ISO/IEC 11770-6:2016-10 (E)

Information technology - Security techniques - Key management - Part 6: Key derivation

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Symbols and abbreviations 3
4.1 Symbols 3
4.2 Abbreviations 4
4.3 Notation 4

5 Key derivation techniques 4
5.1 Model 4
5.2 Types of key derivation function 5
5.3 Relationship to key management life cycle 6
5.4 Use of a key derivation function 6

6 One-step key derivation functions 6
6.1 General 6
6.2 One-step key derivation function 1 (OKDF1) 7
6.2.1 General 7
6.2.2 Requirements for use 7
6.2.3 Operation of function 7
6.3 One-step key derivation function 2 (OKDF2) 8
6.3.1 General 8
6.3.2 Requirements for use 8
6.3.3 Operation of function 8
6.4 One-step key derivation function 3 (OKDF3) 9
6.4.1 General 9
6.4.2 Requirements for use 9
6.4.3 Operation of function 9
6.5 One-step key derivation function 4 (OKDF4) 9
6.5.1 General 9
6.5.2 Requirements for use 10
6.5.3 Operation of function 10
6.6 One-step key derivation function 5 (OKDF5) 10
6.6.1 General 10
6.6.2 Requirements for use 11
6.6.3 Operation of function 11
6.7 One-step key derivation function 6 (OKDF6) 11
6.7.1 General 11
6.7.2 Requirements for use 12
6.7.3 Operation of function 12

7 Two-step key derivation functions 12
7.1 General 12
7.2 Key extraction function 13

7.2.1 Key extraction function 1 (KTF1) 13
7.3 Key expansion functions 14
7.3.1 Key expansion function 1 (KPF1) 14
7.3.2 Key expansion function 2 (KPF2) 15
7.3.3 Key expansion function 3 (KPF3) 16
7.3.4 Key expansion function 4 (KPF4) 17
7.4 Two-step KDFs 18
7.4.1 Two-step key derivation function 1 (TKDF1) 18
7.4.2 Two-step key derivation function 2 (TKDF2) 18
7.4.3 Two-step key derivation function 3 (TKDF3) 19
7.4.4 Two-step key derivation function 4 (TKDF4) 19

Annex A (normative)Objectidentifiers 20

Annex B (informative) Guidance on use 21

Bibliography 23