants to initiate a one-to-one SDS request;

b) a value of "group-sds" to indicate the MCData client wants to initiate a group SDS request;

c) a value of "one-to-one-fd" to indicate that the MCData client wants to initiate a one-to-one FD request;

d) a value of "group-fd" to indicate that the MCData client wants to initiate a group FD request;

e) a value of "msf-disc-req" to indicate that the MCData client wishes to discover the absoluteURI of the media storage function for HTTP requests;

f) a value of "msf-disc-res" when the participating MCData function sends the absolute URI to the MCData client;

g) a value of "notify" when the controlling MCData function needs to send a notification to the MCData client;

h) a value of "one-to-one-sds-session" to indicate that the MCData client wants to initiate a one-to-one SDS session;

i) a value of "group-sds-session" to indicate the MCData client wants to initiate a group SDS session; or

j) a value of "functional-alias-status-determination" when a client initiates a subscription request to FA status;

3) the <mcdata-request-uri> can be included with an MCData group ID;

4) the <mcdata-calling-user-id> can be included, set to MCData ID of the originating user;

5) the <mcdata-called-party-id> can be included, set to the MCData ID of the terminating user;

6) the <mcdata-calling-group-id> can be included to indicate the MCData group identity to the terminating user;

7) the <alert-ind> can be:

a) set to "true" to indicate that an alert to be sent; or

b) set to "false" to indicate that an alert to is be cancelled;

8) the <originated-by> can be included, set to the MCData ID of the originating user of an MCData emergency alert when being cancelled by another authorised MCDATA user;

9) the <mcdata-client-id>: can be included, set to the MCData client ID of the MCData client that originated a SIP INVITE request, SIP REFER request or SIP MESSAGE request; and

10) the <mcdata-controller-psi> can be included, set to the PSI of the controlling MCData function that handled the one-to-one or group MCData data request; and

11) the <anyExt> can be included with the following elements not declared in the XML schema:

a) a <pre-established-session-ind> of type "xs:Boolean":

i) set to a value of "true" by MCData client in pre-established session setup request to indicate MCData participating function about initiation of pre-established session.

b) a <mcdata-communication-state> of type "xs:string" can be included to indicate state of MCData communication within pre-established session. The <mcdata-communication-state> can be set to:

i) a value of "establish-request" by MCData participating function to indicate to the MCData client about MCData communication establishement request within pre-established session;

ii) a value of "establish-success" by MCData participating function or MCData client to indicate that the MCData communication is established successfully;

iii) a value of "establish-fail" by MCData participating function or MCData client to indicate that the MCData communication establishement is failed or rejected;

iv) a value of "terminate-request" by MCData participating function to indicate to the MCData client about MCData communication termination request within pre-established session; and

v) a value of "terminated" by MCData participating function or MCData client to indicate MCData communication is terminated.

c) an <emergency-ind> of type "xs:Boolean" can be included and set to:

i) "true" to indicate that the communication that the MCData client is initiating is an emergency MCData communication; or

ii) "false" to indicate that the MCData client is cancelling an emergency MCData communication (i.e. converting it back to a non-emergency communication);

d) an <alert-ind-rcvd> of type "xs:Boolean":

i) may be set to “true” and included in a SIP MESSAGE to indicate that the emergency alert or cancellation was received successfully;

e) an <mc-org> of type “xs:string” may be:

i) set to the MCData user's Mission Critical Organization and included in an emergency alert sent by the MCData server to terminating MCData clients;

The recipient of the XML ignores any unknown element and any unknown attribute.

\*\*\*\*\* End of change \*\*\*\*\*