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AMENDMENT 1
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**Information technology —
Security techniques — Encryption
algorithms —**

**Part 2:
Asymmetric ciphers**

AMENDMENT 1: FACE

*Technologies de l'information — Techniques de sécurité —
Algorithmes de chiffrement —*

Partie 2: Chiffres asymétriques

AMENDEMENT 1: FACE



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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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This document was prepared by ISO/IEC JTC 1, *Information technology*, Subcommittee SC 27, *IT Security techniques*.

A list of all parts in the ISO/IEC 18033 series can be found on the ISO website.

Information technology — Security techniques — Encryption algorithms —

Part 2: Asymmetric ciphers

AMENDMENT 1: FACE

Introduction

Replace the Introduction with the following:

Introduction

The International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) draw attention to the fact that it is claimed that compliance with this document may involve the use of patents.

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Scope, NOTE

Replace:

- ECIES-HC; PSEC-HC; ACE-HC: generic hybrid ciphers based on ElGamal encryption;

with the following:

- ECIES-HC; PSEC-HC; ACE-HC; FACE-HC: generic hybrid ciphers based on ElGamal encryption;

8.1.2

Replace:

- *ECIES-KEM* (described in Clause 10.2),

- *PSEC-KEM* (described in Clause 10.3),
- *ACE-KEM* (described in Clause 10.4), and
- *RSA-KEM* (described in Clause 11.5).

with the following:

- *ECIES-KEM* (described in 10.2),
- *PSEC-KEM* (described in 10.3),
- *ACE-KEM* (described in 10.4),
- *FACE-KEM* (described in 10.5), and
- *RSA-KEM* (described in 11.5).

8.1.2

Replace NOTE 1 with the following:

NOTE 1 As a matter of convention, the corresponding generic hybrid ciphers built from these key encapsulation mechanisms via the generic hybrid construction in 8.3 should be called (respectively) *ECIES-HC*, *PSEC-HC*, *ACE-HC*, *RSA-HC*, and *FACE-HC*.

Clause 10

Add the following after “*ACE-KEM* is described in Clause 10.4”:

- *FACE-KEM* is described in 10.5.

Clause 10

Add the following after 10.4.4:

10.5 *FACE-KEM*

The key encapsulation mechanism *FACE-KEM* is described in 10.5.

NOTE *FACE-KEM* is based on a series of research papers (see References [43] to [46]).

10.5.1 System parameters

FACE-KEM is a family of key encapsulation mechanisms, parameterized by the following system parameters:

- Γ : a concrete group
$$\Gamma = (\mathcal{H}, \mathcal{G}, \mathbf{g}, \mu, \nu, \mathcal{E}, \mathcal{D}, \mathcal{E}', \mathcal{D}');$$
- *KDF*: a key derivation function, as described in 6.2;
- *Hash*: a cryptographic hash function, as described in 6.1;
- *CofactorMode*: one of two values: 0 or 1.
- *KeyLen*: a positive integer.