AIS Central Monitor

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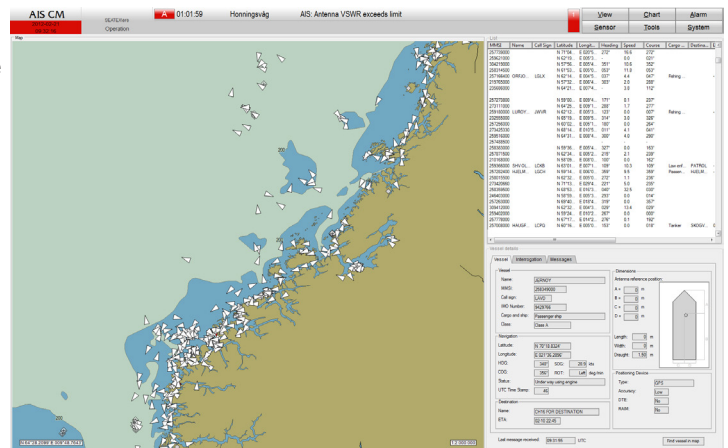
REMOTE OPERATION OF AIS INFRASTRUCTURE

The Central Monitor (CM) is a software application developed to provide a complete solution for the collection, presentation, storage and distribution of AIS (Automatic Identification System) data from an AIS Base Station network. The application enables full remote operation and control of the infrastructure.

Main functions

The AIS CM connects to a data stream of VDM messages (vessel data) generated by AIS Base Stations in a network. The main functions are:

• AIS Base Station management incl. status monitoring, alarm monitoring and configuration
• Geographical display of AIS targets (vessels, AIS Base Stations and AIS AtoNs) as an electronic map overlay
• Tabular listing of AIS targets including a sorting and filtering functionality
• Replay based upon stored data
• AIS target detail window (vessels, AIS Base Stations, AIS AtoNs)
• User interface providing a seamless entry to other modules such as data storage, data replay, addressed and broadcast message transmission, area definition tool etc.
• Support of different types of electronic charts
• Transmission of broadcast and addressed messages to vessels carrying AIS

Map view operation

- Zoom-in by using "rubber band" (drag a rectangle on screen) or the zoom-in control
- Zoom-out by using a zoom-out control
- Pan by selecting a new chart center
- Adjust detail level - landmarks and chart notes will be displayed accordingly
- Display of range and bearing to and from a defined point or target

Map view presentation and functionality

- AIS targets (vessels) are displayed with symbols according to IALA recommendations (default symbols).
- AIS Base Stations and AIS AtoNs are geographically displayed with dedicated symbols
- AIS Base Station status is indicated by color coding of the symbols representing the AIS Base Stations on the map
- AIS data is presented both as textual / tabular information and as overlay on map
- A direct entry from the tabular list to the map is available
- Vessel categories can be configured with different colors
- Searches on attributes and/or names in the tabular list are supported
- It is possible to configure targets to be presented with naming label
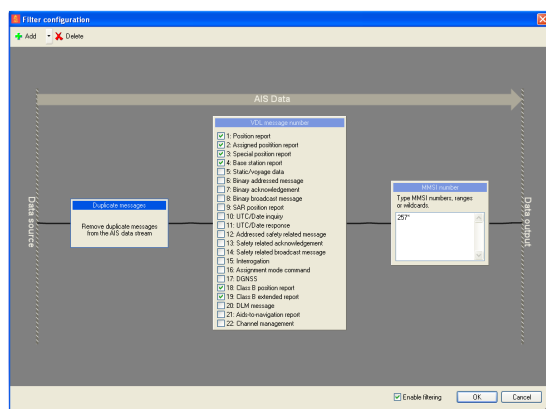- Vessel position tracking can be turned on/off

PSS management

Special control functionality for AIS Base stations.
- AIS Base Station remote configuration
- AIS Base Station alarm monitoring
- A tabular list contains extended information about each AIS Base Station
- Status of the connection to different PSS (Physical Shore Station) units is indicated
- AIS NMEA data monitoring

NMEA (AIS) Data Router and Filter

The NMEA (AIS) Data Router is a service used to collect, merge and distribute AIS data. The service provides an easy and intuitive configuration of the AIS data distribution to different clients or other applications. Filtering can be accomplished on all AIS data attributes.
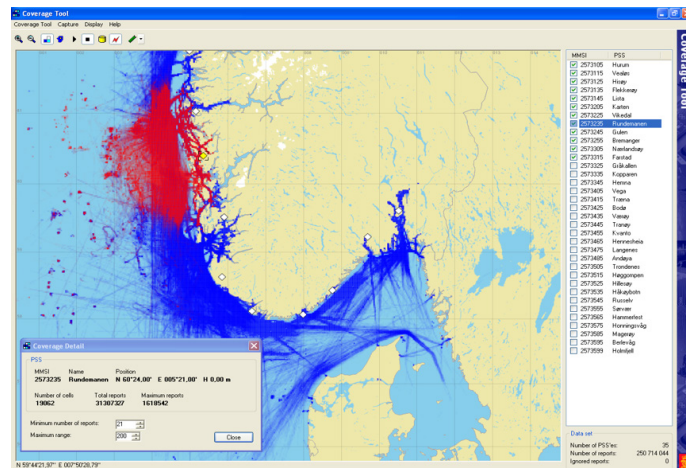

AIS Data Store and Replay

AIS Data Store and Replay are two services for storage and replay of received AIS data. This functionality enables easy scenario playback if there are vessel traffic events that require further investigation.

Area definition and monitoring

Area monitoring enables traffic monitoring of vessels which are entering or leaving a defined geographical area or passing a defined geographical line. An event is generated every time a vessel is passing a line or going inside or out of a defined area. This is summarized in an event log. The defined area can also be used for data filtering, meaning you can look at traffic data from a specific location.
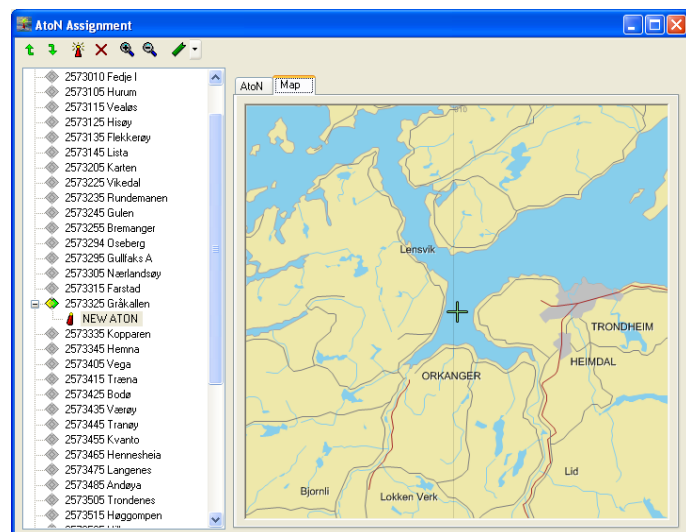
AIS coverage and traffic statistics

This service enables a geographical presentation of AIS coverage based upon received data from AIS Base Stations. The operator may choose a number of Physical Shore Stations or just one in order to see the actual coverage. Further, the tool may also be used to analyse traffic density, and give a geographical presentation of the situation over a set period of time. Combining this with the filtering algorithms, the user may present the actual vessel traffic situation for specific vessel categories, in defined geographical areas and for defined periods of time.

AtoN Assignment Tool

The AtoN (Aids to Navigation) Assignment Tool is a utility that provides a means to configure AIS AtoN messages from one or more PSS. An AtoN message editor is used to configure all relevant parameters associated with an AtoN message. Different predefined types of AtoNs are available. The AtoN can be placed by entering the position numerically as well as clicking in the map with the mouse.

Specifications subject to change without any further notice.