

DataSwitch

Data Routing and Management Software

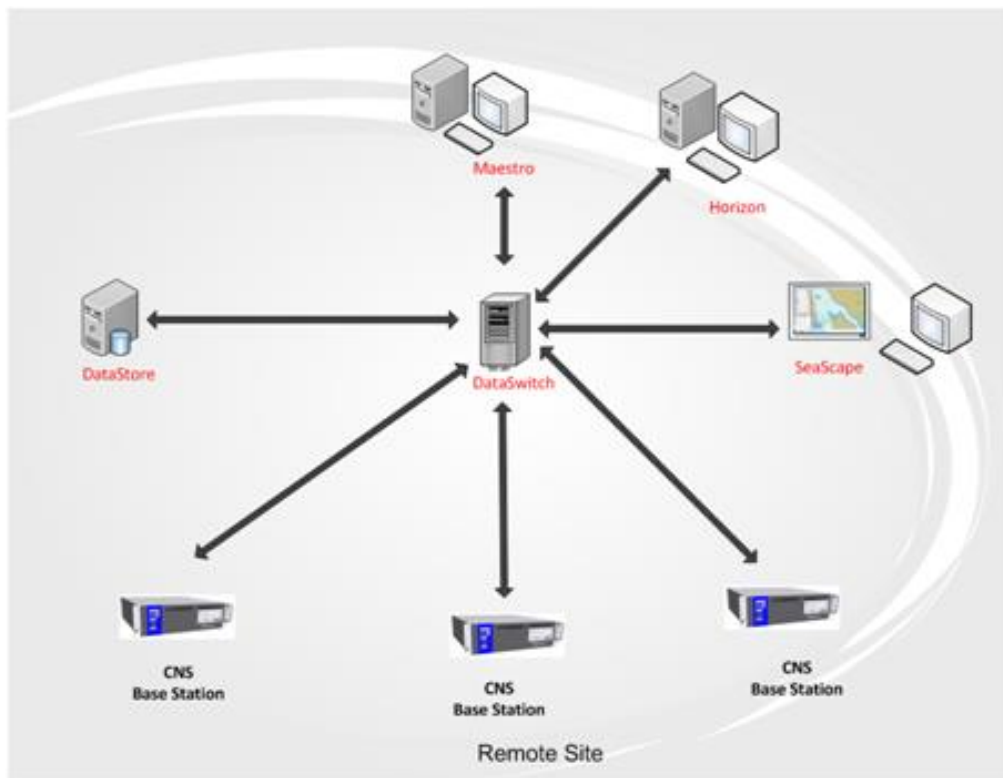
DataSwitch is a data routing and management software application that provides a reliable flow of data to your environment. DataSwitch supports the functionality defined in IALA Recommendation A-124, LSS Layer, Part IV. It is ideal for the collection, filtering, logging and sharing of AIS data over networks.

CNS Systems has developed a modular, scalable and customizable marine data routing solution that meets the needs of shore-based and vessel-based users. DataSwitch is a MS-Windows software solution that connects nodes (hardware sensors, users, and/or networks) and chooses the optimal way to send each information packet based on its current understanding of the nodes.

DataSwitch performs a number of functions when data is passed into it; unlike hardware routers found on the internet that simply pass information from one network to another. DataSwitch can filter data as it is received, and does not necessarily forward all received information. The user can define what information is passed on.

For a vessel-based network, DataSwitch can send information from attached NMEA devices (sensors) to a number of stations on the vessel. For shore-based networks, DataSwitch enables the flow of information from one or more AIS base stations and/or receivers to a Vessel Traffic Service (VTS) center. Similarly, a VTS center can send vital information to a regional headquarters and then on to a national entity via another DataSwitch.

The distribution of both standard and proprietary data messages from one central location to shared locations makes DataSwitch essential in many diverse environments.



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Features & Functionality

- Compliant with IALA A-124 Logical Shore Station guidelines.
- Configuration and management access of DataSwitch is via a web browser and accessed from either the ASM (Maestro) or a standalone web service.
- DataSwitch allows multiple sources of standard and proprietary data to be collected, filtered, sorted, and securely redistributed according to defined rules and user rights. DataSwitch can be configured to accept or reject certain messages, and it can be configured to distribute information as it is needed by the network.
- DataSwitch is node based (hardware sensors, users, and/or networks) and provides a way to easily manage the stream of data between nodes. A node can be both a source and a destination for information. Two separate nodes are required to transfer data.
- Currently, DataSwitch accepts NMEA 0183 sentences, but CNS Systems offers complete customization support for additional message formats, including proprietary messages. Sentences can be collected from several sources, using: RS-232 serial ports; TCP ports; UDP ports; and from files on a computer's hard drive. This information can also be logged to a local log file or database for future playback.
- Data is collected and then managed by creating a user list, with each node allowed to receive (or transfer) an allowable set of standard or proprietary sentences. In this way, each node can provide (or accept) various sentences. As an example, DataSwitch can be configured to read certain sentences from a RS-232 serial port user.
- Standard Communications – Handles two-way communications as well as connection control.
- User Login – Adds the ability to define user and group accounts, which can be used for connection authorization and advanced filter operations.
- Filtering – Option 1 – Includes filtering based on duplicate messages, NMEA messages types and connections.
- Filtering – Option 2 – Includes filtering based on AIS message, geographical area, and vessel parameters.

Additional Modules Available

- Enhanced Communication – Adds advanced connection protocols that are an extension to the normal use of DataSwitch. For example, connections allows for the creation for Virtual AtoNs.
- Secure Communication – Offers the ability to encrypt and decrypt AIS data for secure networks. Can decrypt messages in order for non-secure client systems to participate in a secure AIS network.
- Data Conversion – Offers customers the ability to convert incoming data to a different data format.
- Enhanced Control and Monitoring – Allows DataSwitch to participate in a redundant configuration, significantly minimizing the risk of data loss.

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