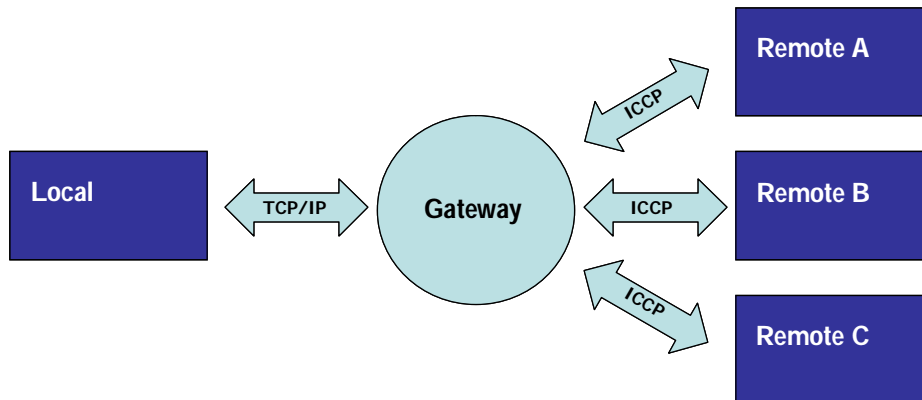GW

www.ama-systems.com

AMA-ICCP-TCP-GW
ICCP Interface for SCADA Systems

Data Sheet

December 2013

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 gateway (SCADA) via two links: on one link as server and on the other link as client. Optionally, the gateway can communicate with remote ICCP gateway via a single bidirectional link as client & server. In case of redundant remote ICCP gateway 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 data values of this ICCP link to inform the local SCADA.

- ➢ Supported ICCP Conformance Blocks: 1 (Basic Services), 2 (Extended Data Set Condition Monitoring); 4 (Information Message); 5 (Device Control); 8 (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 the need of an operator. However for checking purposes or to analyze problems a dialog window with all necessary information is available, see figure 1. Also logging into a file is possible.

> ➢ A test program is included in the software package to simulate the local SCADA, see figure 2.

> ➢ Additionally, a Plug-In is included which receives the data from the gateway over TCP socket and saves it in a pre-configured folder as simple ASCII file in CSV format. The Plug-In is useful either for testing purposes, to make the gateway an important part of an EMS/DMS system or for a special kind of redundancy in non-redundant gateway and SCADA systems.

> ➢ The AMA-Gateway is prepared to run with the SISCO Security Extensions for ICCP Products for Windows.

3. Configuration

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

> ➢ ICCP_Config.cfg: The gateway configuration file. In this file the configuration of the TCP/IP links 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, data values, accounts, device controls… Also the data IDs may be defined here. But the user may also provide the definition of the data with ID in two separate files: HostSnk.cfg and HostSrc.cfg.

> ➢ HostSnk.cfg (optional): Here the data values of the remote control center may be defined.

> ➢ HostSrc.cfg (optional): Here the data values of the local SCADA 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.

> ➢ ICCP_GWLogCfg.xml: In this file several log levels and further information related to logging are defined. By configuring these XML attributes the user may customize the logging done by the AMA-Gateway.
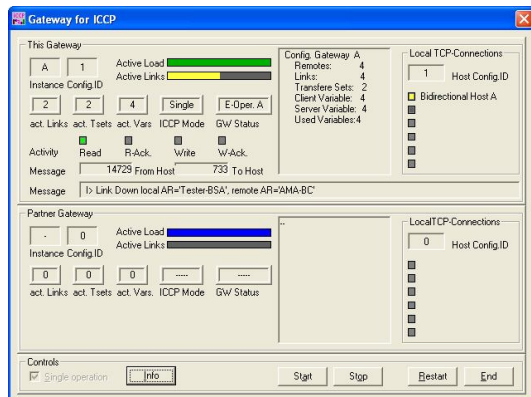
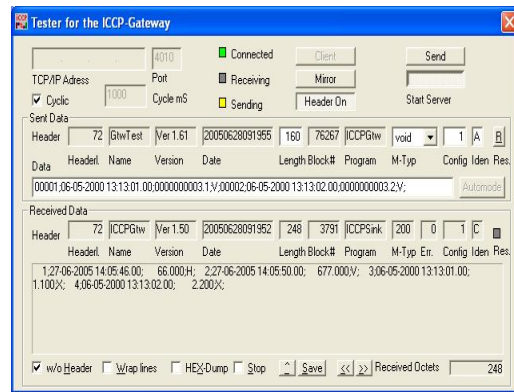Figure 1: AMA-Gateway, graphical user interface

Figure 2: Test program, graphical user interface

4. AMA-Gateway Part Numbers

➢ **AMA-ICCP-TCP-GW-1L** => ICCP Extensions – Single Node Version

➢ **AMA-ICCP-TCP-GW-1LHB** => ICCP Extensions – Hot Stand By Modus

➢ **AMA-ICCP-TCP-GW-1LS** => ICCP Extensions –

Version with Security Extensions

AMA-SYSTEMS offers specific Consulting, Training and Workshops on request. Also Maintenance & Support Contracts are available on yearly basis to make sure to have continued access to Technical Support Team. - With a M&S Contract also free Updates are available, as Upgrades for AMA Licenses are released continuously.

➢ **Contact:**

Irmhild Maschka
CEO

AMA-SYSTEMS GmbH   Phone: + 49 7231 786113
Stuttgarter Straße 13   Fax: + 49 7231 789578
75179 Pforzheim   E-Mail: contact@ama-systems.com

Disclaimer of Warranty