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Information technology — Security techniques — Modes of operation for an n -bit block cipher

Technologies de l'information — Techniques de sécurité — Modes opératoires pour un chiffrement par blocs de n bits



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Foreword

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

This fourth edition cancels and replaces the third edition (ISO/IEC 10116:2006) and ISO/IEC 10116:2006/Cor1:2008, which have been technically revised.

The main technical changes between the third edition and this fourth edition are as follows:

- a) the inclusion of padding within the normative scope of ISO/IEC 10116;
- b) the inclusion of methods for avoiding ciphertext expansion for CBC, CFB, OFB and CTR modes.

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Introduction

This document specifies modes of operation for an n -bit block cipher. These modes provide methods for encrypting and decrypting data using a block cipher.

This fourth edition of ISO/IEC 10116 specifies five modes of operation:

- a) Electronic Codebook (ECB);
- b) Cipher Block Chaining (CBC);
- c) Cipher Feedback (CFB);
- d) Output Feedback (OFB);
- e) Counter (CTR).

NOTE [Annex C](#) presents figures describing the modes of operation. [Annex D](#) provides numerical examples of the modes of operation.