

# ISO 19847:2018 (E)

## Ships and marine technology — Shipboard data servers to share field data at sea

---

### Contents

	Foreword
	Introduction
1	Scope
2	Normative References
3	Terms and definitions
4	Abbreviated terms
5	General requirements for the shipboard data server
5.1	Function and performance of the shipboard data server
5.1.1	Processing performance
5.1.1.1	Input data processing performance
5.1.1.2	Output data processing performance
5.1.1.3	Streaming transport processing performance
5.1.2	Storage function
5.1.3	Interface function
5.1.4	Condition monitoring function
5.1.5	Data backup and restoration functions
5.1.6	Function to protect against unauthorised access
5.1.7	REDS security
5.1.7.1	Physical protection
5.1.7.2	Operational protection
5.1.7.3	Executable program file verification
5.1.7.4	Non-executable data verification
5.1.8	Status reporting
5.2	Environmental performance of shipboard data server
5.2.1	Power-supply performance
5.2.2	Vibration-resistant feature
5.2.3	Requirement for electromagnetic immunity and emission
5.2.4	Temperature and humidity resistant requirements
5.3	Installation requirements for shipboard data server
5.3.1	Environment requirements
5.3.2	Requirements for maintenance areas
5.3.3	Requirement for networks and network security
6	Data input/output and data management on shipboard data server
6.1	General
6.2	Data management function
6.2.1	Management of system clock
6.2.2	Management of Data Channel List
6.2.3	Management of Data Source Information
6.2.4	Management of Alias List
6.3	Data input and output functions
6.3.1	Input function
6.3.2	Output function
6.3.3	Request-response data transport service
6.3.4	Streaming data transport service
6.3.5	File transport service
6.4	Alias function

6.4.1	General
6.4.2	Alias List
6.5	Data calculation function
6.6	Log management function
7	Test requirements
7.1	Outline
7.2	Tests on general requirements
7.2.1	Test environments
7.2.2	Test items
7.3	Tests on input/output and management functions
7.3.1	Test environments
7.3.2	Test items
<b>Annex A (informative) Ship-to-shore communication management</b>	
A.1	General
A.2	Ship-to-shore communication agents
A.3	Data communication management agents
A.4	Service agents
<b>Annex B (normative) Alias List</b>	
B.1	Structure of Alias List
B.1.1	Data model of Alias List
B.1.2	Logical structure of Alias List
<b>Annex C (normative) Request-response protocol</b>	
C.1	General
C.2	Access control
C.3	Protocol specification
C.4	Example for Request-response Protocol
<b>Annex D (normative) Streaming protocol</b>	
D.1	General
D.2	Access control
D.3	Protocol specification
<b>Annex E (normative) File input and output protocol</b>	
E.1	General
E.2	Access control
E.3	Protocol specification
<b>Annex F (informative) Data Source Information</b>	
F.1	General
F.2	Rules for XML Schemas
F.3	Structure of Data Source Information
F.4	Logical Structure of Data Source Information
F.5	Example of XML Schema — Namespace:SIOD(Ships Server Input and Output Definition)
F.6	Example of XML data
<b>Annex G (informative) User management of the shipboard data server</b>	
G.1	General
G.2	Managing privileges
G.3	Defining access privileges