GateHouse AIS Subscriber Proxy - Installation Guide

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– software that connects

GateHouse AIS Subscriber Proxy
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Mailing address:
GateHouse A/S
Lindholm Brygge 31,
DK-9400 Nr. Sundby,
Denmark

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1   Introduction

1.1   References

Reference Name	Comments
AIS Provider Proxy Installation Guide	Installation Guide for the GateHouse AIS Provider Proxy Application
AIS Subscriber Proxy User Guide	User Guide for the GateHouse AIS Subscriber Proxy Application.
AIS Provider Proxy User Guide	User Guide for the GateHouse AIS Provider Proxy Application

1.2   Definitions, Acronyms, and Abbreviations

Definition Name	Comments
AIS	Automatic Identification System
ASM	AIS Service Management
IEC Format	Refers to the following standards: IEC 61162-1, IEC/PAS 61162-100 and IEC/PAS 61162-101.
Subscriber Application	The Subscriber Application can be any type of software capable of understanding IEC format compliant AIS data. E.g. a database application storing data, a statistics program, or a chart application displaying the AIS information.

1.3   Software Version

This installation guide is for GateHouse AIS Subscriber Proxy v.1.3.0

1.4   About this Guide

The document at hand is the installation manual for the Subscriber Proxy part of the land based AIS system supplied by GateHouse. Descriptions of user interface, detailed user configurations and user operations can be found in the GateHouse AIS Subscriber Proxy User Guide.

This document is divided into six main sections:

- Chapter 2: A brief introduction to AIS technology and the suite of GateHouse AIS applications, in particular the Proxy applications.

- Chapter 3: Comprises a description of user and system requirements, necessary for optimum performance and use of the proxy application.

- Chapter 4: Step-by-step instructions for installation of Subscriber Proxy.

- Chapter 5: Post-installation steps, i.e. initial configurations and settings that must be carried out before the proxy application are functional.

- Chapter 6: Step-by-step instructions for uninstalling the Subscriber Proxy.

Following conventions appear in this guide:

Symbol or Type Style	Represents	Example
`Courier 11 + bold`	A term used in the Proxy application	**`Waiting to reconnect...`**
Alternate color	Hyperlinks to online locations	http://www.gatehouse.dk/
Arial 11 + italic	Application paths, referring to a location in the Start Menu	*Programs - GateHouse - Subscriber Proxy*
Arial Unicode MS 10	File paths, referring to a location on the hard drive	C:\Program Files\GateHouse\Subscriber Proxy\
`Courier New 9,5`	File names	`proxy_serverlist.ini`

2   Overview

AIS is a VHF transponder-based communication system allowing participants to track each other and communicate through an AIS network. The AIS network is designed for automatic data communication between vessels, and between vessels and shore stations. AIS transponders (base stations) broadcast data on shared channels, and the data is received by all other transponders within VHF range, including transponder-equipped vessels (ship stations) and base stations located on shore.

According to the International Convention for the Safety of Life at Sea (SOLAS), the majority of maritime traffic are required to carry AIS equipment since 2004. Thus, authorities globally monitor traffic in their territorial waters using AIS technology.

2.1   AIS Data

The land based AIS system sends and receives data such as:

- MMSI number
- Call sign and name
- IMO number
- Length and beam
- Type of ship
- Location of position-fixing antenna on the ship
- Position with accuracy indication and integrity status
- Time in UTC
- COG (course over ground)
- SOG (speed over ground)
- Gyro heading (if interfaced)
- Navigation status
- Rate of Turn
- Ship's draught
- Hazardous cargo type
- Destination and ETA (at Master's discretion)
- Safety related messages (reading and writing)

2.2   GateHouse AIS System

The suite of GateHouse AIS Server applications can be used to gather the vast amounts of AIS data and present these to end users in various forms. The three main GateHouse AIS Server applications are the System Configuration Tool (Sys Conf), the User Configuration Tool (User Conf) and the System Monitoring Tool (MON). This User Guide is, however, focused on operations in relation to the installation and initial configuration of the AIS Subscriber Proxy Application. This application is a utility used by AIS clients to logon to the AIS system in order to receive data.

2.3   GateHouse AIS Proxy

The purpose of the GateHouse AIS Proxy applications is to encapsulate the transfer of data in the IEC format specified for AIS data, and handle additional services such as authentication and distribution of status information.

The GateHouse AIS Proxy provides two different operation modes, receive or transmit data from/to an AIS Server. These different operation modes translate into two distinct proxy applications:

- The Subscriber Proxy

- The Provider Proxy

NB! Both proxy applications utilize the SSL protocol when receiving and transmitting AIS data, in order to manage the security and integrity of these data being distributed via the Internet.
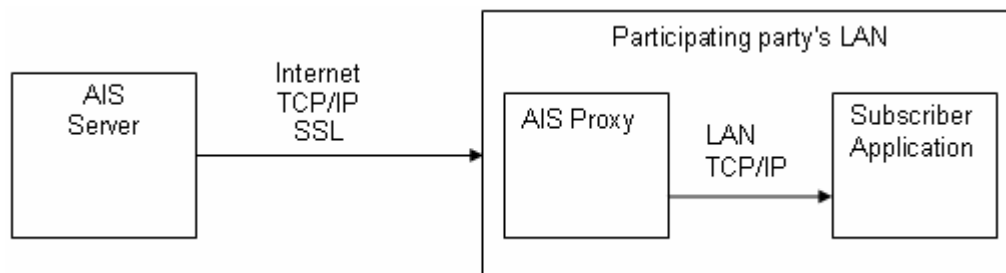
2.4   Subscriber Proxy

Figure 1: System Overview (Subscriber Proxy – Receive Data)

As shown in Figure 1, the Subscriber Proxy is physically positioned in the subscriber (client) computer network. The Subscriber Proxy allows subscriber applications to receive data from the AIS system in the IEC format.
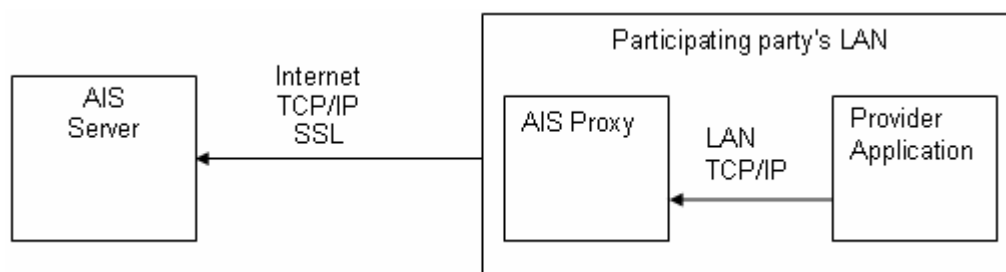
2.5   Provider Proxy

Figure 2: System Overview (Provider Proxy – Transmit Data)

Similarly, the Provider Proxy is positioned in the (client) computer network. This is illustrated in Figure 2. However, the Provider Proxy allows provider applications to transmit data to the AIS system in the IEC format.

3 Prerequisites

The following minimum prerequisites must be in place before you install and/or use the Subscriber Proxy application.

3.1 User Permissions

It is important to note the fact that administrator rights are required in order to install the proxy application.

3.2 System Requirements

The installation and usage of the Subscriber Proxy application described here are the versions intended for Microsoft Windows 2000/XP.

Minimum hardware requirements for installation of Subscriber Proxy are as follows:

- Pentium III 500 MHz

- 13.1 MB free HD space

- 128 Mb RAM

3.3 SSL Certificate

To enhance security, SSL is used for the AIS data exchange between the AIS Control Center and Subscriber Proxy via the Internet. The SSL certificate (`client.pem`) must be supplied by the staff at the Control Center for you to be able to complete setup of the Subscriber Proxy application.

3.4 AIS Server Information

For the proxy application to be able to communicate with AIS servers at the AIS Control Center, information about AIS Server IP addresses is required. This information is stored in a local configuration file called `proxy_serverlist.ini`. The file must be supplied by staff at the AIS Control Center.

4 Installing the AIS Subscriber Proxy

4.1 Select and Run *subscriber_setup.exe*

Select and run the subscriber_setup.exe file on the distribution media. This starts the installation of the Subscriber Proxy application. Follow the on screen installation instructions, as illustrated below:
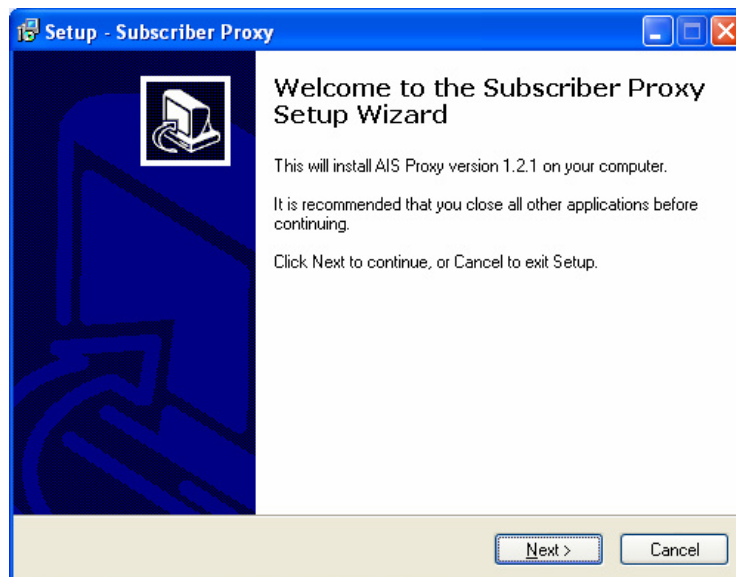

Figure 3: Run the subscriber_setup.exe File

Click **Next** to proceed.

4.2   Select Destination Folder

Select the Start Menu folder where the proxy application should be installed. A "*GateHouse*" folder, with a "*Subscriber Proxy*" subfolder is suggested and created by default. If you wish to install the proxy application in another folder or subfolder, simply click the **Browse** button to the right.
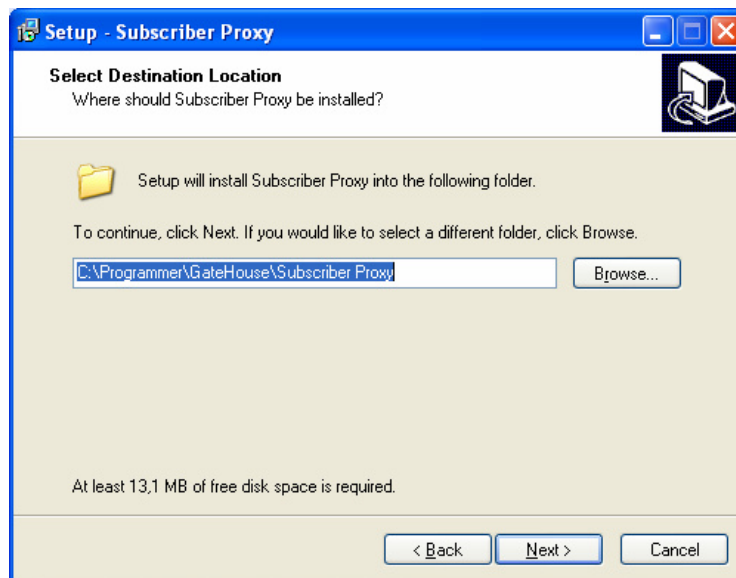

Figure 4: Choose Destination

4.3   Select Start Menu Folder

Select an appropriate group for the proxy application's shortcuts. A "*GateHouse*" group, with a "*Subscriber Proxy*" subgroup is suggested and placed in the Start Menu Folder by default. If you wish to place the shortcuts in another group or subgroup, simply click **Browse**.
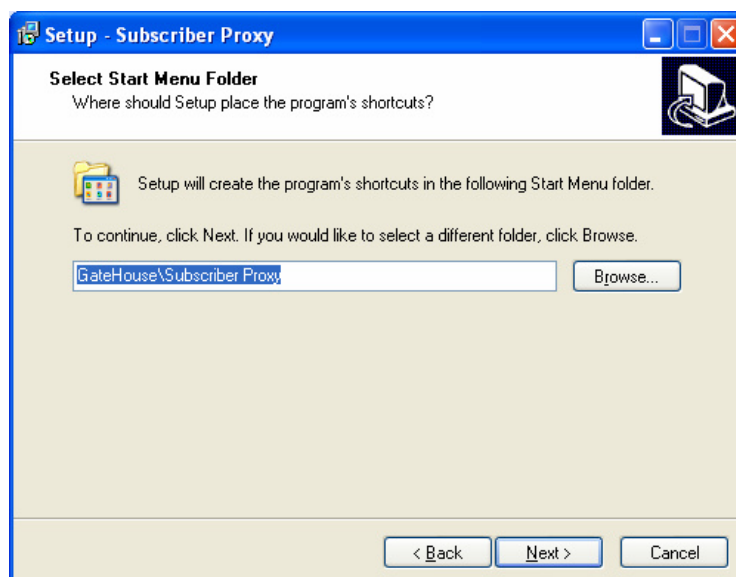

Figure 5: Select a Start Menu Group for the Application Shortcuts

4.4   Ready to Install

The Subscriber Proxy application is now ready to be installed. If you wish to make changes to any of your previous choices, simply click **< Back** at the bottom of the pane. If you are satisfied with the destination and start menu folder, click **Install**.
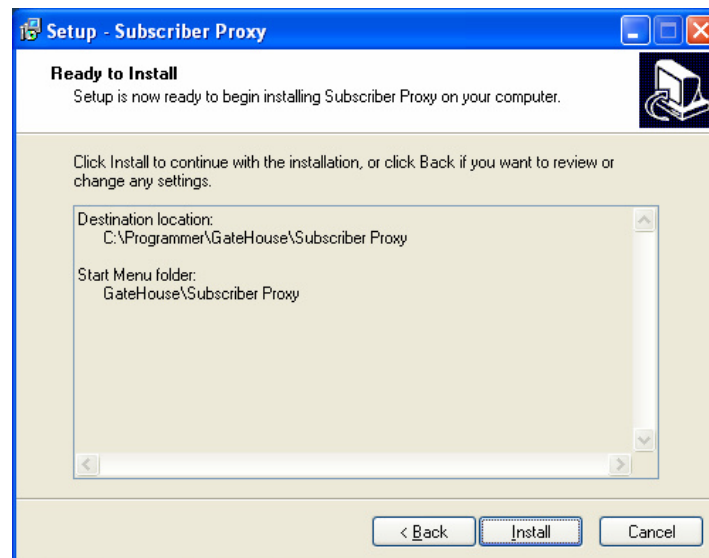

Figure 6: Ready to Install

4.5   Installation in Progress

Progress of the installation process can be monitored while this is carried out. When complete, a dialog box tells you that the installation has been completed successfully.
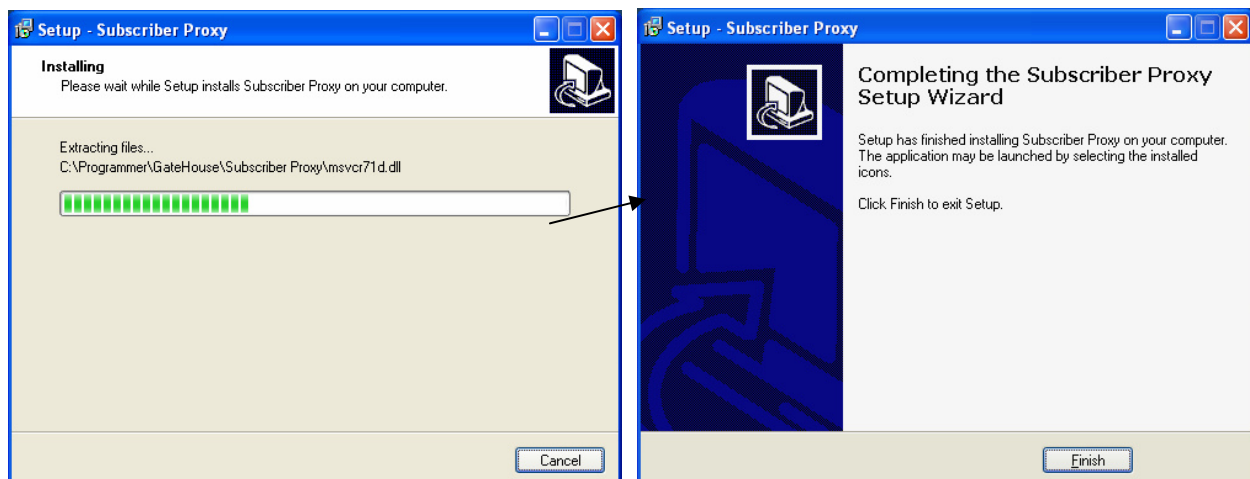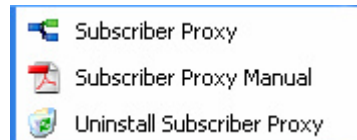

Figure 7: Completing Installation

Click **Finish** to complete the installation.

4.6   Installation Complete!

The following components have now been installed in the Start Menu program group *GateHouse\Subscriber Proxy*:

- Subscriber Proxy – the main AIS Subscriber Proxy program

- Subscriber Proxy Manual – the AIS Subscriber Proxy User Guide

- Uninstall Subscriber Proxy – uninstall the AIS Subscriber Proxy application

Having successfully installed the Subscriber proxy application, continue with the post installation steps in Section 5.

5   Post Installation Steps

After the installation has completed, two steps have to be performed manually. It is important you complete these steps, as they both contribute to a high level of security as well as provide critical information on server locations.

5.1   Step 1: Supply SSL Certificate

To enhance security, the SSL certificate is not supplied with the installer program. Instead this must be supplied by staff at the AIS Control Center by other means.

- The SSL certificate file is called `client.pem` and needs to be placed in the same folder as the proxy application was installed.

- If the default installation settings were used, the path for Subscriber Proxy is:

    C:\Program Files\GateHouse\Subscriber Proxy\

    If you have not used the default installation path, select the installation folder you have used.

- Now, copy the file `client.pem` into this folder.

5.2   Step 2: AIS Server Location

The proxy application also need to know where the AIS servers are located; this information is stored in a local configuration file called `proxy_serverlist.ini` which must be supplied by staff at the AIS Control Center. This contains IP addresses of the AIS servers exchanging data with the proxy application.

- Place the file `proxy_serverlist.ini` in the same folder as the SSL certificate (i.e. `client.pem)` to complete the installation.

6   Uninstalling the AIS Subscriber Proxy

To uninstall the Subscriber Proxy, do the following:

1. From the Start Menu, select *GateHouse - Subscriber Proxy.- Uninstall Subscriber Proxy*.
    Follow the instructions on screen.
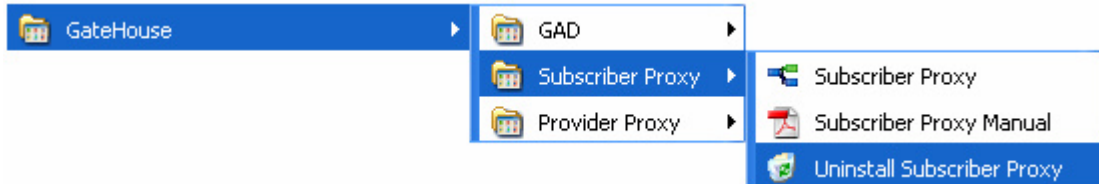
2. In the dialog box that follows, click **Yes**:

3. Immediately, uninstallation of the Subscriber Proxy application is initiated. Progress of
    the uninstallation process can be monitored while this is carried out. When complete, a
    dialog box tells you that the uninstallation has been completed successfully.
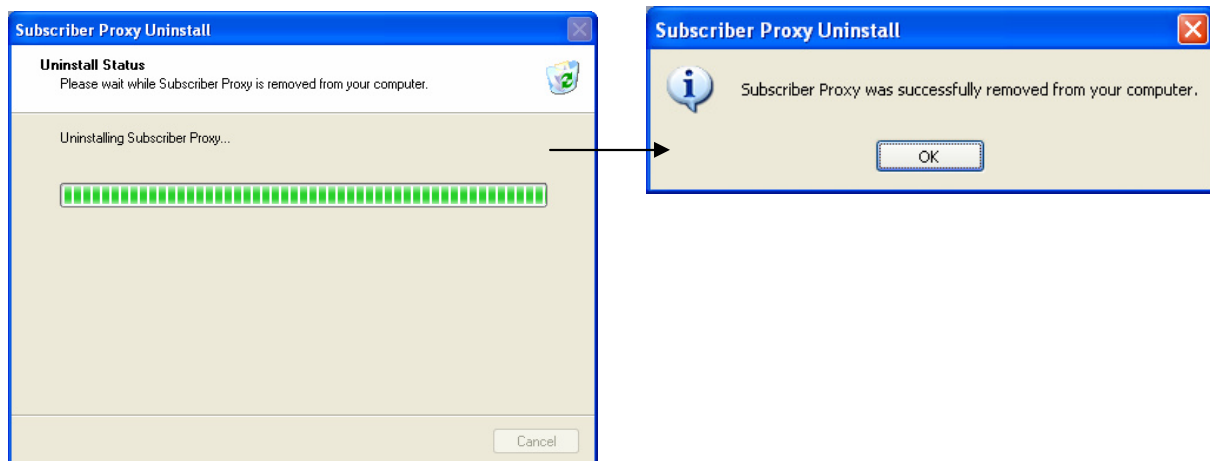
4. Click **OK** to confirm completion of the uninstallation.