AMA-ICCP-TCP-GW
Gateway between ICCP and TCP/IP

Data Sheet

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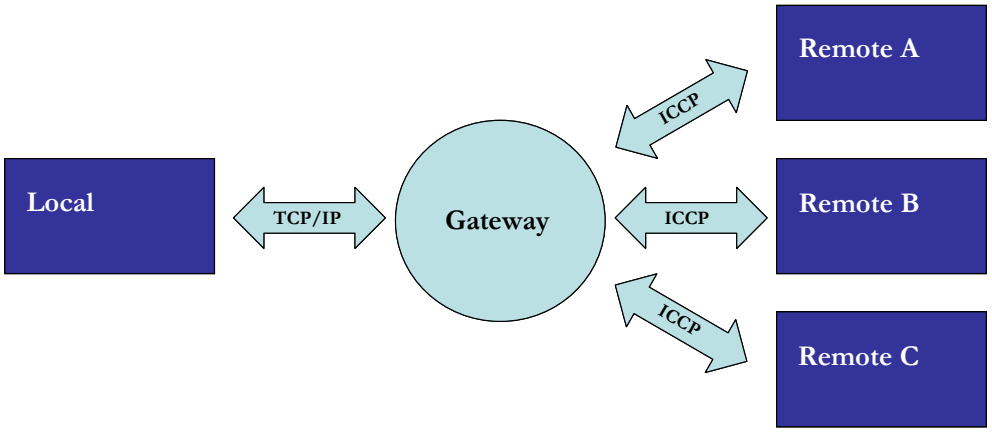
AMA-SYSTEMS GMBH
Stuttgarter Strasse 13
D-75179 Pforzheim
Tel: +49 (0) 72 31 - 78 61 13
Fax: +49 (0) 72 31 - 78 95 78
www.ama-systems.com
contact@ama-systems.com

1. The application

The gateway application **AMA-ICCP-TCP-GW** offers the possibility to connect remote control centers via ICCP (TASE.2, IEC 60870-6) to the local SCADA system using the SCADA system's existing open TCP/IP interface.



High availability is usually ensured using doubled SCADA computers. The same availability can be achieved for the ICCP links by using the redundant gateway **AMA-ICCP-TCP-GW-2R.**

With this AMA-Gateway we offer the universal solution for data communication in ICCP standard. As the requirements can be different dependent on the given control systems, the concept of this gateway offers full flexibility for different local data formats. The user can do the necessary adjustments without external help.

2. Short description

- The AMA-Gateway 'translates' the data from the local application conforming to ICCP (TASE.2 / IEC 60870-6), and vice versa.
- The AMA-Gateway communicates with the remote ICCP stations via two links, on one link as server, on the other link as client. Optionally, the gateway can communicate with remote ICCP stations via a single bidirectional link. In case of redundant remote ICCP stations the number of the links is doubled.
- In the case of redundancy of the local system each AMA-Gateway is connected to the two SCADA computers. The gateway instances check each other by using an 'alive check'-signal.
- The AMA-Gateway is equipped with an ICCP-Vitality-Monitor to check the ICCP links. In case of a broken connection the link goes down and gets ready for a reconnection. In addition, the gateway changes the quality flag of all variables of this ICCP remote to inform the local host.
- Supported ICCP Conformance Blocks: 1/2 (variables and conditions monitoring); 4 (information messages); 5 (device control); 8 (transfer accounts).

- The AMA-Gateway is connected to the SCADA system using a proprietary protocol via TCP/IP. A C++ source code library of the interface's implementation is shipped with the AMA-Gateway. This library may be modified to build user-specific mapping functions.
- The AMA-Gateway is designed as a typical server application, usually working in the background without need of an operator. However, for test/check purposes or to analyse problems a dialog window with all necessary information is available, see figure 1. Also, logging into a file is possible.
- In addition, a test program is included to simulate the local host, see figure 2.

3. Configuration

The configuration of the AMA-Gateway is done in ASCII format files:

- ICCP_Config.cfg: The gateway configuration file. In this file the configuration of the TCP/IP link and the ICCP links is done. In case of redundancy, the configuration of the redundant links is done here, too. In addition, all the ICCP-specific objects are defined here, as AR-names, transfer accounts, device controls, … . Also, the data may be defined here. But the user may also provide the definition of the data in two separate files: HostSnk.cfg and HostSrc.cfg.
- HostSnk.cfg: Here the variables of the remote ICCP stations may be defined.
- HostSrc.cfg: Here the variables of the local SCADA system may be defined.

In addition, the user has to modify only two other configuration files according to the local requirements:

- osill2.cfg: The communication via the ICCP links uses the OSI communication stack. In this file the configuration of the OSI stack is provided.
- gtw_log.cfg: In this file several log levels and further information related to logging are defined. By switching on/off these macros the user may customize the logging done by the AMA-Gateway.

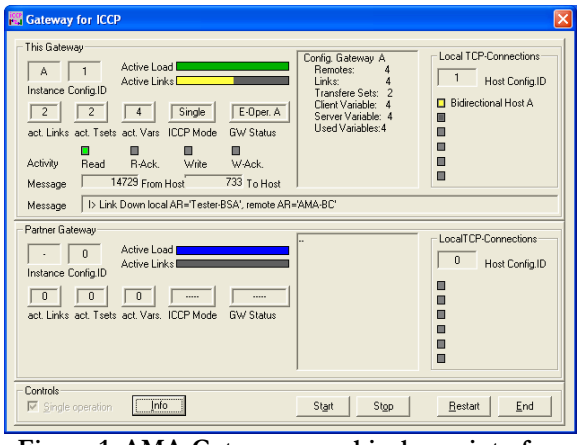


Figure 1: AMA-Gateway, graphical user interface

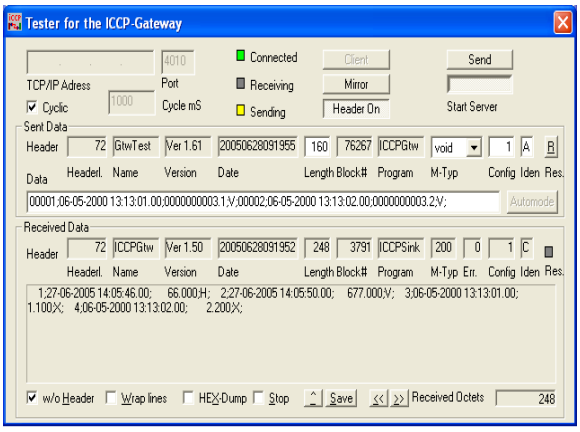


Figure 2: Test program, graphical user interface

4. AMA-Gateway versions

- AMA-ICCP-TCP-GW-1L = ICCP Extensions – Single Node Version
- AMA-ICCP-TCP-GW-2R = ICCP Extensions – Double Redundant Node Version

AMA-SYSTEMS GMBH offers training and support for implementation, configuration, and integration on individual requirement.