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Minor corrections in AES-CCM mode

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1. Introduction

There are some minor errors/consistencies to be made to the description of the AES-CCM mode.

2. Text changes

[Modify figure 135 of 7.5.1.2.1 as follows]

Payload before encryption

L bytes

Plaintext before encryption

PDU after encryption ~~Payload after encryption~~

$6+\lceil L/16 \rceil *16 +12$ Bytes

Generic Mac Header	PN←	Ciphertext payload	Message Authentication Code~~ICV~~←	CRC
	← Security Header →		← Security Trailer →	

Figure 135—Encrypted PDU format in AES-CCM mode~~TEK management in BS and SS~~

[Modify 7.5.1.2.3 as follows]

The NIST CCM specification defines a number of algorithm parameters. These parameters shall be fixed to specific values when used in SAs with a data encryption algorithm identifier of 0x02.

The number of octets in the message authentication code field t~~M~~ shall be set to 8. Consistent with the CCM specification the 3 bit binary encoding of M shall be 011.

The size *q* of the length field L shall be set to 2. Consistent with the CCM specification, the 3-bit binary encoding of the *q* field shall be 001.

The length *a* of the additional authenticated data string ~~l(a)~~ shall be set to 0.

The nonce shall be 13 bytes long as shown in figure XXX. Bytes 0 through 4 shall be set to the first five byte of the Generic MAC Header ~~GMH~~ (thus excluding the HCS). The sixth byte of the GMH is not included in the nonce since it is redundant. Bytes 5 through 8 are reserved and shall be set to 0x00000000. Bytes 9 through 12 shall be set to the value of the PN encoded in MSB first byte order. ~~Byte 10 shall take the least significant byte and byte 13 shall take the most significant byte~~

[Add figure XXX]

Byte Number	0…4	5…8	9…12
Field	GMH	Reserved	PN
Contents	Generic MAC Header without the trailing HCS	0x00000000	packet number field from payload

Figure XXX – Format of the Nonce

Consistent with the CCM specification, the initial block B_0 is formatted as shown in Figure 136.

Byte number ~~within MIC_IV Byte significance~~	0	1…13	14…15
Bytes	1	13	2
Field	Flag	Nonce	L ~~DLEN~~ ←-
Contents	0x19	As specified in figure XXX	Length of *plaintext payload* ~~data part not including padding~~

Figure 136—Initial CCM Block B_0

~~Note the big endian ordering of the DLEN value is opposite that of the normal little endian representation.~~
~~This is to remain compliant with the letter of the NIST CCM specification.~~
~~The sixth byte of the GMH is not included in the nonce since it is redundant.~~

Consistent with the NIST CCM specification the counter blocks Ctr_i ~~Ai~~ are formatted as shown in Figure 137.

Byte number ~~within CTR(i) Byte significance~~	0	1…13	14…15
Bytes	1	13	2
Field	Flag	Nonce	C*ounter* ←-
Contents	0x01	As specified in figure XXX	*i* ~~Length of data part not includi padding~~

Figure 136—Construction of counter blocks Ctr_i ~~Ai~~