DIN EN ISO 11073-40102:2022-07 (E)

Health informatics - Device interoperability - Part 40102: Foundational - Cybersecurity - Capabilities for mitigation (ISO/IEEE 11073-40102:2022); English version EN ISO/IEEE 11073-40102:2022

Contents

Page

1. Overview 11
1.1 General 11
1.2 Scope 12
1.3 Purpose 12
1.4 Word usage 12

2. Normative references 13

3. Definitions, acronyms, and abbreviations 13
3.1 Definitions 13
3.2 Acronyms and abbreviations 13

4. Information security 14
4.1 General 14
4.2 Confidentiality 14
4.3 Integrity 14
4.4 Availability 14
4.5 Non-repudiation 15

5. Security with safety and usability 15
5.1 High-level view 15
5.2 Safety relationships 15
5.3 Usability relationships 16

6. Mitigation 16
6.1 General 16
6.2 Software security updates 17
6.3 Secure design principles 17
6.4 Secure by design and secure by default principles 18
6.5 Privacy by design and privacy by default principles 18
6.6 Ensure robust interface design 19
6.7 Limit access to trusted users only 19
6.8 Ensure trusted content 19
6.9 Mapping of mitigation categories, security capabilities, mitigation techniques, and design principles 19

7. Information security controls 22

8. Information security toolbox 23
8.1 General 23
8.2 Nonce 24
8.3 Encryption 24
8.4 Message authentication code 24
8.5 Key exchange 25
8.6 Key derivation function 26
8.7 Audit trail 26

Annex A (informative) Bibliography 27

Annex B (informative) Test vectors 29
B.1 General 29
B.2 NIST AES-GCM test vector 29
B.3 NIST AES-GMAC test vector 29
B.4 NIST ECDH test vectors 30