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Contents

Foreword

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Introduction

The security of MBMS provides different challenges compared to the security of services delivered over point-to-point services. In addition to the normal threat of eavesdropping, there is also the threat that it may not be assumed that valid subscribers have any interest in maintaining the privacy and confidentiality of the communications, and they may therefore conspire to circumvent the security solution (for example one subscriber may publish the decryption keys enabling non-subscribers to view broadcast content). Countering this threat requires the decryption keys to be updated frequently in a manner that may not be predicted by subscribers while making efficient use of the radio network. The stage 1 requirements for MBMS are specified in TS 22.146 [2].

1 Scope

The Technical Specification covers the security procedures of the Multimedia Broadcast/Multicast Service (MBMS) for 3GPP systems (UTRAN, GERAN and E-UTRAN). MBMS is a 3GPP system network bearer service over which many different applications could be carried. The actual method of protection may vary depending on the type of MBMS application.

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.

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[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: "Multimedia Broadcast/Multicast Service; Protocols and Codecs".

[14] 3GPP TS 33.210: "Network domain security; IP network layer security".

[15] OMA-DRM-DCF-v2_0: "OMA DRM Content Format", www.openmobilealliance.org

[16] IETF RFC 4563 "The Key ID Information Type for the General Extension Payload in Multimedia Internet KEYing (MIKEY)".

[17] Port numbers at IANA, http://www.iana.org/assignments/port-numbers.

[18] 3GPP TS 24.109: "3rd Generation Partnership Project; Technical Specification Group Core Network; Bootstrapping interface (Ub) and network application function interface (Ua); Protocol details".

[19] IETF RFC 2616 " Hypertext Transfer Protocol -- HTTP/1.1".