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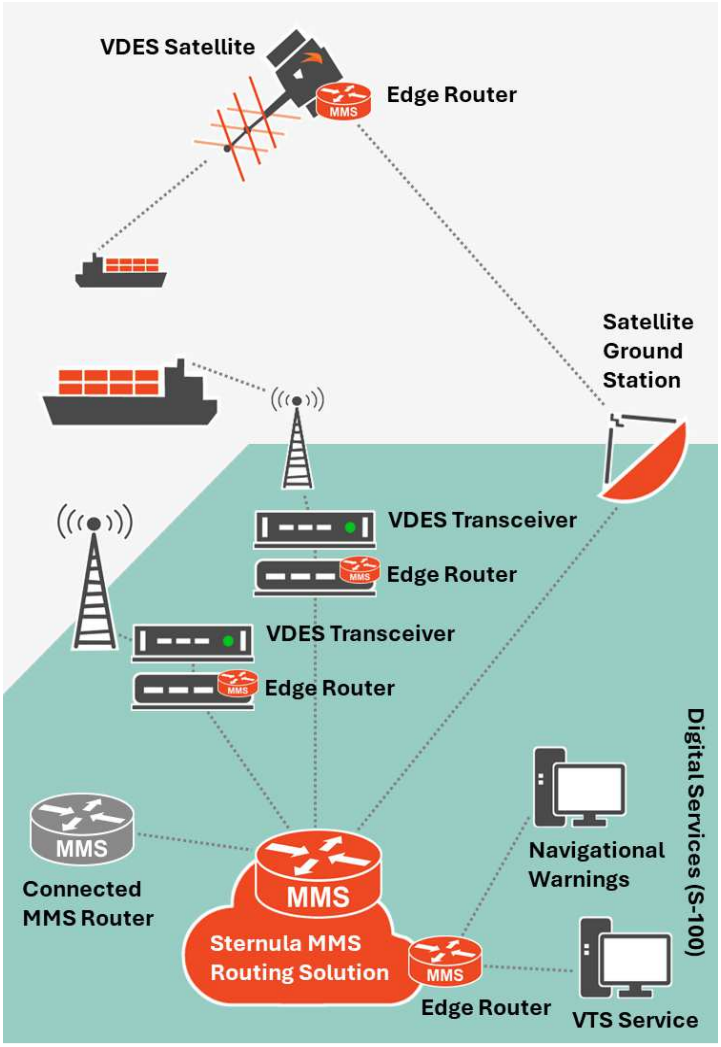
Connecting the Oceans

Sternula MMS Routing Solution

The Routing Service for VDES

The **Sternula MMS Routing Solution** is a networking solution for VHF Data Exchange System (VDES) networks, implemented according to the Maritime Messaging Service (MMS) standard.

The **Sternula MMS Routing Solution** enables S-100 services over your coastal and/or satellite-based VDES network.



What is it?

MMS, as defined in RTCM Standard 13900.0, is the messaging component of the Maritime Connectivity Platform (MCP) that allows authenticated maritime stakeholders to send and receive messages in an efficient, reliable, and seamless manner. MMS solves the problem of data routing between new S-100 services and ships over radio communication systems, such as VDES.

The core of the **Sternula MMS Routing Solution** is an implementation of the "MMS Router" concept of the MMS standard, specific to a VDES network. An "MMS Router" handles message routing and forwarding between "Edge Routers" at the VDES base stations, VDES satellites, ship transceivers, digital services, and towards connected "MMS Routers".

The **Sternula MMS Routing Solution** is a software-based platform routing S-100 data between digital services and ships in your VDES network. It integrates with all major VDES equipment providers, and it offers a standardized MMS-based gateway for seamless deployment of digital S-100 services.

How does it work?

The **Sternula MMS Routing Solution** enables the transfer of digital "messages" containing arbitrary digital data, using VDES shore stations or VDES satellites. This means that it is well-suited for current and future S-100 chart data to enrich the display of the onboard Electronic Chart Display and Information System (ECDIS). The core elements of the **Sternula MMS Routing Solution** are:

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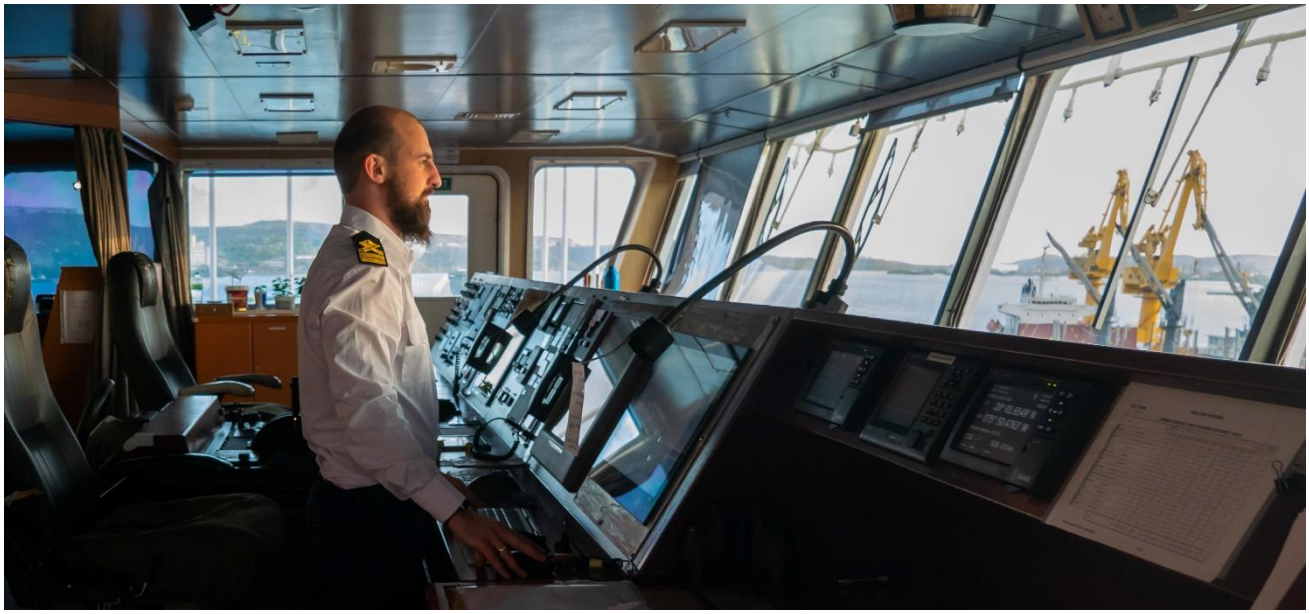
- **MMS Router**: The central component that handles intelligent message routing between other MMS Routers and MMS Edge Routers. When a connected MMS Router or Edge Router is not available, the MMS Router will store message until it can be forwarded.
- **MMS Edge Router**: A gateway to the external environment, e.g. digital services, and ensures access to IP-based services and handles satellite and terrestrial communication

The **Sternula MMS Routing Solution** allows the VDES network operator to exhibit its infrastructure to selected digital service providers and extend it securely with other VDES and MMS network operators. Using the Public Key Infrastructure (PKI) of MCP, all communication is authenticated to ensure the highest level of security.

The **Sternula MMS Routing Solution** can be operated at the customer's own premises or hosted and operated by Sternula as a service.



Deploy your S-100 services

- Navigational Warnings
- Weather Bulletins Service
- Ice Charts Service
- Route Exchange
- Digitally Signed Virtual AtoNs
- VTS Service
- Maritime Single Window

Features

- Compliant with the RTCM Standard 13900.0 for MMS Architecture and Protocol
- MMTP and SMMP protocols for authentication, confidentiality, and non-repudiation
- Support for VDE-SAT and VDE-TER networks for global and coastal coverage
- Support for any IP-based connectivity system.
- Robust message delivery even in intermittent connectivity scenarios

Compatibility:

- **Sternula MMS Routing Solution** can be integrated into a SECOM network by a SECOM-MMS Bridge
- **Sternula MMS Proxy Shore** integrates the **Sternula MMS Routing Solution** with any VDES provider

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