

ISO 19847:2024-02 (E)

Ships and marine technology - Shipboard data servers for sharing field data at sea

Contents

Page

- Foreword..... v
- Introduction..... vi
- 1 Scope..... 1**
- 2 Normative references..... 1**
- 3 Terms and definitions..... 1**
- 4 Abbreviated terms..... 6**
- 5 General requirements for the shipboard data server..... 7**
 - 5.1 Function and performance of the shipboard data server..... 7
 - 5.1.1 Processing performance..... 7
 - 5.1.2 Storage function..... 10
 - 5.1.3 Interface function..... 10
 - 5.1.4 Condition monitoring function..... 11
 - 5.1.5 Data backup and restoration functions..... 11
 - 5.1.6 Function to protect against unauthorised access..... 11
 - 5.1.7 Status reporting..... 11
 - 5.2 Environmental performance of shipboard data server..... 12
 - 5.2.1 Power-supply performance..... 12
 - 5.2.2 Vibration-resistant feature..... 12
 - 5.2.3 Requirement for electromagnetic immunity and emission..... 12
 - 5.2.4 Temperature and humidity resistant requirements..... 13
 - 5.3 Installation requirements for shipboard data server..... 13
 - 5.3.1 Environment requirements..... 13
 - 5.3.2 Requirements for maintenance areas..... 13
 - 5.3.3 Requirement for networks and network security..... 13
- 6 Data input/output and data management on shipboard data server..... 14**
 - 6.1 General..... 14
 - 6.2 Data management function..... 14
 - 6.2.1 General..... 14
 - 6.2.2 Management of system clock..... 14
 - 6.2.3 Management of Data Channel List..... 14
 - 6.2.4 Management of Data Source Information..... 15
 - 6.2.5 Management of Alias List..... 15
 - 6.3 Data input and output functions..... 15
 - 6.3.1 General..... 15
 - 6.3.2 Input function..... 16
 - 6.3.3 Output function..... 17
 - 6.3.4 Request-response data transport service..... 17
 - 6.3.5 Streaming data transport service..... 18
 - 6.3.6 File transport service..... 18
 - 6.4 Alias function..... 18
 - 6.4.1 General..... 18
 - 6.4.2 Alias List..... 19
 - 6.5 Data calculation function..... 19
 - 6.5.1 General..... 19
 - 6.6 Log management function..... 19

7	Operation requirements	20
7.1	General	20
7.2	Protection from logical threats	20
7.2.1	Access control	20
7.2.2	Usage control	21
7.2.3	Network access	22
7.2.4	System defence	22
7.3	Protection from physical threats	23
7.3.1	General	23
7.3.2	Installation requirements	23
7.3.3	Connection cables	23
7.3.4	Power source management	23
7.3.5	Interfaces for removable devices	24
7.3.6	Protection (others)	24
7.3.7	Equipment maintenance	24
7.4	Software maintenance	25
7.4.1	General	25
7.4.2	Maintenance mode	25
7.4.3	Setting changes	25
7.4.4	Software update	25
7.4.5	Failure recovery	26
7.4.6	Software version information	26
8	Test requirements	26
8.1	Outline	26
8.2	Test items	26
8.2.1	Test environments	26
8.2.2	Test methods	27
	Annex A (informative) Ship-to-shore communication management	43
	Annex B (informative) Structure of Alias List	45
	Annex C (normative) Request-response protocol	49
	Annex D (normative) Streaming protocol	60
	Annex E (normative) File input and output protocol by the HTTP(S)	62
	Annex F (informative) Data source information	64
	Annex G (informative) User management of the shipboard data server	74
	Annex H (informative) Internal calculation function	77
	Bibliography	86