3GPP TSG-SA3 Meeting #35
St Paul's Bay, Malta, October 5 – 8, 2004

Tdoc ⌘S3-040816

CR-Form-v7

CHANGE REQUEST

⌘	**33.246**	**CR**	**019**	⌘**rev**	**-**	⌘	Current version:	**6.0.0** ⌘

For ***HELP*** *on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☒ ME ☒ Radio Access Network ☐ Core Network ☒

Title:	⌘	Initiation of key management		
Source:	⌘	Ericsson		
Work item code:	⌘	MBMS	***Date:*** ⌘	28/09/2004
Category:	⌘	**C**	***Release:*** ⌘	Rel-6
		Use one of the following categories: ***F*** *(correction)* ***A*** *(corresponds to a correction 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.		*Use one of the following releases:* *2 (GSM Phase 2)* *R96 (Release 1996)* *R97 (Release 1997)* *R98 (Release 1998)* *R99 (Release 1999)* *Rel-4 (Release 4)* *Rel-5 (Release 5)* *Rel-6 (Release 6)*

Reason for change:	⌘	Initiation of key management is not specified in the TS 33.246. It has not been specified what security parameters are needed in Service Announcement.
Summary of change:	⌘	Initiation of key management is specified. Required Security parameters in Service Annoucement are specified.
Consequences if not approved:	⌘	Initiation of key management remains unspecified.

Clauses affected:	⌘	2, 6.3.2			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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 TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 22.146: "Multimedia Broadcast/Multicast Service; Stage 1".

[3] 3GPP TS 23.246: "Multimedia Broadcast/Multicast Service (MBMS); Architecture and Functional Description".

[4] 3GPP TS 33.102: "3G Security; Security Architecture".

[5] 3GPP TS 22.246: "MBMS User Services".

[6] 3GPP TS 33.220: "Generic Authentication Architecture (GAA); Generic Bootstrapping Architecture".

[7] 3GPP TS 31.102: "Characteristics of the USIM application".

[8] IETF RFC 2617 "HTTP Digest Authentication".

[9] IETF RFC 3830 "MIKEY: Multimedia Internet KEYing"

[10] IETF RFC 1982 "Serial Number Arithmetic".

[11] IETF RFC 3711 "Secure Real-time Transport Protocol".

[12] 3GPP TS 43.020: "Security related network functions".

[13] 3GPP TS 26.346: "MBMS, Protocols and codecs".

********** NEXT CHANGE**********

6.3.2.2 UE initiated MSK update procedure

6.3.2.1.1 Initiation of key management

When a UE has received User Service information via User Service Discovery / Announcement procedures describing a MBMS User Service and the user has triggered the activation of that User Service, the UE should try to get the MSK(s) that will be used to protect the data transmitted as part of this User Service.

NOTE: The User Service Discovery / Announcement procedures are specified in TS 26.346 [13]. It is out of the scope of the present specification how the UE receives the User Service information and how the User Service is triggered in the UE.

The UE shall receive the following information via the User Service Discovery / Announcement procedures:

- Domain name of the key management server (i.e. the BM-SC). This for the UE to know to which IP address to send the MSK request
- Confidentiality protection: on / off
- Integrity protection: on / off

Identifiers of the Key Groups IDs needed for the User Service

NOTE: MSK ID(s) are not used since they may change over time and Key Group ID is sufficient to identify the MSKs.

- Mapping information how the MSKs are used to protect the different User Service Sessions

Editors' Note: The exact syntax of the service announcement information including security parameters, e.g. possible XML schema of the parameters and its MIME type are to be specified in SA4.

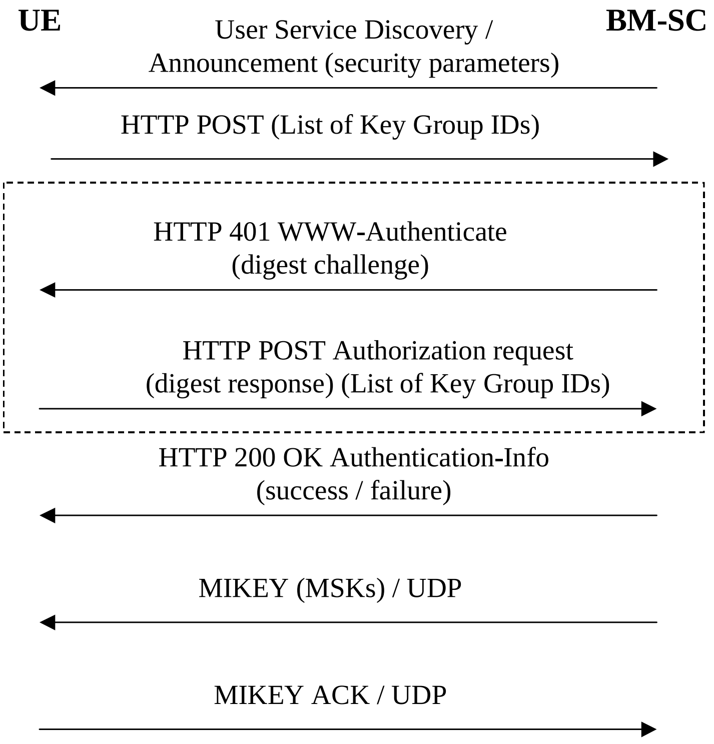
UE
BM-SC
User Service Discovery / Announcement (security parameters)
HTTP POST (List of Key Group IDs)
HTTP 401 WWW-Authenticate (digest challenge)
HTTP POST Authorization request (digest response) (List of Key Group IDs)
HTTP 200 OK Authentication-Info (success / failure)
MIKEY (MSKs) / UDP
MIKEY ACK / UDP

Figure 6.x: MSK retrieval procedure

The communication between the UE and the BM-SC is authenticated and integrity protected with HTTP Digest as described in subclause 6.2.1 of this specification.

The UE requests for the MSKs using with the HTTP POST message. The following information key identification information is included in the client payload of the HTTP message

- key identification information: a list of Key Group IDs.

NOTE: MSK ID(s) are not needed in the request since BM-SC will send the current valid MSK for each Key Group ID.

Editors' Note: The exact syntax of the HTTP request message, e.g. possible XML schema of the request parameters in the client payload and its MIME type are to be specified in stage 3.

The BM-SC authenticates the UE with HTTP Digest using the keys received from GBA as described in subclause 6.2.1 and verifies that the subscriber is authorized to receive the MSKs for this service.

The BM-SC sends a response in HTTP 200 OK message with Authentication-Info header. The response in client payload includes cause code for success or failure.

Editors' Note: The exact syntax of the HTTP response message, e.g. possible XML schema of the success or failure parameters in the client payload and its MIME type are to be specified in stage 3.

The UE checks the validity of the HTTP response message. If the message indicated failure, the UE may retry or leave the User Service.

If the key request HTTP procedure above resulted to success, the BM-SC sends initiates MIKEY messages procedures over UDP transporting the requested MSKs to the UE.

If it was requested by the BM-SC, the UE sends a MIKEY acknowledgement message to the BM-SC.

If the UE fails to get hold of the MSK or receives no confirmation that no updated MSK is necessary or available at this time, then, unless the UE has a still-valid, older MSK, the UE shall leave the MBMS user service.