

ISO/IEEE 11073-40102:2022-03 (E)

Health informatics - Device interoperability - Part 40102: Foundational - Cybersecurity - Capabilities for mitigation

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