

The foundation for your AIS network



The ghMaritime Data Management solution is aligned with IALA A-124 guidelines for AIS Logical Shore Stations. The solution is modular and can be scaled to meet any organization's requirements for the management and distribution of AIS data. The ghMaritime Data Management solution is the backbone of the AIS network for a number of maritime authorities worldwide, managing large volumes of data from terrestrial and satellite sources.

The ghMaritime Data Management solutions include the Logical Shore Station (LSS), LSS Interface Server, Proxy, Database and Database LSS, and Replay Server components.

System features

Logical Shore Station Interface Server

The LSS Interface Server (IFS) acts as a data concentrator for all the data sources in the system and performs duplicate filtering between them. The resulting data stream is forwarded to the LSS processes, and the DB-LSS. If the link to the DB-LSS is broken, the IFS will store the messages on the hard disk and transfer the messages to the DB-LSS when the connection is re-established. The IFS supports failover configuration to avoid a single point of failure.

The IFS also handles transmission of single messages, (e.g. safety related messages). The IFS handles the Message Service concept, that makes it possible to broadcast a certain message at a specified interval, or sending the same addressed message to all ships within a specified region.

Logical Shore Station (LSS)

The purpose of the LSS is to manage data going to and from a client based on the filter configuration and access rights

of the user. The general requirements for an LSS are described in IALA A-124. The client will log on to the LSS (typically through the Proxy) with a username and password. For clients working over the Internet this will include encryption using SSL.

There can be as many LSS processes in the system as necessary; the LSS processes can be combined in configurable groups that can run in "load balanced" mode. A group of LSS processes configured as "load balanced" will try to distribute the users evenly across the LSS processes: if one LSS fails, the users will automatically be moved to one of the other processes in the group.

Proxy

The subscriber proxy is a utility for clients to login to the AIS system to receive data. The data is encapsulated in IEC format and can be served up in NMEA 0183 or OTH Gold. The proxy provides authentication services and manages the distribution of system status information. Functionalities include:

- User authentication interface
- Server handoff
- Security
- Filtering of data
- Remote Configuration
- Replay Control

Database (DB) LSS

The DB-LSS is responsible for storing AIS data in the database, and storing data so it is available for replay. The data to be stored is received from the LSS IFS. The DB-LSS handles

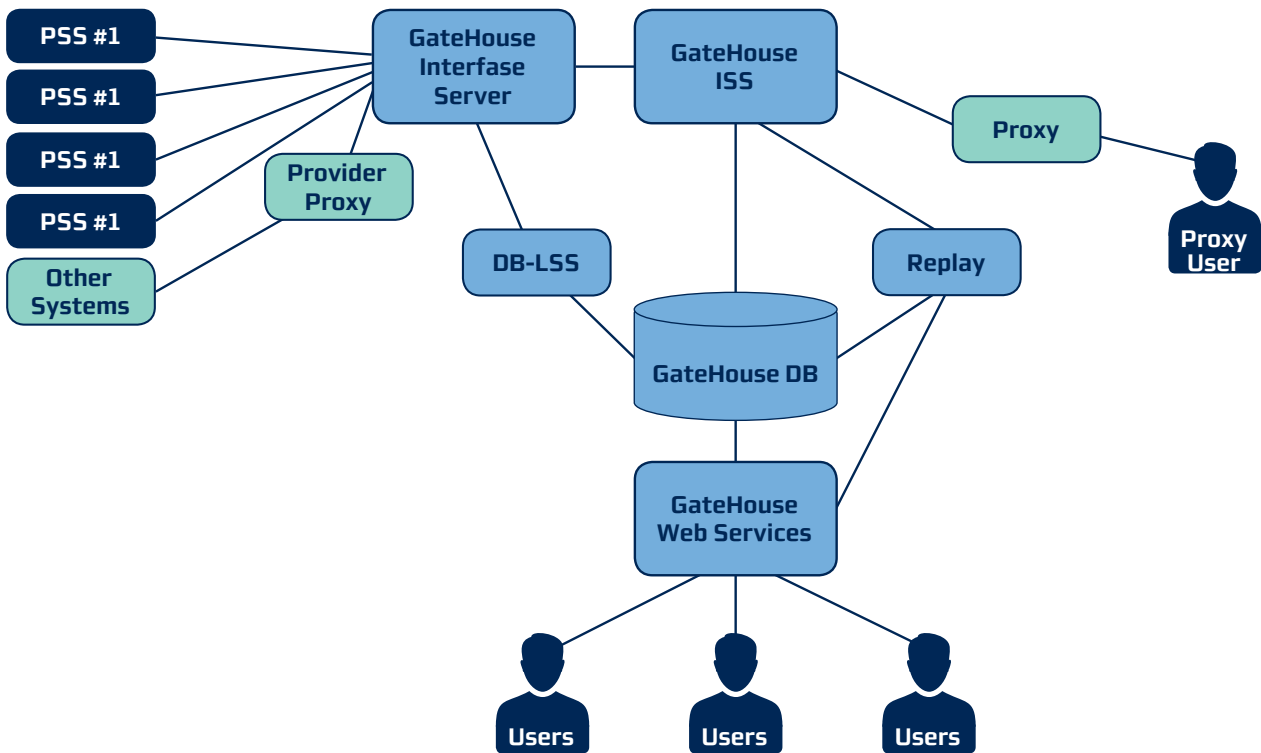


Figure 2. The ghMaritime Data Management Components

partitioning of the database to avoid extensive index fragmentation. All received and transmitted data is stored in the DB log tables.

Replay Server

This process oversees handling replay requests, using the data stored by the DB-LSS. The replay requests are received from the user via the LSS. The replay data is sent to the user via the LSS and the user's data filter will also be applied to the replay data.

Database

The database solution is developed on PostgreSQL, supporting the latest GIS tools to facilitate data integration and fusion. The database structure is divided into two logical sets of tables; the log tables and the statistical tables. These two logical sets can have independent storage lifecycles. For example, the statistical information could be stored for a longer period than the online data. It is also possible to mark events in the log tables which should be kept in the system "forever", e.g. an accident.

System Implementation & Integration

GateHouse has significant expertise and experience in assessing, defining and integrating new tools and processes into complex environments. We can offer our customers process definition and integration services leveraging this expertise and our suite of solutions. In so doing, the customer obtains the greatest possible integration between the technical solution and operational processes.

Training

The ghMaritime Data Management solution optionally incorporates an intensive one-day training session where operators and administrators separately receive hands-on training in operating their respective areas of the system. The training is provided under realistic operating conditions to gain the highest possible level of competence and confidence in the use of the system.

Support and maintenance

GateHouse offers various degrees of support and maintenance depending on individual customer requirements. The level of service can range from no immediate support to a complete 24-hour service.

Our technical support service encompasses the following:

- Installation assistance
- Clarification and reply to technical questions from operators and administrators
- Registration and feedback with regard to any problems found in the software

Request price or more information

Please contact us at maritime@gatehouse.dk for further information.