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IANA Registry Update for Support of the SEED Cipher Algorithm in Multimedia Internet KEYing (MIKEY)

Abstract

This document updates IANA registries to support the SEED block cipher algorithm for the Secure Real-time Transport Protocol (SRTP) and the secure Real-time Transport Control Protocol (SRTCP) in Multimedia Internet KEYing (MIKEY).

Status of This Memo

This document is not an Internet Standards Track specification; it is published for informational purposes.

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1. Introduction

This document updates IANA registries to support the SEED [RFC4269] block cipher algorithm for the Secure Real-time Transport Protocol (SRTP) and the Secure Real-time Transport Control Protocol (SRTCP) [RFC3711] in Multimedia Internet KEYing (MIKEY) [RFC3830].

1.1. SEED

SEED is a 128-bit symmetric key block cipher that has been developed by KISA (Korea Information Security Agency) and a group of experts since 1998. The input/output block size of SEED is 128-bit, and the key length is also 128-bit. SEED has a 16-round Feistel structure.

SEED is a Korean National Industrial Association standard and is widely used in South Korea for electronic commerce and various security products such as firewalls, VPNs, and so on.

2. Additions to MIKEY Payload

This section specifies new code points for the MIKEY [RFC3830] payload to indicate the use of the SEED cipher algorithm for SRTP and SRTCP. There are three applicable modes of running SEED: SEED in Counter Mode (SEED-CTR), SEED in Counter with CBC-MAC Mode (SEED-CCM), and SEED in Galois/Counter Mode (SEED-GCM) Mode. These are defined in [RFC5669].

2.1. Modified Table 6.10.1.b from RFC 3830

IANA has amended the sub-registry derived from Table 6.10.1.b of [RFC3830] as follows:

SRTP encr alg	Value
-----	-----
NULL	0
AES-CM	1
AES-F8	2
SEED-CTR	3 (NEW)
SEED-CCM	4 (NEW)
SEED-GCM	5 (NEW)

Figure 1: Table 6.10.1.b from [RFC3830] (Revised)

2.2. Modified Table 6.10.1.d from RFC 3830

IANA has amended the sub-registry derived from Table 6.10.1.d of [RFC3830] as follows:

SRTP PRF	Value
-----	-----
AES-CM	0
SEED-CTR	1 (NEW)

Figure 2: Table 6.10.1.d from [RFC3830] (Revised)

3. Security Considerations

No security problem has been found on SEED. SEED is secure against all known attacks including differential cryptanalysis, linear cryptanalysis, and related key attacks. The only known attack is an exhaustive search for the key. For further security considerations, the reader is encouraged to read [SEED-EVAL].

4. IANA Considerations

IANA has amended the indicated sub-registries in Section 2 of the MIKEY [RFC3830] Payload Name registry according to Sections 2.1 and 2.2 above.

5. Acknowledgements

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6. References

6.1. Normative References

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6.2. Informative References

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